



**PUBLIC PARTICIPATION  
IN JAPAN'S NUCLEAR ENERGY  
POLICY-FORMING PROCESS**

Comparison of pre- and post-Fukushima processes

By

**Philip White**  
Asian Studies, The University of Adelaide

Thesis submitted for the degree of  
Doctor of Philosophy in Asian Studies  
School of Social Sciences, The University of Adelaide

12 December 2014



# Table of Contents

<b>Table of Contents</b> .....	<b>i</b>
<b>Abstract</b> .....	<b>iv</b>
<b>Declaration</b> .....	<b>v</b>
<b>Acknowledgements</b> .....	<b>vi</b>
<b>Acronyms</b> .....	<b>viii</b>
<b>Introduction</b> .....	<b>xi</b>
1. Overview.....	xi
2. Summary of chapters.....	xiii
3. Notes regarding terminology and sources.....	xv
4. Personal disclosure statement.....	xviii
<b>Chapter 1 : Public Participation – A Theoretical Perspective</b> .....	<b>1</b>
1.1 Introduction.....	1
1.2 The whys and whats of public participation.....	1
1.2.1 Why is public participation important?.....	1
1.2.2 Micro and macro perspectives.....	11
1.2.3 Evaluation of public participation processes.....	28
1.3 Citizens’ movements and political influence.....	32
<b>Chapter 2 : The State of Public Participation in Japan</b> .....	<b>42</b>
2.1 Introduction.....	42
2.2 National versus local.....	42
2.2.1 National versus local: theoretical issues.....	42
2.2.2 Institutional framework for public participation at a national level.....	45
2.2.3 Overview of local participation in Japan.....	46
2.2.4 The case of Sapporo City.....	48
2.3 Micro-deliberative approaches: academic and practical developments.....	53
2.3.1 Consensus conferences and ‘participatory dialogue’ about nuclear energy....	54
2.3.2 Deliberative polls.....	60
2.3.3 Citizens’ discussions: a Japanese adaptation of planning cells.....	63
2.3.4 Conclusions.....	66
<b>Chapter 3 : Pre-Fukushima Public Participation</b> .....	<b>68</b>
3.1 Introduction.....	68
3.2 Early examples of public participation.....	69
3.2.1 National policy: tentative beginnings.....	69
3.2.2 Local participation: nuclear facility siting.....	72
3.2.3 Unofficial participation: nuclear critics.....	74
3.2.4 Local referendums.....	78
3.3 Post Monju Round Table Conference.....	89
3.3.1 Background.....	89
3.3.2 Format and status.....	91
3.3.3 Forming a consensus.....	96
3.3.4 Outcomes.....	111
3.4 Public participation in the 2000s.....	122
3.4.1 Introduction.....	122
3.4.2 Conference for Public Participation (2001-2009).....	123
3.4.3 2005 Framework for Nuclear Energy Policy.....	133
3.5 Overall assessment.....	152
3.5.1 Barrier in the political system.....	152
3.5.2 Assessment against public participation criteria (part 1).....	153
3.5.3 What was the purpose?.....	168
3.5.4 Assessment against public participation criteria (part 2).....	174

3.5.5 Legitimacy.....	177
<b>Chapter 4 : Post-Fukushima Public Participation.....</b>	<b>183</b>
<b>4.1 Introduction.....</b>	<b>183</b>
<b>4.2 Official process.....</b>	<b>184</b>
4.2.1 Review from scratch.....	184
4.2.2 Fundamentalism in METI’s Fundamental Issues Subcommittee.....	190
4.2.3 Atomic Energy Commission exposed.....	204
4.2.4 National debate.....	218
<b>4.3 Unofficial public participation.....</b>	<b>243</b>
4.3.1 E-shift network.....	244
4.3.2 Protests and the national debate.....	249
4.3.3 Referendum campaign.....	255
<b>4.4 Outcomes: snatching defeat from the jaws of victory.....</b>	<b>261</b>
4.4.1 ‘Innovative Strategy’: nuclear phase out by 2039.....	261
4.4.2 Post-election December 2012.....	270
<b>4.5 Overall assessment: pre- and post-Fukushima comparison.....</b>	<b>273</b>
4.5.1 The difference a change of government makes.....	274
4.5.2 Assessment against public participation criteria (part 1).....	277
4.5.3 Good faith.....	291
4.5.4 Was public participation deliberative?.....	297
4.5.5 Assessment against public participation criteria (part 2).....	308
4.5.6 Legitimacy: public participation and representative democracy.....	312
<b>Chapter 5 : Future Directions.....</b>	<b>322</b>
<b>5.1 Introduction.....</b>	<b>322</b>
<b>5.2 Nuclear energy issues.....</b>	<b>326</b>
5.2.1 Restricting the scope of participation.....	326
5.2.2 Prospects for continued national debate.....	330
<b>5.3 Overall energy policy: connecting local to national.....</b>	<b>337</b>
5.3.1 Subsidiarity principle applied to energy policy.....	338
5.3.2 Participation at the local level.....	346
<b>5.4 The role of citizens’ movements.....</b>	<b>354</b>
5.4.1 Key citizens’ movements.....	355
5.4.2 Anti-nuclear energy movement.....	356
5.4.3 Energy transformation movement.....	361
5.4.4 Public participation movement.....	364
5.4.5 Concluding remarks.....	369
<b>5.5 Local versus national: a citizen-centered perspective.....</b>	<b>371</b>
<b>Chapter 6 : Conclusion.....</b>	<b>374</b>
<b>Appendix 1 : Chronology.....</b>	<b>383</b>
<b>Appendix 2 : Historical Perspective.....</b>	<b>385</b>
1. Early days.....	385
2. Institution building.....	387
3. Nuclear power plants.....	389
4. Nuclear fuel cycle.....	390
5. Radioactive waste disposal.....	398
6. Response to safety failures and institutional problems.....	402
7. Pre-Fukushima overall assessment.....	409
<b>Appendix 3 : Round Table Conference Moderators’ Recommendations.....</b>	<b>410</b>
<b>Appendix 4 : Round Table Conference (FY1999) – Views on Plutonium Use and High Level Waste and Spent Nuclear Fuel.....</b>	<b>414</b>
<b>Appendix 5 : Committee into the Disposal of High-Level Radioactive Waste (HLW Kondankai).....</b>	<b>416</b>

<b>Appendix 6 : Japan Atomic Energy Commission’s Nuclear Fuel Cycle Policy Review – Scenarios and Evaluation Criteria (11 November 2004).....</b>	<b>418</b>
<b>Appendix 7 : Fundamental Issues Subcommittee Energy Mix Scenarios..</b>	<b>419</b>
<b>Appendix 8 : Cost Estimation and Review Committee.....</b>	<b>420</b>
<b>Appendix 9 : Japan Atomic Energy Commission’s Technical Subcommittee on the Nuclear Fuel Cycle (January–May 2012).....</b>	<b>423</b>
<b>Appendix 10 : Reform of the Japan Atomic Energy Commission.....</b>	<b>425</b>
<b>Appendix 11 : Nuclear Fuel Cycle Policy Options (2012).....</b>	<b>427</b>
<b>Appendix 12 : E-shift’s 10 Principles and 7 Pillars.....</b>	<b>428</b>
<b>Appendix 13 : Electoral Politics and the Anti-Nuclear Energy Movement..</b>	<b>429</b>
<b>Appendix 14 : Post-Election 2012.....</b>	<b>432</b>
<b>Bibliography.....</b>	<b>440</b>

## Abstract

This thesis compares the state of public participation in Japan's nuclear energy policy-forming process before and after the March 2011 Fukushima nuclear accident. It assesses public participation against evaluation criteria designed from a public policy perspective and also locates discrete official exercises within the context of the wider public sphere, using deliberative systems theory to analyse the linkages between the micro and macro levels.

Following Bishop and Davis (2002, p. 14), this work assumes that the idea of public participation implies 'a sharing of power between the governed and the government', but finds that most official public participation exercises in Japan's nuclear energy policy-forming process have been tokenistic. Under these circumstances, and in light of the dominant influence of Japan's nuclear industry and bureaucracy, this thesis asks whether, in the field of nuclear energy policy, it is possible for public participation to prevent the subversion of the political public sphere by power. Adopting a broad definition of participation, including both official and unofficial forms, this research shows how public participation has sometimes acted as a countervailing force. For example, after the Fukushima accident public participation briefly influenced national policy, while pre-Fukushima citizen-initiated public participation sometimes influenced local nuclear projects. However, this analysis also confirms that unless the 'communicative power' generated by citizens' movements can be converted into more concrete forms of power, public participation in the high-stakes field of nuclear energy and energy policy is unlikely to exert substantial and lasting influence.

The inability of the post-Fukushima anti-nuclear movement to convert the communicative power it generated into political representation meant that public influence on official policy was temporary. With the election in December 2012 of a government that was not interested in sharing power with the public, it became even more important to look beyond official public participation exercises. This thesis argues that, in the context of moves to liberalise the energy system, there is potential for participation at the local level to compensate to some extent for the lack of official support for participation at the national level. In particular, by converting communicative power into consumer and 'prosumer' (producer-consumer) power, there is potential for citizens' movements to open up new avenues for the public to influence energy policy, or, in Dryzek's (2010) deliberative systems terms, for transmission between public space and empowered space to occur.

While unengaged consumers with no voice in policy decisions might not be seen as contributing to a deliberative system, this thesis highlights that when consumer and prosumer citizens are making active political choices it is appropriate to view their actions through the lens of public participation and to extend deliberative systems theory to include this type of market-based activity.

## **Declaration**

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide.

I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying, subject to the provisions of the Copyright Act 1968.

I also give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

SIGNED: \_\_\_\_\_ DATE:

**Supervisors:**  
**Dr Shoko Yoneyama**  
Asian Studies

**Dr Gerry Groot**  
Asian Studies

## Acknowledgements

This thesis is based to a significant extent on interview material. Most of the interviews were carried out during two trips to Japan in 2012 and 2013. I would like to thank the Takagi Fund for Citizen Science for covering most of my expenses for both those trips. The first was as a speaker at the *International Symposium on the Truth of the Fukushima Nuclear Accident and the Myth of Nuclear Safety* (30~31 August 2012), which Takagi Fund sponsored, and the second (December 2012 – April 2013) was a field trip for which Takagi Fund provided a grant. I also thank Meiji University for providing affordable accommodation and the staff of Citizens' Nuclear Information Center for allowing me to use their office as a home base in Tokyo.

Above all, I would like to thank the many busy people who generously agreed to be interviewed. Without their cooperation it would not have been possible to complete this project. Many of their names appear in this thesis, but those who I have not quoted also contributed greatly to the formation and consolidation of my ideas. I would also like to thank the many people who gave me advice along the way, especially those who referred me to sources that I would not otherwise have found, or would have spent much longer searching for.

One person whose name does not appear except in the bibliography, but who deserves a special mention is Masafumi Takubo, manager of the nuclear information website *Kakujoho*<sup>1</sup> and member of the International Panel on Fissile Materials<sup>2</sup>. I thank him for keeping me abreast of nuclear energy policy developments throughout my research.

---

<sup>1</sup> Kakujoho (Nuclear Information) web site: <http://kakujoho.net>

<sup>2</sup> <http://fissilematerials.org>



I would particularly like to acknowledge another of my informants. Professor Harutoshi Funabashi of Hosei University passed away as I was completing my thesis. He was very generous to me with his time and wisdom and one of his articles occupies an important place in this thesis, but he also contributed on another level. As a key author of the Science Council of Japan's September 2012 opinion on the disposal of high-level radioactive waste (section 5.2.1), and also as the chairperson of the Citizens' Commission on Nuclear Energy (section 5.4.2), he made a major contribution to the nuclear energy policy debate, which this thesis takes as its theme. The public sphere that he strived so hard to enrich is diminished by his loss.

I am indebted to The University of Adelaide's Centre for Asian Studies for accepting me as a PhD student, for covering expenses of the abovementioned field trip not covered by Takagi Fund, and for subsidising travel to conferences within Australia. In particular, I am grateful to my supervisors Dr Shoko Yoneyama and Dr Gerry Groot for their support and advice throughout and to Professor Greg McCarthy for his advice on the penultimate draft.

Finally, I would like to acknowledge the special role my wife Kayoko played in making this project possible. Besides her unstinting moral support, she also made a direct contribution by correcting the Japanese of my correspondence with interviewees. Without that I would certainly have given offense much more often than I did.

## Acronyms

AFC: Atomic Fuel Corporation (superceded by PNC)

ANRE: Agency for Natural Resources and Energy (agency within METI)

ACNRE: Advisory Committee for Natural Resources and Energy

ATR: Advanced Thermal Reactor

BNFL: British Nuclear Fuels Ltd.

BWR: Boiling Water Reactor

CCNE: Citizens' Commission on Nuclear Energy

CNDP: Citizens' Discussions Promotion Network

CNIC: Citizens' Nuclear Information Center

DP: Deliberative Poll

DPJ: Democratic Party of Japan

EEC: Energy and Environment Council

FBR: Fast Breeder Reactor

FIS: Fundamental Issues Subcommittee

GNF: Global Nuclear Fuel

GW: Gigawatt (1 billion ( $10^9$ ) watts)

HLW: High-level radioactive waste

JAEA: Japan Atomic Energy Agency (superceded JAERI and JNC; agency under the auspices of MEXT)

JAEC: Japan Atomic Energy Commission

JAERI: Japan Atomic Energy Research Institute (superceded by JAEA)

JAIF: Japan Atomic Industrial Forum

JAPCO: Japan Atomic Power Company

JNC: Japan Nuclear Cycle Development Institute (superceded PNC, superceded by JAEA)

JNFL: Japan Nuclear Fuel Ltd.

LDP: Liberal Democratic Party of Japan

LLW: Low-level radioactive waste

LWR: Light Water Reactor

KEPCO: Kansai Electric Power Company

kWh: Kilowatt hours

METI: Ministry of Economy, Trade and Industry (superceded MITI)

MEXT: Ministry of Education, Culture, Sports, Science and Technology (superceded STA)

MITI: Ministry of International Trade and Industry (superceded by METI)

MNF: Mitsubishi Nuclear Fuel

MOX: Mixed oxide of uranium and plutonium (sometimes refers to MOX fuel and sometimes to MOX powder before fabrication into fuel)

MW: Megawatt (1 million watts)

MWe: Megawatt electric

MWt: Megawatt thermal

NFI: Nuclear Fuel Industries

NISA: Nuclear Industrial and Safety Agency (superceded by NRA; agency within METI)

NRA: Nuclear Regulation Authority (superceded NISA and NSC)

NSC: Nuclear Safety Commission (superceded by NRA)

NUMO: Nuclear Waste Management Organization of Japan

PNC: Power Reactor and Nuclear Fuel Development Corporation (superceded AFC, superceded by JNC)

PWR: Pressurized Water Reactor

RDD: Random Digit Dialling

RI: Radioisotope

STA: Science and Technology Agency (superceded by MEXT)

SWU: Separative Work Units (tSWU/y = ton Separative Work Units per year)

TEPCO: Tokyo Electric Power Company

TRU: Radioactive waste containing transuranic elements

# Errata

## Page 80, paragraph 2

*Replace the existing sentence:*

‘The Maki nuclear power plant referendum was the first local referendum held in Japan on any theme.’

*with the following sentence:*

‘The Maki nuclear power plant referendum was the first local referendum established by ordinance in Japan on any theme.’

## Page 342, paragraph 1

*Replace the existing sentence:*

‘They are the reason why in 2011 the percentage of the electricity market taken by players other than the regional monopoly electric power companies was just 3.6 percent (Electricity System Reform Expert Subcommittee 2013, p. 5).’

*with the following sentence:*

‘They are the reason why in 2011 the percentage of the electricity market taken by players other than the regional monopoly electric power companies was just 3.6 percent of the liberalised demand (Electricity System Reform Expert Subcommittee 2013, p. 5).’

## Page 398, paragraph 1

*Replace the existing sentences:*

‘However it lacks a uranium conversion facility (for conversion to UF6 feed for uranium enrichment plants). That is the only gap in its otherwise technically complete front end of the fuel cycle.’

*with the following sentences:*

‘However it lacks a uranium conversion facility (for conversion to UF6 feed for uranium enrichment plants). That is the only gap in its otherwise technically complete front end of the fuel cycle cycle (although Japan had pilot plants at Ningyo Toge which are now shutdown).’

## Page 436, footnote 579

*Replace the existing sentence:*

‘Previous attempts at liberalisation of the electricity system were partial and in 2011 the percentage of the electricity market taken by players other than the regional monopoly electric power companies was just 3.6 percent (Electricity System Reform Expert Subcommittee 2013, p. 5).’

*with the following sentence:*

‘Previous attempts at liberalisation of the electricity system were partial and in 2011 the percentage of the electricity market taken by players other than the regional monopoly electric power companies was just 3.6 percent of the liberalised demand (Electricity System Reform Expert Subcommittee 2013, p. 5).’

# **Introduction**

## **1. Overview**

This thesis considers the role of public participation in Japan's nuclear energy policy-forming process. In as much as nuclear energy policy is a subset of energy policy, the focus is extended to include energy policy, especially in the period after the 11 March 2011 accident at Tokyo Electric Power Company's (TEPCO) Fukushima Daiichi Nuclear Power Plant. In the early days of Japan's nuclear energy program nuclear energy policy was formed largely independently of energy policy, but the distinction diminished over time and after the Fukushima nuclear accident nuclear energy and energy in general were debated simultaneously. For the post-Fukushima era it therefore became necessary to broaden the focus. The principal concern remains the question of how the public can participate in determining the future of nuclear energy in Japan, but the options include approaches that are only indirectly connected to nuclear energy policy.

The thesis is framed around theories of public participation. It follows the deliberative democracy tradition and a Habermasian understanding of the public sphere (section 1.2.1), and employs various frameworks for evaluating public participation processes. Two of the evaluation schemes (Frewer and Rowe, 2005 and Moro, 2005) address the issue from a public administration angle and focus on official public participation processes (section 1.2.3), while a third, based on the deliberative systems theory of Dryzek (2010), brings in unofficial citizen-initiated processes and deliberation in the wider public sphere (section 1.2.2).

The overriding question posed is, 'To what extent and in what ways has public participation prevented and could public participation prevent in future the subversion of the political public sphere by power?' (Refer the discussion of Habermas in section

1.2.1.) Another angle on the same question is, ‘To what extent and in what ways has power been shared and could power be shared in future between the governed and the government?’ (Refer Bishop and Davis’ definition of public participation quoted in section 1.2.2.) The purpose is not to analyse in detail the nature of the government’s power or the power of those who might act to subvert the political public sphere, although these issues are discussed to the extent necessary to contextualise the argument. Rather, the focus is on the potential for public participation to become an alternative source of power. This issue is investigated by comparing actual public participation processes before and after the Fukushima nuclear accident and considering future directions for public participation in Japan’s energy policy-forming process.

To answer the above questions it is necessary to take a broad view of public participation, focusing not only on spaces provided by government for the public to participate, but also investigating participative spaces actively claimed by the public. Recognising that governments do not necessarily conduct official public participation processes in good faith, but rather tend to resist calls to share power with the public, this thesis considers not only official participation processes but also unofficial citizen-initiated forms of participation. It investigates how various forms of public participation, both official and unofficial, might combine to generate countervailing power.

Public participation is defined as ‘any form of participation in which citizens seek to engage with and influence policy and practice’. This definition places citizens at the centre. Opportunities for citizens to participate are not seen as restricted to the spaces offered by government. Thus, attempts to elevate issues and discourses onto the public agenda (for example through protest) when the government is either disinclined or not motivated to do so can also be viewed as public participation.

With this overarching framework, the structure of the thesis is as follows.

## **2. Summary of chapters**

Chapter 1 introduces the theoretical approach to public participation used in this thesis, drawing a distinction between micro and macro approaches to public participation and deliberative democracy. It includes an outline of the evaluation framework and offers a deliberative systems perspective on the role of citizens' movements.

Chapter 2 provides an overview of the status of public participation in Japan, highlighting the fact that public participation is more developed at the local than the national level. In light of this difference, it comments on the implications of the fact that nuclear energy policy has traditionally been national policy, with the role of local governments largely restricted to approval of the siting and operation of nuclear facilities.

Chapter 3 discusses public participation in the pre-Fukushima era, with a special focus on the Round Table Conference that followed the 1995 accident at the *Monju* Prototype Fast Breeder Reactor. It also covers local citizen-initiated participation, including local referendums, as well as the process that produced the 2005 nuclear energy policy. It concludes that official public participation exercises in the pre-Fukushima era were a façade that offered no point of entry for the general public to exert influence.

Chapter 4 covers the post-Fukushima policy review process, describing the committee process where policy options were produced, a national debate involving the general public, and the interaction between these processes and a mass protest movement that peaked at the same time as the national debate took place. The national debate is the pivot around which the thesis revolves. It exerted temporary influence on policy, but a



change of government reversed the previous government's decision. This chapter concludes that although representative democracy trumped public participation, the post-Fukushima public participation process complemented representative democracy in some useful ways.

Chapter 5 looks to the future. It considers the potential for an ongoing national debate on nuclear energy policy and offers some principles that might guide a continuing process, but concludes that in view of the negative attitude of the LDP-Komei government it is unlikely that the government would initiate such a process, although other actors could potentially do so. More promising avenues are for the public to contribute through local energy planning, community energy projects, and as consumer and prosumer citizens in the context of liberalisation of the electricity system. In this way, citizens could potentially exert indirect influence on the future of nuclear energy in Japan.

Chapter 6 concludes the thesis. It shows how the evaluation schemes used in this thesis could be applied to improve future public participation processes. It then uses Dryzek's deliberative systems scheme as a tool to indicate future directions for public participation in Japan's nuclear energy and energy policy, noting in particular the potential for participation at the local level to compensate to some extent for a lack of official support at the national level. From a theoretical perspective, it argues that the distinction between the deliberative system and the market system becomes blurred when consumer and prosumer citizens make politically-motivated market choices. Finally, it draws attention to the special role of the energy transformation movement, in particular the community power movement, in the struggle to democratise the energy system.

Readers who are unfamiliar with the history of nuclear energy in Japan may find useful the historical overview in Appendix 2. Besides outlining the history of Japan's nuclear energy policy, it also summarises the status of Japan's major nuclear energy programs immediately before the Fukushima nuclear accident.

### **3. Notes regarding terminology and sources**

#### Terminology

Japanese names: For consistency, English name order is used throughout (family name last).

'Fukushima nuclear accident': The nuclear accident that occurred at Tokyo Electric Power Company's (TEPCO) Fukushima Daiichi Nuclear Power Plant on 11 March 2011 is referred to in this thesis as the 'Fukushima nuclear accident'. In deference to the people of Fukushima, who do not wish to be stigmatised by the focus this formulation places on their home prefecture, I would have preferred to have used the longer 'TEPCO Fukushima Nuclear Power Plant accident', as is used in some official documents (The Fukushima Nuclear Accident Independent Investigation Commission 2012, p. 16). This shifts the focus to the company whose negligence was to a major degree responsible for the accident. Unfortunately it is too unwieldy a phrase to use repeatedly throughout the whole thesis, so the shorter form is used.

'3.11': In some places the accident and/or the whole triple disaster are simply referred to as 3.11, using the common abbreviation of the March 11 date of the Great East Japan Earthquake.

'Nuclear village' and 'nuclear complex': The term 'nuclear village' (*'genshiryoku mura'*) was coined by Tetsunari Iida in the 1990s to describe the insular nature of the

network of people, organisations and interests that promoted nuclear energy in Japan.<sup>3</sup> The nuclear village includes as its core members the nuclear bureaucracy and nuclear industry, but its wider membership may be considered to include pro-nuclear political parties, the academy, the mass media, local and prefectural governments, and trade unions.<sup>4</sup> Some splits have appeared post-Fukushima, but the core membership remains intact. This thesis uses the phrase ‘nuclear village’ to refer to this wider network, especially where the sense of a club, or a community of shared interests and values is implied. The term ‘nuclear complex’ is used to refer to nuclear proponents as a locus of power within Japanese society.

### Referencing style

Both endnotes and footnotes are used, depending on the nature of the source. Footnotes are used for official documents related to the policy-forming process, such as transcripts and handouts for committee meetings, which were published on the internet. The publication of such documents represented a major step towards greater transparency in the policy-forming process. Final reports from such committees are referenced as endnotes, as are the committees’ overall web sites from which all the documents should be accessible. URLs quoted in both footnotes and endnotes were confirmed as live links as of September 2014.

---

<sup>3</sup> In a presentation to meeting 5 of the FY1998 series of the Round Table Conference (21 January 1999), Tetsunari Iida identifies, among other things, the prioritisation of ‘appearances’ (*tatema*) over ‘reality’ as a feature of village society that also characterises the nuclear village:

Handout: <http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

Transcript: <http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/minute5.html>

<sup>4</sup> Definitions of membership vary. As an example, Kingston (2014) writes: ‘The “nuclear village” is the term commonly used in Japan to refer to the institutional and individual pro-nuclear advocates in the utilities, the nuclear industry, the bureaucracy, the Diet (Japan’s parliament), business federations, the media, and academia’ (p. 108).

### Translations

Except where otherwise stated, translations of laws come from the Japanese Law Translation web site.<sup>5</sup>

All other translations are my own, unless otherwise indicated.

Some official documents that are referenced by their English title are in fact ‘provisional translations’ published on government web sites. This should be clear from the context and the form of the reference.

### Interviews

I interviewed over 70 people, most of whom have in some way or other been directly involved in Japan’s nuclear energy policy debates. The interviews were conducted during field trips in August–September 2012 and December 2012 – April 2013. Interviewees included politicians, officials in the nuclear administration, representatives of quasi-government and non-government organisations, academics, and activists.

The interview data was used to confirm facts, elicit insights, and ascertain attitudes, judgments and opinions. Some of the interviews conducted in the early stages followed a formula designed to elicit responses in line with the evaluation schemes used in this thesis. This approach was not very fruitful, so I shifted to a more informal style, asking questions tailored to match more closely the experience of the interviewees, rather than the framework of my project. This approach generated much richer responses.

All except a couple of interviews were recorded. All quotes used in this thesis are taken from audio recordings or written responses. Some of the interviews were conducted in English, some were in English and Japanese, but most were conducted entirely in Japanese. Quotes from Japanese interviews were translated by me. Where the quoted

---

<sup>5</sup> Japanese Law Translation web site (Ministry of Justice):  
<http://www.japaneselawtranslation.go.jp/law/>

comment was made in English, this is indicated in the footnote. I take full responsibility for interpretation of interview data.

Ethics clearance for the interviews was obtained from the University of Adelaide Human Research Ethics Committee and permission was obtained from interviewees to quote them.

#### **4. Personal disclosure statement**

For seven years, including at the time of the Fukushima nuclear accident, I was the international liaison officer for the Citizens' Nuclear Information Center (CNIC), a leading Japanese anti-nuclear energy NGO. I support CNIC's goal of phasing out nuclear energy, but the purpose of this thesis is not to argue the case for a nuclear phase out. Rather, it is to consider whether citizens' input has been reflected in Japan's nuclear energy policy to date, and through what mechanisms it might be reflected in future.

# **Chapter 1 : Public Participation – A Theoretical Perspective**

## **1.1 Introduction**

This chapter introduces the concept of public participation and provides a theoretical framework for the analysis beginning in Chapter 3 of the role of public participation in Japan's nuclear energy and energy policy-forming process. After presentation of a case for why public participation is important in section 1.2.1, section 1.2.2 introduces typologies of public participation and offers micro and macro perspectives on the concept of deliberative democracy. Criteria which will be used to evaluate the public participation processes covered in this thesis are introduced in section 1.2.3, while a deliberative systems perspective on the role of citizens' movements is presented in section 1.3.

## **1.2 The whys and whats of public participation**

### ***1.2.1 Why is public participation important?***

Accusations of lack of participation are ubiquitous in discussions of Japan's nuclear energy and energy policy forming processes. Such accusations are by no means a uniquely Japanese phenomenon. They are also leveled against countries generally thought to be more 'progressive', or where citizens have had more influence than Japan (for example: Hendriks 2008 re The Netherlands; Laes, D'haeseleer & Weiler 2005 re Belgium). But from a relatively early stage even one of nuclear energy's high priests recognised nuclear energy as a field in which the public has a right to be involved. Alvin Weinberg, a nuclear physicist who served as Director of the Oak Ridge National Laboratory, coined the term 'trans-science' to refer to 'questions which can be asked of science and yet which cannot be answered by science' (Weinberg 1972, p. 209). He said,

[T]he public's right of access to the debate in the sense of being informed about it and participating in it is as great as the public demands it to be. Especially where experts disagree, the public has little choice but to engage in the debate at an earlier stage than the experts themselves find convenient or comfortable (Weinberg 1972, p. 222).

Two decades later, Beck (1992) spoke of the inability of science to legitimate decisions about nuclear power and other 'risk-intensive large-scale technologies' (p. 202-203) and of how in Germany a new culture of participation was changing the political landscape:

In conflicts over nuclear power plants or reprocessing facilities, for example, employers and labor unions, the supporters of the traditional technology consensus, have been forced into the spectators' gallery. The conflicts are now carried out directly between the state power and citizens' protest groups ... [T]he growing interest of a new political culture in participation is expressed there ... [S]cience ... fails as a source of legitimation (Beck 1992, pp. 202-203).

The degree to which Weinberg's 'right of access' has been honoured and Beck's 'new political culture in participation' has been realised in Japanese nuclear energy policy will become clear from the discussion of pre- and post-Fukushima public participation in Chapter 3 and Chapter 4, but for the purposes of this chapter, which considers public participation from a theoretical perspective, Weinberg's and Beck's framing of the issue in terms of rights and legitimacy highlights the fundamental nature of the need to involve the public in the debate about nuclear energy policy.

### *Participation and democracy*

Turning to the question of public participation in general, some theorists have elevated participation to the level of a fundamental human need, or a universal goal. For example, Manfred Max-Neef developed a matrix of needs and satisfiers in which participation was listed as one of nine fundamental human needs (Max-Neef 1991)<sup>6</sup>. Taking a

---

<sup>6</sup> According to Max-Neef, '[S]atisfiers can be organized within the grids of a matrix which, on the one hand, classifies needs according to the existential categories of Being, Having, Doing and Interacting and, on the other hand, according to the axiological categories of Subsistence, Protection, Affection, Understanding, Participation, Idleness, Creation, Identity and Freedom' (Max-Neef 1991, p. 30).

slightly different angle, Ian Gough identifies participation as a universal goal, in which ‘Basic human needs ... are the universal prerequisites for successful and, if necessary, critical participation in a social form of life’ (Gough 1998, p. 53). In recent years the importance of participation has received high-level official recognition. For example, in 2000 the notion that participation is desirable and good received international recognition in the *United Nations Millenium Declaration*. UN member states resolved to ‘work collectively for more inclusive political processes, allowing genuine participation by all citizens in all our countries’ (United Nations General Assembly 2000, clause 25, section V, ‘Human rights, democracy and good governance’). Likewise, the United Nations Development Program (UNDP) emphasises the importance of participation in the context of human development. Under the heading ‘Participation and accountability’ it states:

Process freedoms are central to human development and ... have both intrinsic and instrumental value. Major disparities in power translate into large disparities in environmental outcomes. But the converse is that greater empowerment can bring about positive environmental outcomes equitably. Democracy is important, but beyond that, national institutions need to be accountable and inclusive—especially with respect to affected groups, including women—to enable civil society and foster popular access to information (United Nations Development Programme 2011, p. 10).

This quotation draws attention to the connection between democracy and participation while alluding to an important controversy about the meaning of the word ‘democracy’. Can a society which is not accountable and inclusive be called democratic, as implied by this statement, or are these essential components of democracy? Is the only form of participation required by democracy the right to vote every three or four years?

Attitudes towards participation are at the core of the debate. Wolin (2006) describes this division in democratic theory as follows:



The popularity of elite theory raises one of the most important questions in contemporary democratic theory: how best to define democracy? Which is preferable, a ‘thick’ or ‘thin’ definition? A ‘thick’ approach favors the idea of democratic inclusiveness or widespread participation. A ‘thin’ approach sanctions the program of ‘political technocracy’ advocates, who believe that increasing complexity demands government by trained experts rather than rank amateurs. They urge that one should rest content with a ‘minimal’ definition of democracy as a mechanism for selecting political elites (Wolin 2006, p. 219).

According to the ‘thin’ definition of democracy, the only real opportunity for ordinary citizens to participate is through voting in elections. But given that elections are focused on parties, or politicians, or at most a very limited range of policy issues, under a ‘thin’ definition citizens have no opportunity to express their will on the wide range of specific issues that concern them (refer discussion of mandates in Parkinson 2006, pp. 91-93). There are also problems with the legitimation basis of some types of administrative action if elections are the only form of participation:

[I]nsofar as the implementation of programmatic goals requires the administration to perform organizational tasks that at least implicitly require a further development of law, the legitimation basis of traditional administrative structures no longer suffices. The logic of the separation of powers must then be realized in new structures, say by setting up the corresponding forms of participation and communication (Habermas 1996, p. 193).

The above UNDP quote seems to be using the word ‘democracy’ in the restricted sense of electoral democracy, but it draws attention to the need to back up this limited form of democratic participation with *accountability* and *inclusiveness*. Another related category mentioned by the UNDP is ‘*transparency*’. The report continues in the next paragraph, ‘A prerequisite for participation is open, transparent and inclusive deliberative processes—but in practice, barriers to effective participation persist.’ Inclusiveness, accountability and transparency are, therefore, seen as key components of the participatory democracy envisaged by the UNDP. These concepts are important elements of criteria used in this thesis to evaluate public participation processes conducted in the context of Japan’s nuclear energy policy-forming process (section 1.2.3). Wolin’s ‘thick’ definition of democracy is broader than the UNDP’s, making

‘widespread participation’ (i.e. not just voting) an integral part of the concept of democracy. But although the definitions might be different, both the UNDP and Wolin express a vision of a society with an actively involved populace.

*Intrinsic and instrumental value*

The UNDP sees ‘both intrinsic and instrumental value’ in aiming for such a participatory society, noting that it may lead to more equitable outcomes. Aspects of these values are detailed in a report by Leighninger (2010) based on interviews with professors and other observers of the discipline of public administration. He summarises,

[Interviewees] either view democratic governance instrumentally, as an important tool for administrators facing new expectations from citizens, or idealistically, as a way to reverse the decline of democracy and public life (Leighninger 2010, p. 2).

On the instrumental side, interviewees named seven reasons for a shift to a more participatory citizen-government relationship:

- The erosion of trust in government.
- An increasingly diverse population.
- Recognition that government alone cannot solve public problems.
- The decentralization of many public decisions.
- Less hierarchy within and among organizations.
- Greater capacity of citizens to disrupt policymaking.
- Citizens enjoy being involved. (Leighninger 2010, pp. 2-3)

He cites Nancy Roberts’ edited volume *The Age of Direct Citizen Participation* (2008) as follows:

Authors in that volume argue that citizen participation can facilitate public learning, build community, improve responsiveness, serve and empower citizens, build trust in government, increase citizen efficacy, promote a shared conception of the common good, and generally reduce citizen discouragement and apathy, among other reasons (Leighninger 2010, pp. 1-2).

On the idealistic side,

Other interviewees justified their teaching and research in this realm not just as a reaction to what is already happening, but as a proactive way of helping to revitalize democracy. This view is rooted in the idea that “Democracy is an end in itself” (Camilla Stivers) and that politics can be a fundamentally valuable human activity, not just a way to make decisions and allocate resources (Leighninger 2010, p. 3).

### Official and unofficial participation

The above sources are mainly focused on official efforts to engage citizens in participatory processes, but ‘participation’ can be viewed more broadly as encompassing both *official* policy forming processes and *unofficial* processes. Beyond the official participation processes, in the controversial field of nuclear energy there will also certainly be protest activities. Protesters may include people who are either excluded from or choose not to participate in official processes. For the purposes of this thesis, the term ‘participation’ therefore includes both official participation processes and unofficial processes and the term ‘participant’ refers to any person or organisation that seeks to engage with the policy debate, either within or outside official channels.

Under the heading ‘Types of Civic Participation’ Head (2007) includes not only government initiatives, but also initiatives by citizens and community groups:

[C]itizens and community groups may decide to take independent or additional actions outside the formal channels established by public institutions (e.g. lobbying, protesting, establishing new forums for dialogue, establishing coalitions of support, developing community action plans, etc.) (Head 2007, p. 444)

Bucchi and Neresini (2008) have in mind a wide range of forms of participation, including protest action, in the following definition of public participation in science:

[F]or our purposes here, public participation may be broadly defined as the diversified set of situations and activities, more or less spontaneous, organized and structured, whereby nonexperts become involved and provide their own

input to, agenda setting, decision-making, policy forming, and knowledge production processes regarding science (Bucchi & Neresini 2008, p. 449).

In her analysis of Japanese environmental and protest movements McKean (1981) uses the term 'participation' to refer to activities ranging from consultation to legal action and protest. She concludes with the following comment on the role played by Japanese citizens' movements in transmitting democratic values:

Citizens' movements ... also transmit democratic values to some extent and instruct their new members in the channeling of anger into useful and legal modes of participation (McKean 1981, p. 267).

This calls to mind Leighninger's idealistic public administration experts whose teaching and research are seen as 'a proactive way of helping to revitalize democracy', but in McKean's account it is the work of citizens' movements that is contributing to the transmission of democratic values. The discussion of citizen-initiated participation in this thesis includes examples where citizens' movements actively transmitted democratic values (sections 3.2.4 and 4.3, and 5.4).

*Habermas: communicative power and preventing subversion of the public sphere*

Whereas the above discussion makes a case for a participative approach to democracy on instrumental and intrinsic grounds, theoretical support can be found in German philosopher Jürgen Habermas' theory of law and democracy elucidated in *Between Facts and Norms* (Habermas 1996). In that work public participation becomes a central component of political opinion- and will-formation through a theory of communicative action, which replaces the no longer viable classical notion of practical reason with communicative reason (pp. 3-5). Citizens are seen as participating in the creation of the legal order of the society in which they live:

The idea of self-legislation *by citizens* ... requires that those subject to law as its addressees can at the same time understand themselves as authors of law ... It is only participation in the practice of *politically autonomous* lawmaking that makes it possible for the addressees of law to have a correct understanding of the legal order as created by themselves (Habermas 1996, pp. 120-121).

Habermas sees participation in political processes as a basic right of citizens, who 'become authors of their legal order' by exercising political autonomy through the following:

Basic rights to equal opportunities to participate in processes of opinion and will-formation in which citizens exercise their political autonomy and through which they generate legitimate law (Habermas 1996, p. 123).

They exercise this right through participation in discursive processes which have a legitimating role. Such processes are central to what Habermas calls 'deliberative politics':

Deliberative politics acquires its legitimating force from the discursive structure of an opinion- and will-formation that can fulfill its socially integrative function only because citizens expect its results to have a reasonable *quality*. Hence the *discursive level* of public debates constitutes the most important variable (Habermas 1996, p. 304).

By focusing on specific participatory processes in Japan's nuclear energy and energy policy forming process, this thesis investigates how the views of a particular category of people, namely nuclear critics, were systematically marginalised, and how the 'discursive structure of ... opinion- and will-formation' (Habermas 1996, p. 304) was subverted due to the marginalisation of these views and of the holders of these views (section 3.4.3). In the following three quotes, Habermas refers to a 'proceduralist paradigm' through which such subversion might be prevented. I quote at length because the passages encapsulate Habermas's understanding of the inter-relationships between several key concepts relevant to public participation.

[T]he social substratum for the realization of the system of rights consists neither in spontaneous market forces nor in the deliberate measures of the welfare state but in the currents of communication and public opinion that, emerging from civil society and the public sphere, are converted into communicative power through democratic procedures. The fostering of autonomous public spheres, an expanded citizen participation, curbs on the power of the media, and the mediating function of political parties that are not simply arms of the state are of central significance for this (Habermas 1996, p. 442).

This thesis focuses on the issue of ‘expanded public participation’. It also touches on the place of ‘autonomous public spheres’ (in the context of analysis based on deliberative systems theory—sections 1.2.2, 3.5.2, 3.5.3 and 4.5.4) and ‘the mediating function of political parties’ (for example in the context of analysis of the respective roles of representative and participatory democracy—section 4.5.6). It actually suggests that in certain circumstances market forces could be used as a vehicle for expanding citizen participation (in the context of discussion of liberalisation of the electric power market and the emergence of producer-consumer (‘prosumer’) citizens—sections 5.1, 5.3, 5.4.3 and 5.4.5). While acknowledging the importance of ‘the power of the media’, it does not develop this aspect of Habermas’s scheme.

Continuing on from the above passage,

The well-known proposals to insert plebiscitary elements into the constitution (direct popular vote, petitions for a referendum, etc.), as well as the proposals to introduce democratic procedures at a grassroots level (in the nomination of candidates, will-formation inside the party, etc.) are meant to counteract the subversion of the *political public sphere* by power (Habermas 1996, p. 442).

Various participatory approaches ‘meant to counteract the subversion of the political public sphere by power’ are mentioned in the above quotation, although the list is illustrative rather than comprehensive. This thesis examines in detail approaches to public participation used in Japan’s nuclear energy and energy policy forming process and assesses whether they were successful in counteracting the subversion of the process by power. The central question posed by this thesis is, ‘To what extent and in

what ways has public participation prevented and could public participation prevent in future the subversion of the political public sphere by power?’

Continuing again from the above passage:

In the proceduralist paradigm, the public sphere is not conceived simply as the back room of the parliamentary complex, but as the impulse-generating periphery that *surrounds* the political center: in cultivating normative reasons, it affects all parts of the political system without intending to conquer it. Passing through the channels of general elections and various forms of participation, public opinions are converted into a communicative power that authorizes the legislature and legitimates regulatory agencies, while a publicly mobilized critique of judicial decisions imposes more-intense justificatory obligations on a judiciary engaged in further developing the law (Habermas 1996, p. 442).

The public sphere is not the ‘back room of the parliamentary complex’, and nor is it the back room of the administrative complex, so the ‘discursive level of public debates’ is not determined by the level of cooperation with officially sanctioned public engagement exercises. In some circumstances participation by citizens movements in official processes may play a useful role in protecting democratic decision making from subversion by power and in improving policy outcomes, but subversion by power is relentless, so official processes alone will often be insufficient. In those cases, diverse forms of communicative action outside the official processes may sometimes be effective. The degree to which such action may be called ‘discursive’ or ‘deliberative’ will vary (refer the discussion in section 1.3 of the contribution of citizens movements to deliberative democracy), but, given the massive obstacles to citizens movements succeeding through ‘strategic action’ alone, their success will depend on the amount of ‘communicative power’<sup>7</sup> they are able to generate. In some cases this communicative

---

<sup>7</sup> Goodin observes that Habermas’ formulation of the way ‘opinion-formation’ in the public sphere generates ‘influence’, which is transformed into ‘communicative power’ ‘is simply too general to be interestingly informative’ (Goodin 2008, p. 259, footnote 14). This is a valid point, but nevertheless, I believe the expression ‘communicative power’ is descriptively useful. ‘Communicative’ is an apt modifier to describe, for example, the principal form of power wielded by social movements.

power may be transformed into a countervailing force capable of withstanding the traditional power of elites and vested interests.<sup>8</sup> In this sense, elections alone do not represent the full scope of public participation necessary for a healthy democracy. The active participation of citizens in opinion-formation in an autonomous public sphere is vital.

### Legitimacy

A key word that appears in various permutations throughout the above quotes is ‘legitimacy’. Habermas links the legitimacy of a political system to the participation of citizens in a discursive process of opinion- and will-formation. This relationship may seem straight forward as an abstract principle, but it is very difficult in practice and public participation is fraught with disputes about legitimacy. This issue is taken up in the sections and chapters which follow.

#### ***1.2.2 Micro and macro perspectives***

The previous section considered the question of why public participation is important in democratic societies. After presenting instrumental and intrinsic values favouring public participation, it postulated that participation by citizens in both official and unofficial ways might in some circumstances help prevent the subversion of democratic decision making by power. Although voting in elections alone was seen as insufficient, the perspectives presented all shared the underlying assumption that public participation

---

Flynn (2004) argues that Habermas is ‘unclear whether communicative power amounts to discursive power produced through arguments within informal public spheres or is primarily associated with the institutional power to make binding decisions’ (p. 434). This thesis uses the former interpretation.

<sup>8</sup> Flynn (2004) notes, ‘a more flexible, wide reading of discursively produced communicative power would provide a normative account of a resource that is necessary not only for authorizing administrative power, but also as a direct counterforce to social power within the public sphere’ (p. 450). He continues, ‘revitalized public spheres would have to rival both the economic and administrative systems, while not overtaking the functions of either. This would require citizens to mobilize and increase the communicative power of public debate until it could surpass or at least equal the extent to which money and administrative power coordinate action ‘behind their backs’’ (p. 451).



takes place within the context of representative democracy. The question asked in this section is a 'how' question: how can representative democracy be complemented or supplemented by direct participation? To answer this question, various typologies of official public participation and some specific participation techniques are introduced. However, it is argued that techniques alone are insufficient to establish legitimacy. For this, public participation needs to be seen in a wider context. This thesis views the wider context through the lens of deliberative systems theory.

### Complementing/supplementing representative democracy

Dahl (1989), who refers to representative democracies as 'Polyarchies'<sup>9</sup>, identifies a fundamental problem with modern democracy. Due to the increasing complexity of modern democratic societies, it has become very difficult for ordinary citizens to participate meaningfully in politics simply by virtue of being voters. He articulates the problem as follows:

[W]hat if important policies are now so complex that ordinary citizens no longer understand what will best serve their interests? Has the democratic idea become a vision of a political order that is impossible in the complex universe in which we seem destined to live?

If so, then guardianship might replace democracy, not in symbols or even beliefs, perhaps, but in practice. We could no longer properly interpret Polyarchy II as a grafting of the expertness of guardianship to the popular sovereignty of the demos. We might have to interpret it instead as the grafting of the symbols of democracy to the de facto guardianship of the policy elites (Dahl 1989, p. 337).

Dahl offers the following hypothetical response to this dilemma:

Suppose an advanced democratic country were to create a "minipopulus" consisting of perhaps a thousand citizens randomly selected out of the entire demos. Its task would be to deliberate, for a year perhaps, on an issue and then to announce its choices (Dahl 1989, p. 340).

---

<sup>9</sup> Dahl's terms Polyarchy I, II and III refer to different stages in the development of democracy. Polyarchy I refers to early nation state democracies, Polyarchy II refers to the current status of representative democracy in 'modern dynamic pluralistic' societies, and Polyarchy III refers to a hypothetical future stage of development (Dahl 1989, p. 335-341).

One might ask whether such a method could be used as an alternative to elections and parliamentary democracy. Some people seriously consider delegating decision-making power on some issues to randomly selected citizens in council (for example The newDemocracy Foundation), but Dahl does not go that far. He concludes,

I see the institution of the minipopulus in Polyarchy III not as a substitute for legislative bodies but as a complement. It would supplement, not replace, the institutions of Polyarchy I and Polyarchy II (Dahl 1989, p. 340).

Although Dahl proposes this ‘minipopulus’ (more commonly referred to as ‘mini-public’) concept in hypothetical terms, it serves as a useful reference for deliberative techniques that have been developed over the past couple of decades. Some of these are discussed later in this section, but first a more general look at definitions and frameworks of participation.

### Sharing power

The definition of participation below, taken from Bishop and Davis (2002), is narrower than the concept on which this thesis is based (section 1.2.1), but it articulates a fundamental assumption, namely that participation implies sharing of power.

Participation is the expectation that citizens have a voice in policy choices. Such participation takes many forms, from community meetings to citizen advisory committees, administrative law and, more recently, the idea of citizens as customers. Whatever the form, though, the idea of participation rests always on a sharing of power between the governed and the government (Bishop & Davis 2002, p. 14).

However, it is not always clear that public participation processes actually result in power being shared with citizens, or whether it is even the purpose of governments to share power. With this in mind, as the flip side to the main question posed by this thesis (regarding prevention of subversion of the political public sphere by power—refer

discussion of Habermas in section 1.2.1), the question is asked, ‘To what extent and in what ways has power been shared and could power be shared in future between the governed and the government?’ Note that this question does not restrict the means of sharing power to official public participation processes. Power might also be shared, whether willingly or unwillingly, through unofficial participation initiated by citizens.

### Public participation typologies

Bishop and Davis state that ‘policy participation is best understood as a discontinuous set of techniques, chosen according to the issue in hand and the political imperative of the times’ (Bishop & Davis 2002, p. 26). They propose a ‘five-way characterisation of contemporary participation types’: consultation, partnership, standing, consumer choice, and control (pp. 21-22). Of these, the meaning of ‘standing’ is perhaps least obvious. In Bishop and Davis’ characterisation it can be understood as follows: ‘[P]articipation as standing recognises the rights of individuals or organisations to intervene in the policy cycle’ (p. 22). They explain that it ‘enables citizens and interest groups to enter the policy process through the courts, either as direct participants or through third party appeal rights’ (p. 22).

Bishop and Davis derive their system of classification by ‘aggregating contemporary practice’ (p. 22) in the OECD world. Their approach is oriented towards officially sanctioned participation, so it is not as broad as the concept used in this thesis. It focuses mainly on discreet, micro-level exercises, although their ‘consumer choice’ category operates at a system level. (An application of the consumer choice category is discussed in Chapter 5.) This section first addresses micro-level approaches to public participation, then discusses how participation can be viewed from a macro perspective.

Bishop and Davis claim that their schema is ‘descriptive rather than normative’ (p. 21) and that they are ‘eschewing claims to participatory democracy’ (p. 16). In this regard they contrast themselves with theorists who depict participation as a continuum with an implicit bias in favour of direct democracy. Arnstein’s ‘Ladder of Citizen Participation’ (Arnstein 1969) is a notable example. The rungs of the ladder, in ascending order, are as follows: manipulation, therapy, informing, consultation, placation, delegated power, and citizen control. The International Association for Public Participation (IAP2) proposes a different schema. IAP2’s Public Participation Spectrum is, in ‘increasing level of public impact’, as follows: inform, consult, involve, collaborate, empower (IAP2 ). Like Arnstein’s ladder, IAP2’s schema is hierarchical, but unlike Arnstein’s ladder the hierarchy is not value laden. The level on the spectrum chosen depends on the particular circumstances in each case. The biggest difference between IAP2’s spectrum and Bishop and Davis’ ‘five-way characterisation’ is that it does not include ‘standing’ and ‘consumer choice’. That is understandable given that IAP2 is an association of public participation practitioners, not lawyers or consumer advocates.

The above three frameworks are primarily focused on government-initiated participatory processes, although they can also apply to processes initiated by other decision-making authorities. None of the frameworks covers the range of unofficial forms of participation mentioned in section 1.2.1, but Bishop and Davis’s ‘standing’ and ‘consumer choice’ allow room for citizens to be the initiators, and Arnstein’s ‘citizen control’ and IAP2’s ‘empower’ categories cover both government-initiated as well as citizens-initiated approaches (for example citizens-initiated referendums—sections 3.2.4 and 4.3.3).

## Good faith

Bishop and Davis' schema provides a useful framework for considering a wide range of participatory practices, but an important question that it does not address is the question of whether official public participation exercises are undertaken in good faith. Perceptions of good faith are an important factor influencing judgments about the legitimacy of public participation exercises. Arnstein's hierarchical classification system is too crude in many ways, but it has the advantage of recognising that governments do not necessarily engage in public participation exercises in good faith, so the participative methods employed cannot always be taken at face value. IAP2, an advocate for public participation, has developed seven 'core values', which, if honoured, would go some way to ensuring that public participation exercises are conducted in good faith.

1. The public should have a say in decisions about actions that could affect their lives.
2. Public participation includes the promise that the public's contribution will influence the decision.
3. Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
4. Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
5. Public participation seeks input from participants in designing how they participate.
6. Public participation provides participants with the information they need to participate in a meaningful way.
7. Public participation communicates to participants how their input affected the decision.<sup>10</sup>

If the spirit of these core values were adhered to, citizens would have a voice in policy choices, power would be shared between the governed and the government, and Bishop and Davis's definition of participation would be fulfilled. However, interpreting what the core values mean in practice is not always straight-forward. What, for example, does it mean to say that 'the public's contribution will influence the decision' when many

---

<sup>10</sup> Taken from IAP2 Australasia's web site: <http://www.iap2.org.au/documents/item/84>

conflicting contributions are made? Resolving this conundrum was a key issue for Japan's pre- and post-Fukushima policy reviews, because the government promised repeatedly to 'reflect' the public's input in policy decisions. How the issue was dealt with is addressed in sections 3.4.2, 3.4.3 and 4.4.

Another perspective on the question of good faith is offered by Johnson (1998) in an essay that discusses arguments for and against deliberation, in contrast to aggregative (e.g. voting) methods of decision making. Participation is not necessarily deliberative, but, as discussed below, deliberative forms of participation are an important focus of modern participatory theory and practice. As a possible argument in favour of deliberation Johnson says, 'where it is successful, deliberation might engender "good faith" by enabling participants to develop greater understanding of and trust in both one another and the deliberative process itself.' However he cautions against excessive optimism saying, 'We must ... recognize that deliberation by no means guarantees any such development' (p. 174). The subjects of good faith in Johnson's interpretation appear to be the participants themselves rather than the initiating body, although both are probably implied.

Johnson doesn't define deliberation, but one possible definition is offered by Gastil and Black (2008):

When people deliberate, they carefully examine a problem and arrive at a well-reasoned solution after a period of inclusive, respectful consideration of diverse points of view (Gastil & Black 2008, p. 2).<sup>11</sup>

---

<sup>11</sup> No one definition captures all the dimensions of the concept of deliberation. With the addition of the following two definitions we have a sufficient range to inform the discussion in this thesis:

Deliberation is a communicative process in which participants are considered equals, open to having their preferences shaped and transformed through reflective public reasoning (Hendriks, Dryzek and Hunold (2007, p. 366), based on Benhabib (1996) and Cohen (1989)).

In Gastil and Black's concept good faith between participants is a fundamental aspect of deliberation:

Deliberation embodies respect when participants recognize one another as private individuals with unique hopes and fears and members of the larger group or society. Respect also means treating all others as sincere, competent participants, at least so long as they do not themselves reject these principles (Gastil & Black 2008, p. 4).

I take the references to respect and sincerity here as alternative expressions of the same underlying notion of good faith. Although Gastil and Black focus on the internal quality of deliberation between individuals, if the concept of deliberation is thought to encompass the context in which the deliberation takes place, the good faith of the initiating body must be a necessary condition.

#### *Deliberative democracy: macro and micro approaches*

This brings us to the concept of 'deliberative democracy', which can be approached from both the macro and micro levels. Habermas's concept of 'deliberative politics' is an example of a macro approach. It encompasses deliberation at the levels of the 'constitutionally structured political system' (Habermas 1996, p. 352), of the public sphere, and also of civil society and the lifeworld. As such it is concerned with the full spectrum of political opinion- and will-formation. Dryzek (2010) discusses 'deliberative systems' in the context of an analysis of the 'systemic, practical, and empirical turns in deliberative democracy'. In the terms used in this thesis the 'systemic turn' relates to

---

By 'deliberative' we mean exercises that emphasize:

- Learning through the exchange of perspectives among diverse parties (not one-by-one engagement, not focus groups or polling)
- A problem-solving orientation that wrestles with costs and tradeoffs (not just visioning or wish lists, but giving participants a sense of the real choices faced by policymakers)
- The opportunity for participants to explore diverse emotional perspectives and personal experiences in a nonadversarial environment, and, linked to this, willingness to shift position based on new information and arguments (not just horse trading or negotiation) (Kahane et al. 2013, pp. 4-5).

the macro level.<sup>12</sup> Dryzek proposes a scheme for the analysis of deliberative systems containing the following items:

1. *Public space*, ideally hosting free-ranging and wide-ranging communication, with no barriers limiting who can communicate, and few legal restrictions on what they can say ...
2. *Empowered space*, home to deliberation among actors in institutions clearly producing collective decisions ...
3. *Transmission*, some means through which deliberation in public space can influence that in empowered space ...
4. *Accountability*, whereby empowered space answers to public space ...
5. *Meta-deliberation*, or deliberation, about how the deliberative system itself should be organized ...
6. *Decisiveness*, the degree to which these five elements together determine the content of collective decisions (Dryzek 2010, pp. 11-12).

By focusing on the role of a broadly defined public space, this scheme opens up the field to unofficial forms of participation, and has important implications for the potential role of citizens' movements (section 1.3).

On the other hand, at the micro level there is a flourishing industry of public participation practitioners and scholars designing and organising deliberative forums, often based on the concept of 'mini-publics' using randomly selected participants. Several techniques have been developed which are quite similar to Dahl's 'minipopulus', though there are some important differences. People advocating these techniques tend to be much less squeamish than Bishop and Davis about laying claims to participatory democracy.<sup>13</sup> Techniques of particular note include deliberative polls, consensus conferences, citizens' juries, and planning cells. A brief outline of the first two of these methods follows.

---

<sup>12</sup> Ercan and Hendriks (2013, p. 425) imply that a systems approach to deliberation can be distinguished from a macro approach, but for the purpose of this thesis macro-level deliberation is taken to include deliberative systems.

<sup>13</sup> See for example the name of the Center for Deliberative Democracy, whose director is James Fishkin, the inventor of the deliberative polling technique (Center for Deliberative Democracy).



The deliberative polling method was developed by James Fishkin (Fishkin 1991), a student of Dahl.<sup>14</sup> Deliberative polls are different from conventional opinion polls in that whereas conventional polls could canvass people about things that they generally do not understand in any depth, deliberative polls ask randomly selected citizens their opinions both before and after they are given an opportunity to study and deliberate on the topic. The initial survey is conducted by phone, by mail, or by directly visiting people (generally in the order of thousands). From the respondents to this survey, participants (generally in the order of hundreds) are selected to attend an event (generally a couple of days) where they complete the same survey before and after deliberating on the topic. The changes in the results of the before and after polls show how the deliberative process affected their opinions. It is argued that the outcome gives an indication of the considered opinion of the general public. As discussed in section 4.2.4, the Japanese government hosted a deliberative poll during its post-Fukushima energy policy review.

The consensus conference method was developed by the Danish Board of Technology (DBT). DBT has been an important innovator in participation processes and methods of public technology assessment. As in deliberative polls, citizens are randomly selected and given an opportunity to study the issue and to question experts, but in consensus conferences a much smaller group of participants produce a report at the end of the exercise. The key differences between the two methods are as follows:

- the number of citizens selected to take part in deliberative polls is much larger than in consensus conferences (a few hundred compared to less than 20);<sup>15</sup>

---

<sup>14</sup> Interview in English with Yasunori Sone, 15 March 2013. Sone and Fishkin are close collaborators on deliberative polling and both are students of Dahl.

<sup>15</sup> The number of participants in deliberative polls typically ranges from about 200 to over 400. See the website of Stanford University's Center for Deliberative Democracy: <http://cdd.stanford.edu/polls/docs/summary/>

- participants in deliberative polls are constrained to answering questions prepared by the organisers, whereas participants in consensus conferences can play a more active role in setting the agenda;
- participants in deliberative polls respond to a questionnaire, whereas participants in consensus conferences write up their conclusions in a consensus report.

If the preferences of the participants in deliberative polls and consensus conferences were automatically translated into policy decisions these techniques would become a type of direct democracy, but that is not usually what happens. The main purpose of these techniques is to generate deeper debate among the public and to provide decision makers with informed and considered lay<sup>16</sup> views. As such, they could be said to fit within items 1 and 3 of Dryzek's deliberative systems spectrum: public space and transmission. These micro-deliberative forums may therefore be seen as situated within the context of a wider macro-deliberative system. They were not designed to replace the decision-making role of elected representatives. Theoretically they could be used in that way and in some cases the public might accept that, but questions would be raised about their legitimacy on grounds of representativeness, inclusiveness, accountability and transparency, not to mention competence, if they were used as decision-making forums as a matter of standard practice. According to Goodin (2008):

[T]here is no realistic prospect of deliberative mini-publics systematically supplanting the institutions of representative democracy. There is, however, every hope that deliberative mini-publics can serve as truly invaluable adjuncts to those other familiar features of the democratic process. (p. 269)

---

Standard Consensus Conferences have 14 to 16 lay panel members (The Danish Board of Technology):

<http://www.tekno.dk/subpage.php3?article=468&toppic=kategori12&language=uk>

<sup>16</sup> Throughout this thesis, expressions such as 'lay people', 'members of the general public' and 'ordinary citizens' are used to refer to a particular category of participant in public participation exercises. The types of qualities indicated by these terms include 'non-expert' and 'unaffiliated'. For a discussion of the concept of 'citizen', as used in relation to public participation, and how this category of participant may be distinguished from 'stakeholders' see Kahane et al (2013).

Dahl's minipopulus would not solve all the legitimacy problems with micro-deliberative forums conducted to date, but a comparison with deliberative polls and consensus conferences illuminates some of the limitations of these techniques. The population sample is much smaller than Dahl's hypothetical minipopulus, the time spent on the exercise is very limited and, in the case of deliberative polls, the lay participants have no say in setting the agenda. Nevertheless, both techniques have the potential to expose the policy process to the values of the general community more directly than usually occurs in contemporary representative democracies. In so doing they can lend an alternative form of legitimacy to policy options that might otherwise have been rejected as a result of technocratic paradigms, vested interests, or lack of public trust. Although such techniques do not by themselves afford procedural legitimacy in a Habermasian sense (section 1.2.1), they might in some cases provide political legitimacy in the eyes of decision makers and the public at large (refer discussion of perceived legitimacy in section 1.3).

Parkinson (2003, 2006) explicitly draws the link between deliberation at the micro- and macro-levels, arguing that micro-deliberative forums have a role, but that legitimacy is derived from their being connected to the wider macro-deliberative system:

[R]epresentation's legitimacy depends in part on seeing deliberative forums as being embedded in a wider deliberative system in which legitimacy is created in the openness of the linkages between moments, rather than relying on ideal legitimacy of each moment taken separately (Parkinson 2003, p. 193).

Dryzek cautions against placing too much weight on micro-deliberative techniques:

Designed forums can be expensive, and there must always be more to the broad public sphere in a deliberative democracy than any such forum or set of forums. Any proliferation of such forums should not be mistaken for more systemic democratization (Dryzek 2010, p. 139).

However, despite his reservations, Dryzek identifies several attractive features of mini-publics and argues that ‘deliberative democrats ought to applaud and encourage their spread’:

They provide space and support for deliberating citizens that can otherwise be very hard to find. They have little difficulty in achieving a measure of deliberative authenticity that normally eludes partisan political actors, professional participants in adversarial politics, and relatively neutral administration alike. They show what public opinion might look like if ordinary people had the chance for extensive and informed deliberation. They can have an impact on broader political debates. They provide all kinds of opportunities for social scientists to study the causes, consequences, and processes of deliberation. They highlight challenges that larger deliberative systems must somehow resolve (Dryzek 2010, p. 176).

### *The case of Canada’s nuclear waste dialogue*

Public participation practitioners tend to work at the micro level on specific official public participation exercises, rather than the full scope of public opinion- and will-formation encompassed by Habermas’s deliberative politics or Dryzek’s deliberative systems. One exercise in the nuclear field that could be seen as blurring the distinction, in that it was much more than a single event, was conducted in Canada. It is worth discussing this example in some detail, because, while it was far more extensive than the single event approach of deliberative polls, it illustrates how even quite extensive deliberative approaches cannot necessarily be taken at face value and how good faith cannot be taken for granted.

The purpose of the exercise was to consider the vexed question of what to do with the spent nuclear fuel generated by Canada’s nuclear power plants. It involved a large number of participants over an extended period of time. From the time it was established in 2002 until 2005 The Nuclear Waste Management Organization (NWMO) conducted an extensive public consultation process. NWMO referred to it variously as a ‘responsive study process’, a ‘collaborative development process’, or a ‘dialogue’ (Nuclear Waste Management Organization 2005, p. 59).

In the course of the process NWMO used ‘nation-wide surveys, focus groups, issue-focused workshops and roundtables, e-dialogues and deliberative surveys, and public information and discussion sessions’ (p. 61), and made special efforts to involve Aboriginal participants. Various techniques were used ‘to ensure that we heard from a statistically representative cross-section of citizens ... to [elicit] the concerns of those who are directly interested in the issue ... to [provide] for more in-depth conversation among those with specialized knowledge’ (p. 61). ‘Each dialogue initiative was conducted, and reported on, by third parties in order to ensure the accuracy and transparency of the reporting’ (p. 61). Part of the process included ‘dialogues’ conducted between January and March 2004 in twelve Canadian cities and involving 462 randomly selected participants. These dialogues were organised by the Canadian Policy Research Network (CPRN). CPRN described the process as follows:

The deliberative dialogue methodology used by CPRN for this research project was based on Viewpoint Learning Inc.’s ChoiceWork Dialogue methodology, which brings people together in groups of approximately 40, and supports them in working through difficult issues as they engage with one another. It enables people to interact, hear other perspectives and modify their views as they work together to reconcile those views with deeper values that underpin the choices they make (Watling et al. 2004, p. vii).

While the NWMO process was a major attempt to involve the public in the decision making process, the process was strongly criticised by some NGOs and academics. A fundamental flaw was that NWMO refused to consider the option of not producing any more nuclear waste. The whole process was premised on the continued operation of nuclear power plants, although NWMO recommended that the future of nuclear energy be explored in a separate public policy forum (71-72). This meant that participants were deprived of choosing what for some was the only ethically acceptable option, namely phasing out nuclear power altogether. Timmerman (2009) expressed the dilemma faced by these participants as follows:

[A]s soon as one has accepted any of the working assumptions of the powers that be, the game is lost, yet meanwhile the engine—pragmatic, incrementalist, progressive, et cetera—drives on (Timmerman 2009, p. 65).

In another article in the same volume, Fuji Johnson (2009) used this Canadian case to illustrate how the objectives of deliberative democracy can be subverted if the process is abused.

This critical examination reveals how certain attempts to realize deliberative democratic decision making can lend themselves to purposes antithetical to the deliberative ideal. In certain contexts, such endeavours can contribute to entrenching power relations between policy coalitions and provide a veneer of legitimacy to pre-established policy preferences (Fuji Johnson 2009, p. 90).

There are strong parallels between the pre-Fukushima nuclear policy review process and the Canadian debate about what to do with spent nuclear fuel. In both cases the continued promotion of nuclear energy was a given (Chapter 3).

#### *Stages in the policy-making process*

These cases illustrate that a key issue for participation in policy making is whether or not the public has a genuine opportunity to influence the agenda. This issue can be analysed in terms of the stages in the policy cycle at which the public is engaged. Framing the agenda is the first of five stages in the policy cycle identified by Moro (2005): agenda-setting, planning, decision-making, implementation and evaluation. Potential roles for public participation in these stages are shown in the table below.

## Citizens' roles, obstacles and governance principles at each stage of the policy-making cycle

	Role of Citizens	Obstacles	Governance Principles
Agenda	<ul style="list-style-type: none"> <li>Identifying problems</li> <li>Defining priorities</li> </ul>	<ul style="list-style-type: none"> <li>Inaccessibility of decision-makers</li> <li>Lack of attention to citizens' points of view</li> </ul>	<ul style="list-style-type: none"> <li>Bilateral communication</li> </ul>
Planning	<ul style="list-style-type: none"> <li>Identifying obstacles</li> <li>Identifying solutions</li> <li>Testing tools and components of policies</li> </ul>	<ul style="list-style-type: none"> <li>Lack of recognition of citizens' competence</li> </ul>	<ul style="list-style-type: none"> <li>Consultation and feedback</li> </ul>
Decision	<ul style="list-style-type: none"> <li>Building consensus</li> </ul>	<ul style="list-style-type: none"> <li>Obsolete criteria of representativeness</li> <li>Fear of citizens</li> </ul>	<ul style="list-style-type: none"> <li>Sharing (not agreeing) decisions</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>Creating services, monitoring situations, mobilizing resources, collecting good practices</li> </ul>	<ul style="list-style-type: none"> <li>Lack of coordination and/or competition between citizens and governments</li> </ul>	<ul style="list-style-type: none"> <li>Partnership (equality and full responsibility)</li> </ul>
Evaluation	<ul style="list-style-type: none"> <li>Social auditing</li> <li>Stakeholders cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Outcomes of citizens not taken into account as evaluation tools</li> <li>Preconception that citizens are able only to give opinions, not information</li> </ul>	<ul style="list-style-type: none"> <li>Common evaluation and re-engineering of policies</li> </ul>

(Moro 2005, p. 115, Table 6.1)

Consider, for example, how inadequate recognition of the role of citizens at the agenda-setting stage may impinge upon the decision-making stage. Clearly a lack of agreement on the relevant problems and priorities is likely to be an obstacle for building a consensus, when there is not even agreement on what the consensus should be about.

A somewhat different scheme is proposed by Parkinson (2006, pp. 165-166). Based on Catt (1999), Parkinson suggests roles for different actors at each point in a four-stage decision-making cycle: define, discuss, decide and implement (see table below). Of the four stages, 'define' corresponds most closely to Moro's 'agenda' stage. The absence of the specific category of 'citizen' seems to be a weakness of Parkinson's scheme, but

Parkinson goes beyond Moro by connecting the different elements into a deliberative system, rather than just focusing on discrete public participation processes. One point worth noting is that activist networks, experts, the bureaucracy and the media are all expected to raise issues, but activist networks and the media share the important additional role of making them salient. This relates to the discussion in section 1.3 of the role of citizens' movements in putting discourses on the political agenda.

**A deliberative system: roles at different decision stages**

	Decision Stages			
	Define	Discuss	Decide	Implement
Activist networks	<ul style="list-style-type: none"> <li>• Raise issues and work to make them salient</li> </ul>	<ul style="list-style-type: none"> <li>• Research impacts and offer solutions</li> <li>• Voice perspectives</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor process</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor results and challenge if necessary</li> </ul>
Experts	<ul style="list-style-type: none"> <li>• Research and raise issues</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct research on impacts</li> <li>• Offer solutions</li> </ul>		<ul style="list-style-type: none"> <li>• Monitor results and challenge if necessary</li> </ul>
Bureaucracy	<ul style="list-style-type: none"> <li>• Research and raise issues</li> </ul>	<ul style="list-style-type: none"> <li>• Manage macro-deliberative processes</li> <li>• Gather the arguments and supply to decision-makers</li> </ul>		<ul style="list-style-type: none"> <li>• Implement decisions</li> </ul>
Micro techniques		<ul style="list-style-type: none"> <li>• Provide deliberative local point for arguments made by others</li> </ul>	<ul style="list-style-type: none"> <li>• Recommend course of action, including dissenting opinions</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate implementation</li> </ul>
Media	<ul style="list-style-type: none"> <li>• Research and raise issues, make them salient</li> </ul>	<ul style="list-style-type: none"> <li>• Present the arguments for and against different solutions from various sources</li> </ul>	<ul style="list-style-type: none"> <li>• Report the decision and the reasons for and against</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor results and challenge if necessary</li> </ul>
Elected assembly	<ul style="list-style-type: none"> <li>• Instigate macro-deliberative processes</li> </ul>	<ul style="list-style-type: none"> <li>• Debate the arguments from the broader public sphere</li> </ul>	<ul style="list-style-type: none"> <li>• Make binding collective decisions</li> <li>• Communicate reasons for and against decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor implementation</li> </ul>
Direct techniques	<ul style="list-style-type: none"> <li>• Instigate macro-deliberative processes (petitions)</li> </ul>		<ul style="list-style-type: none"> <li>• Make binding collective decisions (referendums)</li> </ul>	

(Parkinson 2006, p. 169)

This thesis uses Moro's and Parkinson's schemes as an aid to locating public participation processes within the policy-making cycle.



The above discussion presented frameworks for classifying types of micro-participation and introduced some specific micro-deliberative techniques. It then showed how participation at the micro level should be seen as situated in a wider macro-deliberative context. In some cases discreet public participation exercises may play a decisive role in determining the decisions taken by policy makers—for example, if the issue is not particularly controversial and the proposal that emerges is acceptable to key stakeholders—but regardless of the quality and authenticity of discreet public participation exercises, outcomes will be vulnerable if legitimacy is not established at the macro level.

### ***1.2.3 Evaluation of public participation processes***

This thesis considers the issue of public participation in Japan's nuclear policy-forming process from a broad perspective, comparing policy review processes pre- and post-Fukushima. Public participation processes in these two eras will be considered and their merits and demerits assessed. For this purpose it is useful to consider frameworks that have been proposed for evaluating public participation in policy-making processes.

Kahane et al (2013) note that 'evaluating the effectiveness of various configurations of public deliberation is a major gap in deliberative theory and practice' (p. 27), but for the purpose of this thesis broad criteria are sufficient. In this regard, the OECD publication *Evaluating Public Participation in Policy Making* (OECD 2005) is a useful document. Some of the principles outlined in the articles in this publication can be adapted and used as criteria against which to assess the Japanese policy review processes studied in this research project. However, for several reasons, they cannot be applied rigidly. First, the OECD publication seems to assume that the people carrying out the evaluation have some sort of official recognition, or that the evaluation is conducted on behalf of the organisation which sponsored the public participation process. Consequently it assumes

a greater level of access to the process and to the participants and stakeholders than is available to this research project. A further problem is that the OECD publication focuses on local examples of public participation, whereas the main examples covered in this thesis involve national-level policy. (See sections 2.2.1 and 2.2.4 for a discussion of the significance of this distinction.) Finally, the contributors to the OECD publication focus exclusively on official public participation processes, whereas this thesis also considers unofficial public participation. Nevertheless, the principles facilitate identification of strengths and weaknesses and successes and failures of the participation processes under consideration. It should be noted, however, that for the above reasons and in view of the wider focus of this thesis on tracing the history of public participation in Japan's nuclear energy policy-forming process, it is not possible to conduct the type of detailed assessment that has been applied to some discreet public participation exercises.<sup>17</sup>

As shown in the following table, Frewer and Rowe propose nine criteria for evaluating public participation processes: representativeness, independence, early involvement, influence, transparency, resource accessibility, task definition, structured decision making, cost effectiveness (Frewer & Rowe 2005, p. 88, Table 5.1; based on Rowe & Frewer 2000).

---

<sup>17</sup> Frewer and Rowe (2005) developed an evaluation tool kit comprising detailed questionnaires for the UK government (p. 89). This thesis does not use those questionnaires. As Frewer and Rowe note, 'lack of ability to exert experimental control on the participation situations undermined attempts to be as scientifically rigorous as would have been hoped' (p. 90).

## Nine criteria for evaluation

Criteria	Definition
<i>Representativeness</i>	The public involved in the exercise should comprise a broadly representative sample of the population affected by the policy decision.
<i>Independence</i>	The participation exercise should be conducted in an independent (unbiased) way.
<i>Early involvement</i>	The participants in the exercise should be involved as early as possible in the process, as soon as societal values become important to the development of policy.
<i>Influence</i>	The outcome of the procedure should have a genuine impact on policy.
<i>Transparency</i>	The process should be transparent so that the relevant/affected population can see what is going on and how decisions are made.
<i>Resource accessibility</i>	Participants should have access to the appropriate resources to enable them to fulfil their brief.
<i>Task definition</i>	The nature and scope of the participation exercise should be clearly defined.
<i>Structured decision making</i>	The participation exercise should use appropriate mechanisms for structuring/displaying the decision-making process.
<i>Cost-effectiveness</i>	The process should be cost-effective from the point of view of the sponsors (for example in the case of proportionality of response).

There is an intuitive reasonableness about these criteria that would be broadly accepted, even if judgments about how well they are fulfilled are subjective. The first eight criteria are particularly relevant to the current project. Cost-effectiveness will not be investigated, not because it is not important, but because it is very difficult to obtain figures.

Moro identifies five outcomes of good participation processes. These are as follows:

- add value to policy making, in terms of effectiveness, efficiency, impact, pertinence;
- empower citizens;
- improve social trust and social capital;
- involve a sufficient number of citizens;
- change the public administration's way of managing public affairs (Moro 2005, pp. 121- 123).

Moro's criteria complement the criteria proposed by Frewer and Rowe. Whereas Frewer and Rowe's criteria principally guide an assessment of the quality of the public participation process itself, Moro's criteria provide benchmarks for considering its success or failure from the perspective of process outcomes. In addition to these two sets of criteria, the International Association for Public Participation's core values (section 1.2.2) are used to assess the extent to which public participation was carried out in good faith.

The above sets of criteria can be applied to official public participation processes, but what of unofficial public participation and the interaction between official and unofficial processes? One approach is to consider this in terms of Dryzek's (2010) deliberative systems scheme. This thesis uses Dryzek's scheme (section 1.2.2) as a reference point for analysis of unofficial processes and the place of official processes within a wider deliberative systems context.

An assumption common to all these evaluation systems is that participation should influence the policy decision. Without in any way diminishing the importance of the other criteria, I take influence, or openness to influence, to be fundamental. In terms of IAP2's core values it is a key indicator of the degree of good faith of the process. It is also implied in the idea that participation is about sharing power between the governed and the government (Bishop and Davis (2002) – section 1.2.2). It is not always possible to measure influence, but in cases where it cannot be definitively proved that the participation process influenced the decision, it is often possible with some confidence to infer influence. In cases where even this is not possible, it may be possible to discern whether the process was set up and implemented in a way that was open to influence from the public, or whether the outcome was predetermined from the start. Of all the

criteria, therefore, the analysis in this thesis gives particular weight to the ‘influence’ criterion.

### **1.3 Citizens’ movements and political influence**

This section provides theoretical background on ways in which citizens’ movements exert political influence and discusses some of the fundamental obstacles they face. It presents perspectives on the representativeness of citizens’ movements and discusses how this relates to the legitimacy of their contribution. In doing so it takes into account the possibility that the means employed by activists might fall well outside accepted norms of civil discourse. The legitimacy of such action is addressed from the perspective of deliberative systems theory.

#### *Objective and subjective grounds for legitimacy*

Given that ‘influence’ is widely recognised as an important measure of the quality of public participation (refer IAP2 core values in section 1.2.2, and Frewer and Rowe’s criteria in section 1.2.3), it is interesting to consider the implications this has for interpreting the contribution of citizens’ movements. Citizens’ movements<sup>18</sup> seek to exert influence and members of citizens’ movements are generally more inclined to participate in both official and unofficial political processes than non-partisan members of the wider public. They do not always succeed in influencing policy, but when they do, should their influence be viewed in a positive light? Potentially objective grounds on which this question might be answered include procedural and substantive legitimacy. On procedural grounds, the question arises whether they represent any one in a formal

---

<sup>18</sup> The term ‘citizens’ movement’ is used throughout, although in some cases the quoted source might have used the term ‘social movements’. McKean (1981, p. 159) says of the relationship between the two terms, ‘Individual motivations, issue orientation, sharply focused objectives, and structural traits of citizens’ movements all indicate that citizens’ movements easily fit the standard definition of a social movement.’

and/or accountable way, or alternatively whether they can claim to be representative as champions of the interests of otherwise voiceless members of the wider public (Parkinson 2006, pp. 84-89). If the answer to both these questions is no, it might still be possible to argue that their influence is legitimate on substantive grounds: that is, in terms of the quality of the outcomes. If the involvement of citizens' movements leads to better outcomes in areas such as equity, environmental sustainability and cost effectiveness, then perhaps that would provide a form of legitimacy.<sup>19</sup> However, in the realm of practical politics, perhaps the most relevant determinant of legitimacy is entirely subjective, namely whether the decision is accepted as legitimate (referred to hereafter as 'perceived legitimacy'). For example, Hendriks, Dryzek and Hunold (2007) state, 'For our analysis we operationalize legitimacy as *the extent to which key actors, decision-makers and the media accept and support the procedure and its outcomes*' (p. 372 (italics in original)). While recognising that there are many perspectives on the question of legitimacy, this thesis focuses mainly on the perceived legitimacy of specific participation processes (sections 3.5.5 and 4.5.6) and considers the interaction between this and 'formal legitimacy'<sup>20</sup> (which it considers to be a subset of procedural legitimacy), in particular in relation to legitimacy afforded by elections.

### *Impact of citizens' movements*

According to Tindall, Cormier and Diani (2012, p. 387) 'it is now commonly understood that movements can have at least three major types of change impact: political, biographical and cultural'. To this, they add social capital outcomes as a fourth field in which citizens' movements have impact. Of these, this thesis focuses on the political impact of citizens' movements, specifically of the Japanese anti-nuclear energy

---

<sup>19</sup> See Parkinson (2006, pp. 23-24) for a discussion based on Beetham (1991) of 'content norms' and the 'substantive element' of legitimacy. These correspond to what I have referred to here as 'outcomes', although I have specified the outcomes differently.

<sup>20</sup> Joseph Weiler's definition: 'Formal legitimacy is legality understood in the sense that democratic institutions and processes created the law on which it is based' (Weiler 1999, p. 184).

movement, bearing in mind Tindall, Cormier and Diani's caution about the problems of impact studies:

There are two fundamental critiques of impact studies. The most often expressed ... is the difficulty in drawing a direct causal link between the movement's actions and a particular outcome ... Second, movement and organizational goals are never homogeneous (Tindall, Cormier & Diani 2012, p. 388).

Amenta and Caren (2004) identify four main theories in the literature about the political impact of citizens' movements. They summarise the four theories as follows:

(1) the simple hypothesis that mobilization or collective action in itself is likely to be effective ... (2) that once mobilized certain forms of challenger organization or strategies, including framing strategies, are more effective than others ... (3) that political opportunities or favourable political contexts result in benefits for mobilized challengers ... (4) that the collective action of mobilized challengers is politically mediated—combinations of specific forms of mobilization, action, and political conditions determine whether movements have consequences (Amenta & Caren 2004, p. 469).

None of these theories suggests that public participation in official decision-making processes is a sufficient condition for influencing policy. However some Japanese anti-nuclear energy NGOs have invested a considerable amount of effort in directly engaging with official processes. It would be expected from these four theories that in as much as participation in official decision-making processes promotes mobilisation, makes for better organisation and strategy and capitalises on political opportunities, it may influence policy, but only if the political conditions are right. This thesis compares pre-Fukushima and post-Fukushima public participation (broadly defined) in Japanese nuclear energy formation and finds that public participation had no substantial impact on policy pre-Fukushima (Chapter 3), but that it had some, albeit limited and temporary, impact post Fukushima (Chapter 4). The thesis considers the political conditions and the specific movement strategies that influenced this outcome. It does not attempt to test the four theories identified by Amenta and Caren, but it does consider how 'specific forms

of mobilization, action, and political conditions' combined to determine whether the actions of the anti-nuclear movement had an impact on policy.

### Exclusion and marginalisation

Besides unfavourable political conditions, the ability of citizens' movements and the general public to influence policy is also restricted by patterns of exclusion created by the way power and knowledge are structured within society. Gaventa and Cornwall (2008) summarise Bachrach and Baratz's (1970) account of the problem of in-built bias as follows:

Bachrach and Baratz (1970) ... argued that the hidden face of power was not about who won and who lost on key issues, but was also about keeping issues and actors from getting to the table in the first place ... [K]nowledge, and the processes of its production, contribute very strongly to the mobilization of bias. Scientific rules are used to declare the knowledge of some groups more valid than others, e.g. 'experts' over 'lay people', etc (Gaventa & Cornwall 2008, pp. 173-174).

Even if a few nuclear critics are invited to participate in official policy-making processes, that does not necessarily mean that they are in a position to influence the outcome. In the words of Gaventa and Cornwall,

Simply creating new spaces for participation, or new arenas for diverse knowledges to be shared, does not by itself change social inequities and relations of power, but in some cases may simply make them more visible ... [M]arginalized groups may enter these spaces but find themselves without voice within them, co-opted as tokens or manipulated by the powers that be ... While institutionalized forms of participation may shift our focus to whose voices count *within* new policy spaces, we must remember that the second dimension of power—which affects whose voices and which issues enter such spaces at all—still has not gone away ... The institutionalization of participation therefore does not negate the need for mobilization and action outside the 'new democratic spaces', both to continue to challenge the barriers that prevent certain issues for [*sic*] arising as well as to mobilize knowledge and voices of those who are excluded from them. (Gaventa & Cornwall 2008, pp. 184-185)

Mobilisation and action outside the 'new democratic spaces' may be as important in influencing policy as inclusion of critical voices within these new democratic spaces.



This issue is addressed in section 4.3, which considers the impact of the post-Fukushima anti-nuclear energy movement and synergies between the activities of this movement and the official public participation process.

The points raised by Gaventa and Cornwall represent a challenge for public participation practitioners and proponents of micro-deliberative forums. Sponsors, organisers and facilitators are naturally committed to the smooth running of participatory events, but activists might take the view that the terms on which events are held unduly restrict the scope of discussion, or are contained within a paradigm that they wish to challenge. Carcasson, Black and Sink (2010) discuss criticisms about deliberative democracy from critical theorists ‘who argue that deliberative practice can mask issues of power and are therefore insufficiently responsive to concerns about justice and equality’.

To them, “civil” discourse seems a particularly weak antidote to domination and oppression (Lozano-Reich and Cloud, 2009). This tension has been clearly manifested within the deliberative democracy movement between perspectives that focus primarily on the importance of deliberative practitioners playing impartial, “nonpartisan” roles that focus on depolarization and transpartisanship, and community organizing perspectives that focus more on social justice, coalition-building, and equity issues (Leighninger, 2010) (Carcasson, Black & Sink 2010, p. 19).

The tension is not just a theoretical one. It has very real consequences for the conduct of participatory forums:

The tension is also relevant to enduring difficulties in negotiating the line between communication that is appropriate and productive for deliberation and communication that should be disparaged or otherwise prohibited from public discourse, a key issue for facilitators in their development and enforcement of “ground rules” for deliberative practice. Facilitators must consider whether ground rules that require “civil” or “respectful” communication cut off valuable voices and unduly support existing structures (Carcasson, Black & Sink 2010, p. 19).

### *A deliberative systems perspective*

Gastil and Black (2008) suggest a conception of deliberation that acknowledges the contribution of citizens' movements to agenda setting, even when they use unruly methods that are not conducive to smooth running official participatory forums:

The approach to deliberation that we offer...is designed to appreciate the role that many forms of discourse play in a larger democratic process ... [A]n activist organization's civil disobedience is unlikely to appear a deliberative practice, but when one steps back, it might constructively contribute to a mediated process whereby the public and elites deliberate on what issues should be on the forefront of their agenda ... [W]hether the action contributes to or detracts from a wider deliberation is important (Gastil & Black 2008, p. 31).

The contribution of citizens' movements to agenda setting is also recognised by Dryzek (2010). He affirms the use of rhetoric by activists as one of several 'forms of discursive representation' and sees it as a mechanism for transmitting public opinion to the state or other public authority. His affirmation of the use of rhetoric by activists is significant, because rhetoric 'is often treated with suspicion by democratic theorists, on the grounds of its capacity for emotional manipulation and coercion'. Subject to certain conditions, he believes 'rhetoric may be vital in representing a discourse to those in positions of political authority not initially subscribing to it' (p. 63). He cites 'the use of rhetoric and other performances designed to attract publicity for a cause' as a mechanism for transmission within deliberative systems, 'through which deliberation in public space can influence that in empowered space' (p. 11) (refer Dryzek's scheme for the analysis of deliberative systems in section 1.2.2 above). Under this formula a wide range of citizens' movement actions can be thought of as contributing to deliberation in a macro sense, even when they are incompatible with smooth running micro-deliberative forums.

### *A different role for citizens' movements in micro-deliberative forums*

That is not to say that citizens' movements and micro-deliberative forums are necessarily incompatible. Carson (2001) suggests a way in which activists can play an

important role within such forums, while at the same time strengthening their roles as change agents, reformers and inquirers. She begins with a critique of the role of activists in official committees. Rather than allowing themselves to become ‘caught up in consultation methods that are tokenistic or manipulative’ by acting in the role of citizens claiming to represent the wider community on advisory committees, she suggests that they should ‘adopt more appropriate and satisfying roles including that of expert’. In making this suggestion she is mindful of the fact that activists are perceived by decision makers as being unrepresentative of the wider population and that indeed they are not representative. She points out that activists misunderstand their position when they claim to speak on behalf of the community at large and invites ‘activists to join the debate about the crisis of legitimacy—a crisis that exists whenever representativeness is falsely claimed’.

As she sees it, the wider public is better represented through random selection to deliberative forums such as citizens’ juries, consensus conferences, deliberative polls and televotes. Activists should play the role of experts presenting their point of view as one among others for the lay participants to pass judgment on. By freeing themselves from time-consuming participation in often tokenistic and manipulative advisory committees, they will be better able to carry out their roles as change agents, reformers and inquirers. Meanwhile, more traditional forums such as public gatherings have lost the support of bureaucrats, elected representatives and the general community because they ‘seem to attract “the incensed” and “the articulate”’.

#### *Limitations of micro-deliberative forums*

Carson acknowledges that her case is ‘based on an assumption that intelligence, sensitivity and good will are available to us all and that what is needed is clear information and an opportunity for debate in order for good decision making to occur’.

This assumption is controversial in light of Gaventa and Cornwall's above-quoted summary of Bachrach and Baratz views on power and 'knowledge and the processes of its production'. To some extent the inclusion in micro-deliberative forums of experts representing a diverse range of views gives the opportunity to address the problem of knowledge bias, but it is doubtful whether deeply embedded paradigms can be adequately addressed within the context of one-off deliberative exercises.

A related problem is raised by Parkinson (2007). He questions, the 'effect micro-deliberation in a new localist environment is likely to have on ... goal-oriented people' (p. 25), which clearly includes activists. He suggests,

[T]heory tells us that it will turn them away. Such people base their decision to participate in politics on a calculation of likely effectiveness, relative to how powerful they perceive other processes and people to be, and how powerful they perceive themselves—and people like them—to be. They have to think that their participation is going to matter, in ways that are beyond tinkering at the edges of programmes that have been designed and advocated at levels of power to which they do not have access (Parkinson 2007, p. 25).

By this reckoning, activists are likely to welcome the opportunity to play the role of expert in deliberative forums if they believe they can sway the randomly selected citizen participants and that the recommendations of those citizens will influence the outcome, but if they believe the forum is stacked against them, or that they are more likely to achieve their goals through protest, they are likely to boycott the process.

These reservations suggest that micro-deliberative forums should be seen in a broader context (section 1.2.2). In order to effectively challenge deeply embedded paradigms, extended discursive processes need to take place within the wider public sphere. Deliberative forums might be part of this, but rhetorical and other forms of communicative action (including protest) by social movements are equally important.

### Discursive representation

Dryzek (2010) provides important insights into the role of citizens' movements in the wider public sphere. He sees a role for citizens' movements as representatives of discourses. He argues that discursive legitimacy can be achieved through the representation of discourses, not just through the representation of persons (p. 14), and sees deliberation in public space 'as a multifaceted interchange or contestation across discourses' (p. 24). He regards citizens' movements and NGOs as potential representatives of discourses, even where the latter do not have an actively involved membership. Citing Putnam's disparaging remark about the Sierra Club as a 'checkbook' group (Putnam 2000), he responds that 'Checkbook groups may build discursive capital (in the sense of facilitating the articulation of discourses), if not social capital' (p. 63). Regarding NGOs' active at the global level he makes the following comment:

Who elects NGOs? Nobody. Is there an identifiable constituency or category of people with which each NGO is associated, and to which it is accountable? Not usually ... NGOs pushing for human rights, fair trade, sustainable development, demilitarization, transparency, and so forth, may, however, best be thought of as representatives of particular discourses (Dryzek 2010, pp. 192-193).

In Dryzek's deliberative systems scheme (section 1.2.2), with a wide range of discourses represented, citizens' movements would have an opportunity to challenge deeply embedded paradigms, although the outcome would depend on factors such as the nature of the underlying political system (Dryzek 2010, pp. 170-175). This scheme allows room for citizens' movements to play a visionary role that is way out in front of the existing status quo, without being constrained by narrow interpretations of representativeness. Furthermore, the methods they use need not be constrained to polite participation in micro-deliberative or other official forums. That is not to say that anything goes, but citizens' movements have greater room to challenge existing paradigms and force issues onto the public agenda by means of rhetoric and

performance. Their methods of communication might not be considered deliberative in a narrow sense, but they can nevertheless contribute to deliberation in a macro sense. Perhaps the most important criterion for judging whether or not the actions of citizens' movements and NGOs contribute to deliberation is articulated by Mendonça and Ercan (forthcoming):

[F]or deliberation to occur, what is more important than the direct give-and-take of rational arguments among courteous citizens is the collective meaning-making and reflection process engendered by various communicative processes (p. 7).

These various communication processes include both official and unofficial processes. They are likely to involve contentious politics and the collectively produced meanings cannot be constrained by anyone's agenda.

### Conclusion

This chapter as a whole has made a case for public participation based on a 'thick' definition of democracy (section 1.2.1), with public participation defined broadly to include both official and unofficial citizen-initiated processes, while this section has shown how, by taking a deliberative systems approach and including the concept of discursive representation, it is possible to extend the analysis beyond discrete public participation exercises and incorporate contributions by citizens' movements that do not fit within the confines of official participatory processes. The core focus of the thesis is official public participation processes conducted pre-Fukushima (Chapter 3) and post-Fukushima (Chapter 4), but the analysis of these processes is located within a wider deliberative context, which includes the actions of citizens' movements. However, before beginning this analysis it is necessary to provide an overview of the status of public participation in Japan. That is the focus of the next chapter.

## **Chapter 2 : The State of Public Participation in Japan**

### **2.1 Introduction**

Whereas Chapter 1 addressed participation from a theoretical perspective, this chapter looks primarily at the practice of public participation in Japan. However it also raises theoretical questions about the different implications of participation at the national level compared to participation at a local level. These theoretical questions are addressed in section 2.2.1. A brief summary of the legislative basis of public participation at a national level follows in section 2.2.2. Sections 2.2.3 and 2.2.4 then provide an overview of public participation at the local level, based on publicly available information and supplemented by interview data collected from people directly involved. Finally, section 2.3 looks at the uptake of micro-deliberative approaches to participation in Japan. As discussed later in the thesis (section 4.2.4), one micro-deliberative technique (a deliberative poll) was used in the post-Fukushima energy policy review process.

### **2.2 National versus local**

#### ***2.2.1 National versus local: theoretical issues***

The focus of this thesis is nuclear energy and energy policy. Hitherto, in Japan these fields have been exclusively the province of national policy. The role of local and prefectural governments has been restricted to approving siting and operation of facilities. Hence, any discussion of public participation in nuclear energy policy and energy policy needs to consider the national level and that is the main focus of this thesis. However, official public participation procedures are not very well developed at the national level. That applies not just to nuclear energy and energy policy, but across

the board.<sup>21</sup> Therefore, focusing just on national level public participation will not give a good indication of how far public participation has developed in Japan. This turns out to be highly relevant to the choices available for the future direction of Japan's energy policy, as discussed later in this section and in more detail in Chapter 5. Some caution is warranted, however, in applying the lessons of public participation at the local level to the national level. Approaches which work at the local level might not necessarily work when scaled up to the national level, especially in a field as controversial as nuclear energy. Some theoretical perspectives on this dilemma are discussed below.

Writing about the factors which stymied a proposal in Australia to establish a deliberative style citizens assembly on climate change, Boswell, Niemeyer and Hendriks (2013) contrast the success of deliberative citizen engagement at the local level in the realm of 'low politics' with the obstacles facing deliberative engagement at the national level in the realm of 'high politics', 'where elites focus their energy and attention on high-stakes, high-profile issues at the centre of state business' (p. 166).

In high politics, institutions and processes of government tend to be top-down ... Consultation at the federal level typically targets key stakeholder elites, such as lobbyists, experts and opinion leaders, rather than citizens (Boswell, Niemeyer & Hendriks 2013, p. 166).

Under these circumstances the opportunities for citizens to participate in and exert influence on national policy-making in the realm of high politics can be expected to be more limited than at the local level. Boswell, Niemeyer and Hendriks note that 'many influential thinkers now concede that in highly partisan circumstances, genuine deliberation may be unachievable' (p. 172). They suggest that some conditions might be more conducive than others to deliberative approaches:

---

<sup>21</sup> When I interviewed Naoyuki Mikami of Hokkaido University (29 August 2012), he said, 'There were public comments and hearings, but a proper public participation system has not really existed at a national level.'



Empirical research suggests that deliberative designs are best suited to political contexts with neither too little nor too much antagonism. When a policy issue is not sufficiently politicised, deliberative designs risk being deemed irrelevant by those with the power to effect change. At the other extreme, where an issue is highly politicised, deliberative designs tend to be torn down by opponents (Boswell, Niemeyer & Hendriks 2013, p. 172).

It is debatable whether nuclear energy policy could have been called a highly politicised, highly partisan issue in pre-Fukushima Japan. Strictly speaking, the topic was effectively removed from the agenda of political debate (refer quote from interview with former Prime Minister Naoto Kan in section 4.2.1). The taboo surrounding nuclear energy reflected the high stakes nature of the issue, situated as it was ‘at the centre of state business’, and the antagonistic relationship between people on both sides of the debate.<sup>22</sup> As such, nuclear energy policy was certainly in the realm of high politics. It should come as no surprise, therefore, that there were huge obstacles to public participation, especially of the deliberative type.

Besides the distinction between high politics and low politics, another important difference between the national and local levels is scale. The problem of scale does not relate just to the size of the population; it also relates to the complexity of the issue. Hartz-Karp (2012, p. 4) refers to increasing scale on these two dimensions as ‘scaling up’ (involving the broad population) and ‘scaling out’ (addressing complex issues). Without questioning Hartz-Karp’s emphasis on the importance of finding ways of scaling up and scaling out, in section 5.5 I discuss the potential for increasing public participation in energy policy in Japan by ‘scaling down’ and ‘scaling in’: that is, by developing local energy policies, instead of restricting energy policy to the national level. Potentially this could ameliorate some of the obstacles to public participation

---

<sup>22</sup> During a presentation to the Japan Atomic Energy Commission, public participation expert Tadashi Kobayashi described the relationship between proponents and opponents of nuclear energy as ‘like throwing stones at each other from either side of a river’. See transcript of 18 March 2004 meeting, p. 13:  
<http://www.aec.go.jp/jicst/NC/tyoki/chokei2004/chokei09/09gijiroku.pdf>

presented by large scale, high politics and top-down approaches characteristic of the national level.

However, when suggesting tackling complex issues at a local level it is important to beware of the problems identified by Parkinson (2007). These include deliberating about issues on which local government does not have the authority to deliver, and the reverse problem of restricting deliberation to trivialities.

In a localist environment, one can think that a given deliberative process is a good one; and that the local bureaucrats who respond to it have all the willingness in the world; but they often lack the authority to make the macro-level changes that are often necessary to ensure that local initiatives make a difference (Parkinson 2007, p. 26).

[T]he localist solution seems to involve people being empowered to make decisions about the colour of their wallpaper, but not about the style of the house, let alone the broader issues of housing development in the context of competing land uses and environmental protection (Parkinson 2007, p. 27).

### ***2.2.2 Institutional framework for public participation at a national level***

The previous section introduced some theoretical issues surrounding the distinction between participation at the local and national level in general. The focus now turns to the specific question of the status of public participation in Japan. This section briefly outlines the legal requirements for public participation at the national level, then the following two sections address the status of public participation at a local level.

The only legal requirement for public participation at the national level comes under Chapter 6 of the Administrative Procedures Act. This chapter of the Act, which specifies public comment procedures when establishing administrative orders, was added by an amendment that came into force on 1 April 2006. It requires that advance notice of administrative orders be published and public comments sought. The public comment period should normally be at least 30 days.

In practice, public participation in official policy-forming processes was first carried out many years before this amendment to the Administrative Procedures Act came into force. An official public comment system was first introduced by a Cabinet Decision on 23 March 1999 (Ministry of Internal Affairs and Communications 2000). Furthermore, ever since the first public hearings on nuclear energy policy in 1994 (section 3.2.1), there has often been more extensive public participation at an earlier stage in the nuclear energy policy forming process. Nevertheless, the opportunities for the public to contribute to policy-making at the national level are much more limited than at the local level.

### ***2.2.3 Overview of local participation in Japan***

It is beyond the scope of this thesis to give a detailed account of public participation at the local level in Japan. The purpose is rather to provide an indicative overview in order to contextualise the specific case of public participation in the fields of nuclear energy and energy policy. This section quotes a survey conducted by Nikkei Shimbun (2011) showing that public participation has been institutionalised to a considerable degree in many municipalities, but that the depth of participation practice is far from uniform. Section 2.2.4 then describes the example of Sapporo City, a recognised leader in the field, and draws parallels between Sapporo's practices and participation practice at the national level. It will be seen that while there are clear parallels, the degree of influence of public participation at the municipal level (in the case of Sapporo at least) is much greater than the degree of influence on national nuclear energy policy. This is as predicted based on Boswell, Niemeyer and Hendriks (2013) (section 2.2.1) and is relevant to the discussion of local energy planning in section 5.3.

Nikkei's survey, published in its 'Glocal' series, sought information that was considered indicative of the level of public participation in matters related to local government in

general. It was the seventh such survey conducted by Nikkei Shimbun, the first being in 1998. The figures in brackets are the percentage of responding municipalities<sup>23</sup> which answered in the affirmative.

- 1) whether important policies are published at the draft stage (91.2%)
- 2) whether the opportunity to submit public comments on important policies is guaranteed by ordinance (30.7%)
- 3) whether all public comments are replied to (67.8%)
- 4) whether calls are issued for expressions of interest from residents to participate in advisory committees (85.7%)
- 5) whether residents are chosen by random selection to participate in advisory committees (3.8%)
- 6) whether there is an official policy concerning support for NPOs (47.8%)
- 7) whether community meeting facilities including community centres are run by residents (69.8%)
- 8) whether there is a procedure for residents to have a say in the construction and renovation of community meeting facilities (37%)
- 9) whether a basic self-government ordinance (*Jichi Kihon Jōrei*) has been instituted (22.8%)
- 10) whether a resident satisfaction survey is conducted ('every year': 17.4%)
- 11) whether there is a mechanism for residents to submit opinions about the information on the municipality's web site (34.7%)
- 12) whether information is provided via Facebook and social networking services (28.4%) (Nikkei Shimbun 2011, pp. 22-25)

---

<sup>23</sup> The response rate was 87.4%.

The existence of ordinances ((2) and (9)) is indicative of the degree of institutionalisation and official commitment to engaging residents in decision-making processes. Random selection of participants on advisory committees (5) is conducted by a small percentage of municipalities, but it has become increasingly common for municipalities to use a Japanese deliberative process involving random selection (refer discussion of the citizens' discussion method in section 2.3.3). Compared to the previous survey, carried out in 2008, there were substantial increases in affirmative responses to (1), (2), (3), (6) and (9), while there was a substantial reduction in (8), possibly due to the fact that the municipalities which responded were not identical in each survey. Questions (11) and (12) were new. From this it seems that there is an ongoing trend towards stronger institutionalisation of public participation at the local level.

#### ***2.2.4 The case of Sapporo City***

By considering the specific case of Sapporo City, capital of Hokkaido and home to about 1.9 million people, we can see some of the approaches used by one of the more progressive municipalities. In December 2011 Nikkei Shimbun ranked it second in public participation, behind Mitaka City, a ward in the west of Tokyo which has been an innovator in the field (Nikkei Shimbun 2011, p. 32). On 18 December 2012 I interviewed Hironobu Ozawa, who is responsible for public participation in the Sapporo City Council (Chiiki Shien Tantō Kakari-chō). The information below is based on that interview.

Sapporo Mayor Fumio Ueda, who was first elected in 2003, has taken a very progressive stance towards public participation. At his initiative a Self-Government Basic Ordinance (*Jichi Kihon Jōrei*), which included a strong commitment to public

participation, was instituted in 2007. In terms of institutionalising public participation, Sapporo's initiatives include the following:

- 1) A meeting with randomly selected residents is held each year to carry out an intensive review of major issues facing the city (*Shūchū Hyōka Kaigi*).
- 2) An opinion poll is conducted once a year in which 1,500 randomly selected residents' homes are visited.
- 3) A questionnaire is sent to 10,000 randomly selected residents twice a year.
- 4) If requested Council staff attend meetings to exchange opinions with residents (*demae kōza*).
- 5) Advisory committees include members selected from residents who responded to requests for expressions of interest.
- 6) Public comments are solicited for major projects.
- 7) Sections have been established in several offices to receive and record comments from the public and pass them on to the responsible section.
- 8) When approving projects, a system is in place to check whether a public participation process has been carried out.
- 9) Conclusions of public participation processes are reported to the Municipal Assembly.

In regard to (1), Ozawa referred to the *Shūchū Hyōka Kaigi* as 'planning cells'. In fact they do not follow precisely the planning cell method developed by German sociologist Peter Dienel (section 2.3.3). Rather, they are based on a simplified Japanese adaptation of the planning cell method popularised by Junior Chamber International Japan. This method, known as 'citizens' discussions', is discussed in detail in section 2.3.3. It costs Sapporo City at least 1 million yen to conduct a single *Shūchū Hyōka Kaigi*, so only

pressing issues are chosen as subjects for these meetings. For less important issues opinion polls and questionnaires are used.

For issues that cannot be resolved in one-off meetings advisory committees are established. Requests for expressions of interest in participating in these committees are issued and, from the respondents, citizens (*shimin*) are selected to become members. Typically there would be about two or three *shimin* on a ten-member panel. Asked whether NGO representatives fall under the category of *shimin* or experts, Ozawa replied that they are classified as *shimin*. Carson (2001) recommended that rather than attempting to play the role of ‘citizen’, activists should adopt the role of ‘expert’ (section 1.3), but in Sapporo activists are still playing the role of ‘citizen’ in advisory committees and the *Shūchū Hyōka Kaigi* are not designed to use them in the role of expert social change agents.

Compared to 2007, when the Self-Government Basic Ordinance was instituted, the citizens of Sapporo have been considerably empowered and social capital strengthened (refer Moro’s five outcomes of good public participation processes, section 1.2.3). Ozawa cited the residents’ strong desire to continue living in Sapporo (over 90%) in support of the latter claim. He also gave the specific example of the public’s response to the City’s recommendation that a charge be levied on rubbish collection to deal with the increasing amount of rubbish from the growing population. Organisations and individuals responded by endorsing a call to reduce rubbish and as a result the City was able to avoid building a new incinerator, saving 37 billion yen.<sup>24</sup> This was one example where the social capital generated by public participation generated tangible savings.

---

<sup>24</sup> According to Fumikazu Yoshida (2013, p. 34) of Hokkaido University, since 2009, when Sapporo began to charge for garbage collection, it has managed to reduce the amount of garbage by 40%.

When asked to comment on Moro's five stages in the policy-forming cycle (agenda, planning, decision, implementation, evaluation (Moro 2005, p. 115) – refer section 1.2.2), Ozawa said that Sapporo City engages in public participation at all these levels, adding that public participation is particularly important at the agenda-setting and planning stages. For the other stages public participation exercises are conducted as necessary. He noted that random sampling is particularly important at the agenda setting stage. By contrast, at the evaluation stage it is more important to hear the opinions of the users rather than randomly selected members of the public.

By way of comparison between public participation at the local and national levels, he observed:

At the national level they are discussing all sorts of issues ... and people are voting about all those issues. But at the local level ... a councillor's opinion about participatory democracy is a big factor in whether or not s/he gets elected. If s/he ignores it people will say 's/he is not speaking on our behalf'. If you don't reflect it in the Municipal Assembly you won't do well. That's the level it's at, so I don't think you can discuss local government and national government together.

Ozawa highlighted the difference in the range of issues and the degree of impact on politicians' electoral fortunes as reasons why public participation at the local and national levels are so different. This suggests that at the relatively small scale (refer discussion of scale in section 2.2.1) of local municipalities, voters are more likely to be directly involved and to expect their views to be taken into account in the limited range of specific issues that are salient in local elections.

Nevertheless, in form at least, parallels can be drawn between local and national level public participation processes. The following table matches the abovementioned nine aspects of Sapporo City's approach to public participation with methods used at the



national level, particularly focusing on nuclear energy and energy policy, but not limited to those fields. It reveals many parallels and one notable difference.

### Public participation: local and national comparison

Sapporo	National
1. A meeting with randomly selected residents is held each year to carry out an intensive review of major issues facing the city ( <i>Shūchū Hyōka Kaigi</i> ).	Deliberative Poll held in Japan during the national debate on energy policy in 2012 (section 4.2.4)
2. An opinion poll is conducted once a year in which 1,500 randomly selected residents' homes are visited.	The Cabinet Office conducts regular public opinion polls. The polls are conducted by visiting randomly sampled citizens. <sup>25</sup>
3. A questionnaire is sent to 10,000 randomly residents twice a year.	The Cabinet Office conducts regular public opinion polls. The polls are conducted by visiting randomly sampled citizens.
4. If requested Council staff attend meetings to exchange opinions with residents ( <i>demae kōza</i> ).	'Conference for Public Participation and Decision Making for Nuclear Energy Policy' meetings were held on 18 occasions throughout Japan between January 2002 and February 2009 (section 3.4.2). Government officials participated in 'explanatory meetings' during the national debate on energy policy in 2012 (section 4.2.4).
5. Advisory committees include members selected from residents who responded to requests for expressions of interest.	Government advisory committees include representatives of NGOs (sections 3.4.3, 4.2.2 and 4.2.3).
6. Public comments are solicited for major projects.	Chapter 6 of the Administrative Procedures Act requires that public comments be called for when establishing administrative orders (section 2.2.2). The Japan Atomic Energy Commission and the Agency for Natural Resources and Energy accepted public comments on a continuous basis during the post-Fukushima energy review process (sections 4.2.2 and 4.2.3).
7. Sections have been established in several offices to receive and record comments from the public and pass them on to the responsible section.	Chapter 6 of the Administrative Procedures Act outlines the public comment procedures when establishing administrative orders. The Japan Atomic Energy Commission and the Agency for Natural Resources and Energy tabled public comments at advisory committee meetings during the post-Fukushima energy review process (sections 4.2.2 and 4.2.3).
8. When approving projects, a system is in place to check whether a public participation process has been carried out.	Chapter 6 of the Administrative Procedures Act relating to public comments (section 2.2.2). Information about calls for public comments on the government's e-Gov website. <sup>26</sup>
9. Conclusions of public participation processes are reported to the Municipal Assembly.	No parallel requirement for reporting to the Diet.

<sup>25</sup> See the following links for a list of opinion polls conducted by the Cabinet Office and an outline of the methodology (Cabinet Office):

<http://www8.cao.go.jp/survey/index-all.html>

<http://www8.cao.go.jp/survey/faq.html#zenpan>

<sup>26</sup> e-Gov website (e-Gov): <http://www.e-gov.go.jp>

The purpose of the above comparison is not to suggest that the areas where parallels can be found are direct equivalents. However it does indicate that public participation at the local and national levels are not completely different concepts. The most striking area where Sapporo's system is different from the national system is item 9. The absence of a national equivalent to this item reinforces the above comment by Ozawa that the link between public participation processes and political representatives is stronger at the local level than at the national level.

Judging from the assessment of Nikkei Shimbun, from the public satisfaction with the system, from documents<sup>27</sup> received from Hironobu Ozawa, as well as from Ozawa's comments in general, there is no doubt that Sapporo's public participation process influences decision making. That is more than can be said for Japan's pre-Fukushima nuclear energy and energy policy processes (Chapter 3). Applying Boswell, Niemeyer and Hendriks' (2013) analysis of climate policy in Australia to the equally high-stakes issue of nuclear energy and energy policy in Japan, this could be seen as reflecting the difference between low-politics, local-level decision-making and top-down, high-politics, elite-led national decision-making (section 2.2.1).

### **2.3 Micro-deliberative approaches: academic and practical developments**

Section 2.2 showed how public participation at the national level is less developed and less influential than at the local level, due to factors such as scale and the level of the political stakes involved. This section addresses a specific category of public participation, namely micro-deliberative techniques, and discusses their uptake in Japan.

---

<sup>27</sup> A document explaining Sapporo City Council's staff handbook on information sharing and public participation (“Shokuin no tame no Jōhō Kyōyū/Shimin Sanka Suishin no Tebiki” ni tsuite’) lists 15 illustrative examples where suggestions received from the public were acted upon.

It will be seen that although these techniques have been used more at the local level, there have also been some notable cases where the national government has employed them, including during the summer 2012 national debate on energy and the environment (section 4.2.4). The discussion in this section provides a basis for understanding the 2012 national debate, and also for considering possible future trajectories for public participation in Japan's nuclear energy and energy policy-forming process (Chapter 5).

Inspired by the flowering in the 1990s of deliberative approaches to participation in Europe and the United States, Japanese scholars sought to introduce some of the micro-deliberative techniques developed overseas. At the initiative of people such as Yukio Wakamatsu (Tokyo Denki University), Tadashi Kobayashi (Osaka University, formerly Nanzan University), Yasunori Sone (Keio University), Hajime Shinohara (Tokyo University) and Akinori Shinoto (Beppu University), the applicability of consensus conferences, deliberative polls and planning cells to Japanese conditions was tested. The essential elements of consensus conferences and deliberative polls were briefly described in section 1.2.2. Their use in Japan is discussed in sections 2.3.1 and 2.3.2 respectively. In the case of planning cells, a technique developed by German sociologist Peter Dienel and first used in 1973 (Shinoto 2012a, p. 63), the Japanese version drastically simplified the original, to the point where they could no longer be called planning cells. Their Japanese adaptation, referred to as 'citizens' discussions', is discussed in section 2.3.3.

### ***2.3.1 Consensus conferences and 'participatory dialogue' about nuclear energy***

The first micro-deliberative technique to be tried in Japan was the consensus conference. It was promoted by academics who saw their work as falling broadly under the science and technology communication field. Several of the leading people in the field went on

to play important roles in the Post-Fukushima energy policy review process (section 4.2.4).<sup>28</sup>

### Consensus conferences in Japan

The consensus conference was introduced by Yukio Wakamatsu in 1993 in a short article in the *Science and Technology Journal* (Wakamatsu 1993) and trialed by a team of researchers<sup>29</sup> in 1998 (Kansai) and again in 1999 (Tokyo) (Wakamatsu 2003). In 1998 the topic was gene therapy and in 1999 it was information society and the internet. Both exercises were conducted for research purposes and neither was linked to a decision-making process or a government body. Due to limited finances, difficulty of recruiting participants, and the general lack of public familiarity with the technique, the organisers chose to compromise on some points, in particular reducing the number of meeting days. These trials provided a base of experience for subsequent officially sponsored consensus conferences, the first of which was held in 2000 on genetically modified agricultural products. This was a national-level initiative in that it was hosted by the Japan Association for Techno-innovation in Agriculture, Forestry and Fisheries (JATAFF) and sponsored by JATAFF's parent organisation, the Ministry of Agriculture, Forestry and Fisheries. It attracted a larger number of participants than the previous ones (JATAFF 2001), but it was still deemed unrealistic to expect members of the Japanese public to sacrifice the amount of time required for the standard European style consensus conferences (Wakamatsu 2005, pp. 25-26). Thereafter, JATAFF conducted modified versions of consensus conferences on the same topic between 2001 and 2003, and several other consensus conferences were sponsored by private and public

---

<sup>28</sup> Tadashi Kobayashi, Masaharu Kitamura, Yukio Wakamatsu, Ekou Yagi, and Naoyuki Mikami made up the 'Third Party Verification Committee into the Deliberative Poll on Energy and Environment Options'. Tadashi Kobayashi was also a member of the 'National Debate Verification Panel', which interpreted the overall outcome of the National Debate on Energy and the Environment. Naoyuki Mikami was also a member of the Executive Committee of the 'Citizen's Choice: Energy and Environmental Strategy', a citizens' Deliberative Poll-like event held during the National Debate on Energy and the Environment.

<sup>29</sup> The research group was called "'Kagaku Gijutsu e no shimin sanko" Kenkyūkai' ("Public participation in Science and Technology" Research Group').

organisations, including the Science and Technology Agency on the human genome (Wakamatsu 2005, p. 26) and Hokkaido Prefecture on genetically modified crops (Mikami 2012, p. 47)). According to Mikami (2012, p. 38), as of 2011 about ten consensus conferences had been held in Japan.

As in Europe most of the consensus conferences held in Japan were examples of participatory technology assessment. In addition to the abovementioned topics, they addressed issues including nanotechnology and organ transplants (Mikami 2012, p. 43). These are all classic trans-science issues. In Alvin Weinberg's terms, they are 'questions which can be asked of science and yet which cannot be answered by science' (Weinberg 1972, p. 209) (section 1.2.1). Trans-science is a key concept in the thinking of scholars involved in promoting consensus conferences in Japan (Kobayashi, T 2005, pp. 14-15; Mikami 2012, pp. 35-36). They take the view that judgments about many aspects of science and technology involve social and ethical issues that cannot be solved without input from the general public and they see consensus conferences as one way to bring together the wisdom of scientists and lay people.

#### *Nuclear administration's interest in consensus conferences*

Weinberg was a nuclear scientist and nuclear energy was the most prominent trans-science issue raised in his 1972 article, but despite the interest of Japanese proponents of consensus conferences in Weinberg and trans-science, nuclear energy has never been the focus of a consensus conference in Japan. That was not necessarily due to lack of interest. Under ongoing pressure from the late 1990s due to a loss of trust in Japan's nuclear energy program, the nuclear administration hoped that improved communication with the public would recover that trust. In this context it sought advice and assistance from experts in science and technology communication. On 18 March 2004, in the lead up to the process which produced the 2005 Framework for Nuclear

Energy Policy, the Japan Atomic Energy Commission (JAEC) invited Tadashi Kobayashi<sup>30</sup> to give a presentation on the importance of public participation, focusing in particular on consensus conferences. Kobayashi was a member of the research group that had organised the first two consensus conferences, and he was also the facilitator of JATAFF's consensus conference on genetically engineered agricultural products. Kobayashi said he had resolved not to get involved with nuclear energy, but, apart from the Ministry of Agriculture, Forestry and Fisheries, it was in fact people involved with nuclear energy who showed an interest in consensus conferences in Japan. The thing these two sectors had in common was that they had both lost the public's trust.<sup>31</sup> However, they were different in that in the case of nuclear energy there was a long-standing structure of conflict between proponents and opponents. When I interviewed Kobayashi he said he was once approached by nuclear proponents to run a consensus conference on nuclear energy but declined.<sup>32</sup>

Kobayashi introduced Weinberg's trans-science concept at some length during the JAEC meeting, but, due to this long-standing conflict, he said that when he started doing consensus conferences he thought that it was probably impossible to use this approach with nuclear energy.<sup>33</sup> During his presentation he tended to discourage JAEC from trying a consensus conference. However, if it was serious about using the method, he suggested the novel idea of establishing two parallel processes, one organised by the nuclear administration and one by nuclear energy opponents, both following the same

---

<sup>30</sup> At the time Kobayashi was working at Nanzan University. He later moved to Osaka University's Center for the Study of Communication-Design.

<sup>31</sup> Transcript of the 18 March 2004 meeting of the Japan Atomic Energy Commission's 'Chōkei ni tsuite goiken o kiku kai', p. 4:

<http://www.aec.go.jp/jicst/NC/tyoki/chokei2004/chokei09/09gijiroku.pdf>

<sup>32</sup> Interview with Tadashi Kobayashi, 17 January 2013

<sup>33</sup> Transcript of the 18 March 2004 meeting of the Japan Atomic Energy Commission's 'Chōkei ni tsuite goiken o kiku kai', p. 13:

<http://www.aec.go.jp/jicst/NC/tyoki/chokei2004/chokei09/09gijiroku.pdf>

rules, so that the results would be seen to be unbiased (refer discussion in section 3.5.5).<sup>34</sup>

Masaharu Kitamura and two-way communication in the nuclear field

Despite his resolve not to become involved with nuclear energy, in fact Kobayashi became involved through his association with Masaharu Kitamura, a professor in the Nuclear Engineering Department of Tohoku University.<sup>35</sup> As a result of his association with Kitamura, Kobayashi came to think more seriously about nuclear energy and he in turn influenced Kitamura. After hearing Kobayashi speak about consensus conferences in the early 2000s, Kitamura decided to dedicate himself to communicating with ordinary citizens about nuclear energy. Kitamura is a rare example of a member of the nuclear village who is committed to genuine two-way communication with the public. When interviewed, he told me, ‘What I am pursuing is not a yes/no answer about nuclear energy. What I am pursuing is deliberation.’ To this end he began a program of participatory dialogue on nuclear issues between experts and citizens in the Tohoku region, starting from 2002 in Aomori Prefecture’s Rokkasho Village (site of nuclear fuel cycle facilities) and Miyagi Prefecture’s Onagawa (site of a nuclear power plant). He was supported in this by Ekou Yagi, who is now a colleague of Tadashi Kobayashi at Osaka University’s Center for the Study of Communication-Design (Yagi, Takahashi & Kitamura 2007a, 2007b).

At first Kitamura referred to the participatory dialogue as ‘risk communication’, a term that the electric power industry and the government could relate to because of their assumption that the reason why citizens were concerned was because they didn’t understand. But he quickly realised that what he was doing was not risk communication.

---

<sup>34</sup> *ibid.* p. 24-25

<sup>35</sup> This paragraph and the following paragraph are based on interviews with Kobayashi (17 January 2013) and Kitamura (22 February 2013), principally the latter.

He recognised that this ‘deficit model’ approach, in which experts are seen as educating ignorant citizens, was mistaken. Instead, he adopted a two-way approach through which he expected to learn as much from the citizens as the citizens did from him. Kitamura referred to the work as ‘participatory dialogue’, based on his belief that it only becomes ‘dialogue’ when you allow yourself to be changed. He contrasted this with debate, where you do not change your position.

Later Kitamura became involved in a series of ‘Two-Way Symposiums’ on high-level radioactive waste (Agency for Natural Resources and Energy 2009~).<sup>36</sup> This program is sponsored by the Agency for Natural Resources and Energy (ANRE). It is innovative in the way it is organised, being run by a steering committee comprising ANRE, nuclear proponents and opponents, and academics, including Kitamura’s participatory dialogue colleague Ekou Yagi. Nuclear proponents and critics are invited to present their perspectives at the symposiums with a view to clarifying points of agreement and disagreement. The aim is not to reach consensus among the speakers. Rather the symposiums explore ways to discuss the issues and how to go about forming agreement.<sup>37</sup> They could be said to be seeking a ‘meta-consensus that structures continued dispute’ (Dryzek 2010, p. 15).

From the perspective of this thesis, the most interesting thing about the Two-Way Symposiums is the leading role played by people with a background in dialogue and deliberation. However, the potential of the symposiums to play an influential role in the policy forming process is questionable. Kitamura acknowledges that they are not at that

---

<sup>36</sup> Two-Way Symposium (Sōhōkō symposium: Dō suru kō-level hōshasei haikibutsu) web site: [http://www.enecho.meti.go.jp/category/electricity\\_and\\_gas/nuclear/rw/sohoko/](http://www.enecho.meti.go.jp/category/electricity_and_gas/nuclear/rw/sohoko/)

<sup>37</sup> Refer Ekou Yagi’s explanation of the purpose of the symposiums, 17 February 2013 symposium (p. 4): [http://www.enecho.meti.go.jp/category/electricity\\_and\\_gas/nuclear/rw/sohoko/doc/20130217\\_yagi.pdf](http://www.enecho.meti.go.jp/category/electricity_and_gas/nuclear/rw/sohoko/doc/20130217_yagi.pdf)



stage yet. Rather, he says, they are still at an experimental stage.<sup>38</sup> Potentially they could contribute to the formation of a meta-consensus and to the ‘enrichment of the public sphere’ (Funabashi 2012, pp. 73-74). Such contributions might prove to be significant if favourable political conditions emerge. But as long as the debate on HLW is treated as a separate issue from the future of nuclear energy per se (section 5.2.1), it is hard to imagine progress in bridging the gap between people on opposite sides of the policy chasm.

### **2.3.2 *Deliberative polls***

The above discussion shows how consensus conferences came to be introduced into Japan and how consensus conference scholars inadvertently came to have some influence on public participation in the nuclear energy field. Another form of micro-deliberative forum, one which played a significant role in Japan’s post-Fukushima nuclear energy policy-forming process (section 4.2.4), is the deliberative poll (DP). The web site of Keio University’s Center for Deliberative Poll lists six DPs held in Japan to date.<sup>39</sup> DPs were introduced to Japan much later than consensus conferences. The first full-scale DP was conducted in Yokohama City, Kanagawa Prefecture on 5 December 2009. It was organised by the Kanagawa Institute for Local Autonomy and the Tokyo Institute of Technology and addressed federalism reform, or, more specifically, a specific form of regional autonomy referred to in Japanese as *dōshūsei*<sup>40</sup>. From a total of 3,000 questionnaires sent out, 1,093 responses were received and from those 152 lay participants were selected (Sakano 2012, p. 25), making it a bit smaller than standard DPs<sup>41</sup>. In fact, only two of the DPs held so far in Japan exceeded 200 participants<sup>42</sup>: the

---

<sup>38</sup> Interview with Masaharu Kitamura, 22 February 2013

<sup>39</sup> From Keio University’s Center for Deliberative Poll web site (The Center for Deliberative Poll): [http://keiodp.sfc.keio.ac.jp/?page\\_id=327](http://keiodp.sfc.keio.ac.jp/?page_id=327)

See also (Sone et al. 2013, pp. 89-94).

<sup>40</sup> ‘*Dō*’ refers to Hokkaido and ‘*Shū*’ means ‘State’, as in the States of the United States. Each State would comprise several amalgamated prefectures.

<sup>41</sup> The Center for Deliberative Democracy cites 200 as the lower end of the scale:

January 2010 DP on the future of Fujisawa in Kanagawa Prefecture, and the August 2012 DP on energy and the environment (The Center for Deliberative Poll).<sup>43</sup> Furthermore, most were single day events. Sone et al (2013, pp. 38-39) put this down to the difficulty of finding the money required to run a full-scale event.

Besides these DPs, a small public forum modeled on the DP format and led by Masaharu Yagishita<sup>44</sup> of Sophia University's Graduate School of Global Studies was held in Tokyo on 12 August 2012 in the context of a national debate on energy and the environment (section 4.2.4). The 57 participants were randomly selected from Kawasaki City in Kanagawa Prefecture (Citizen's Choice: Energy and Environmental Strategy Executive Committee (Energy/kankyō senryaku shimin tōgi jikkō iinkai) 2012).<sup>45</sup>

On the basis of the first five DPs, Sakano (2012, p. 28) concluded that it had been demonstrated that DPs could work in Japan. The sixth DP, which was conducted as part of the national debate on energy and environment policy, reinforced that conclusion, at least at the micro-level in regard to DPs as free-standing exercises (section 4.2.4). However Sakano identified some issues that perhaps were more problematic in Japan than overseas. One such issue was representativeness. In addition to questions about representativeness inherent in the technique (Parkinson 2006, pp. 77-81), Japanese DPs suffered from a low rate of participation relative to the number of people initially surveyed. According to Sakano, participants in Japanese DPs represent about five

---

<http://cdd.stanford.edu/polls/docs/summary/>

<sup>42</sup> Yasunori Sone of Keio University's Center for Deliberative Poll cites 200 as a requirement from the perspective of statistical significance (Sone 2012).

<sup>43</sup> From Keio University's Center for Deliberative Poll web site:

[http://keiodp.sfc.keio.ac.jp/?page\\_id=327](http://keiodp.sfc.keio.ac.jp/?page_id=327)

<sup>44</sup> Masaharu Yagishita is a former Environment Ministry bureaucrat whose academic career includes public participation and stakeholder engagement in the field of climate policy.

<sup>45</sup> 'Public Debate on Citizen's Choice: Energy and Environmental Strategy held at Sophia University', Sophia University web site:

[http://www.sophia.ac.jp/eng/info/news/2012/9/globalnews\\_548/20120911](http://www.sophia.ac.jp/eng/info/news/2012/9/globalnews_548/20120911)

percent of people initially surveyed, compared to about 20 or 30 percent overseas (Sakano 2012, pp. 26-27). Luskin, Fishkin & Plane (1999, pp. 5-6, 11) cite similar figures for overseas DPs, but they note that in most cases initial surveys were carried out face-to-face. For a series of eight DPs held by Texan electricity utilities in which telephone interviews were used, the overall response rate<sup>46</sup> was less than 10 percent. In Japan the initial survey for the first five DPs was sent by post, while the sixth was carried out using random digit dialing (RDD). The overall response rate in the latter case was just 2.4 percent.<sup>47</sup>

As with consensus conferences, the introduction of DPs to Japan has been led by academics. According to the web site of Keio University's Center for Deliberative Poll, only three of the six DPs were linked to policy and two are said to have been 'for purely research purposes'.<sup>48</sup> In addition to Keio University, Tokyo Institute of Technology, and Sophia University, Hokkaido University's Communication in Science and Technology Education and Research Program (CoSTEP) has also sponsored a DP. CoSTEP's DP addressed the issue of BSE. An important point from the perspective of this thesis is that like academics involved in consensus conferences, some of the scholars involved in DPs played leading roles in the post-Fukushima national debate on energy and the environment (section 4.2.4).<sup>49</sup>

---

<sup>46</sup> Luskin et al distinguish 'initial response rate', 'participation rate', and 'overall response rate'. The initial response rate is the rate of people who respond to the initial survey. The participation rate is the rate of those respondents who participate in the DP. The overall response rate is the product of the two (i.e. the percentage of people originally approached who participate in the DP). Sakano's 'participation rate' (*sankaritsu*) corresponds to Luskin et al's 'overall response rate'.

<sup>47</sup> Excluding business numbers, calls that were not answered and people who hung up immediately, 12,048 people received phone calls. Of those 6,849 responded and 285 participated in the DP (Third Party Verification Committee into the Deliberative Poll on Energy and Environment Options 2012, p. 12).

<sup>48</sup> From Keio University's Center for Deliberative Poll web site:

[http://keiodp.sfc.keio.ac.jp/?page\\_id=327](http://keiodp.sfc.keio.ac.jp/?page_id=327)

<sup>49</sup> Yasunori Sone of Keio University, Masaharu Yagishita of Sophia University and Noboru Yanase of Komazawa University (also a member of Keio University's Center for Deliberative Poll) made up the steering committee of the Deliberative Poll on Energy and Environmental Policy Options. Yasunori Sone was also a member of the 'National Debate Verification Panel',

### *2.3.3 Citizens' discussions: a Japanese adaptation of planning cells*

The third deliberative technique to attract the attention of Japanese researchers was planning cells. Unlike consensus conferences and deliberative polls, the planning cells method was adapted and promulgated in Japan by lay people. Introduced to the general public in 2004 by Hajime Shinohara of Tokyo University as one of five deliberative techniques discussed in a book published in the popular Iwanami Shinsho series (Shinohara 2004), planning cells caught the attention of Kenichi Kobari, who was a member of Junior Chamber International (JCI) Tokyo (Shinoto 2012b, p. 99). As it so happened, at about that time JCI Tokyo's politics group was scheduled to discuss the issue of public participation. Kobari read Shinohara's book and, inspired by what he read about the planning cell method, persuaded other members to invite Akinori Shinoto of Beppu University, who had studied planning cells under their inventor Peter Diemel, to speak at a study group held in November 2004 (Kobari 2012, p. 34).<sup>50</sup> After a small trial in 2005, a Japanese adaptation, referred to as citizens' discussions, was held for the first time in 2006 in Mitaka City, a district in the west of Tokyo which is renowned as a leader in public participation (section 2.2.4). The event was jointly sponsored by JCI Mitaka and Mitaka City.

Citizens' discussions differ from the original planning cells method in three main ways: the implementing organisation, the number of participants, and the time taken (Shinoto 2012b, p. 101). Another notable difference is that planning cells, influenced by the jury system,<sup>51</sup> are held in camera, whereas citizens' discussions are held in public. The

---

which interpreted the overall outcome of the national debate on energy and the environment. Masaharu Yagishita and Naoyuki Mikami (Hokkaido University) were members of the Executive Committee of the 'Citizen's Choice: Energy and Environmental Strategy', a citizens' Deliberative Poll-like event held during the national debate on energy and the environment.

<sup>50</sup> Interview with Kenichi Kobari, 28 January 2013

<sup>51</sup> Some people refer to planning cells as the German equivalent of citizens' juries (see, for example, Abelson et al. 2003, p. 242), another deliberative technique developed independently

following table, translated from Shinoto (2012b, p. 102), compares the 2006 Mitaka citizens discussion (which has been taken as a model for many of the subsequent citizens' discussions) with planning cells.

**Comparison of Citizens' Discussions (Mitaka 2006 example) with Planning Cells**

	Citizens' Discussions	Planning Cells
Sponsor	Mitaka City, JCI Mitaka	Local authority, government, etc.
Implementing organisation	Steering committee	Wuppertal University research institute, etc.
Theme setting	Steering committee	Sponsor - local authority, government, etc.
Themes	Children's safety and sense of security	Town plan, transport issues, housing plan, social policy, production of consumer protection guidelines, effects of genetic engineering, introduction of ISDN, etc.
Participant selection	Random sampling	Random sampling
Participant age	Over 18	Over 16
Number of participants	52	25 x 4
Days	2 days (4 discussion sessions)	4 days (16 discussion sessions)
Session time	60 minutes (not including provision of information)	90 minutes (including provision of information)
Information for discussion provided	Yes	Yes
Facilitators	Provided to each group as support. (Do not take part in discussion.)	2 overall facilitators provided. (Do not take part in discussion.)
Outcome of discussion	Submitted to commissioner as citizens' proposal.	Submitted to commissioner as citizens' judgment.

The basic similarity between the two methods is the use of rotating five-member discussion groups. This was the feature that particularly appealed to Kobari when he first read about planning cells. Based on his training in counseling, he surmised from this that Peter Dienel, the inventor of the planning cell method, had a profound understanding of human nature.<sup>52</sup> But the differences between the two methods are substantial and have significant implications for the representativeness and quality of deliberation of citizens' discussions. As with consensus conferences conducted in Japan (section 2.3.1), organisers believed that the Japanese public would not be able to sacrifice the time required for a full scale planning cells exercise. The citizens'

---

in the US which was also inspired by the jury system. Both techniques were developed in the 1970s before the 'deliberative turn' in democratic theory occurred around 1990 (Dryzek 2010, p. 6).

<sup>52</sup> Interview with Kenichi Kobari, 28 January 2013

discussion held in Mitaka in 2006 ran for two days and included four sessions, but many are single day events involving just two or three sessions. In regard to the numbers of participants, they ranged from as few as 10 to over 90, with most having between 20 and 30 participants (Shinoto 2012b, p. 110). On the other hand, the flexible approach in adapting the planning cell format to meet Japanese conditions has enabled citizens' discussions to flourish. By the end of 2010, 156 had been held (Shinoto 2012b, p. 107). According to the web site of the Citizens' Discussion Promotion Network (CDPN), by March 2014 that figure had risen to over 300 (CDPN). Most of these were sponsored by local governments and carried out with the assistance of JCI, but some have involved NGOs and academics.

Perhaps due to the limited time, or maybe due to the commissioning organisations' lack of experience with the technique, most citizens' discussions have been about relatively uncontroversial issues. Mitaka City is one of the few municipalities to have tried the technique for a seriously conflicted issue (Shinoto 2012b, pp. 109-110). Relating to an intersection of two major highways, it was Mitaka's third citizens' discussion, so the city had accumulated experience with the method, although in this case it was a modified version. In addition to randomly selected citizens, at the insistence of the Transport Ministry, 20 stakeholders were included among the participants. As it turned out, on this occasion the rotating five-person discussion groups worked to diffuse the tendency of a particularly vocal participant to dominate the discussion. In that sense, a key element of the planning cell method that was followed faithfully continued to serve its purpose, despite the other adaptations.<sup>53</sup>

However there are several issues that potentially limit the legitimacy of citizens' discussions. (The following points are based on Kobari 2012; Shinoto 2012b, pp. 113-

---

<sup>53</sup> *Ibid.*

114.) In addition to the impact of limited time and relatively few participants, the quality of deliberation may also be compromised by the fact that in many cases all information is provided by a single source—either the local council which sponsored the exercise, or a single expert nominated by the steering committee. Kobari reports that he has witnessed attempts to lead the process in a preconceived direction. Also, there are cases where local councils have run their own citizens' discussions with no independent steering committee. Even where there is a steering committee, Kobari reports that there have been cases where the local government administration dominated, or put pressure on the steering committee in order to get its own way. There have also been problems with follow up in that the outcomes are not always reported to the participants. These and other problems point to the need for some sort of quality control. CDPN is considering establishing an accreditation scheme (Kobari 2012, p. 39), but when I met CPDN members in March 2013 they were still considering how this might be realised.

#### ***2.3.4 Conclusions***

Since the late 1990s considerable experience with micro-deliberative techniques has been accumulated in Japan, mainly at the local level, but there have also been some notable initiatives at the national level. Methods developed in Europe and the United States have been adapted to Japanese conditions, even to the point where for one method it was necessary to change the name. The difficulty of recruiting participants willing to sacrifice the time required for the pure form has been one obstacle. Finding sponsors willing to invest the necessary money has been another. Nevertheless, Japanese participants have shown that they are perfectly capable of deliberating in the controlled settings of these designed deliberative forums.

A pool of expertise has been developed within the academy and in civil society. Whether this will lead to an expansion in the use of micro-deliberative forums in future will depend on whether or not financial and official support is forthcoming. If use of these deliberative methods continues to grow, a major challenge will be to find ways to maintain quality when adapting techniques to Japanese conditions and responding to the demands of sponsors.

From the perspective of this thesis, it is significant that experts in micro-deliberative public participation methods played a leading role in the post-Fukushima energy policy review process. Some of them were involved in nuclear and energy issues before the Fukushima Daiichi nuclear accident, while others were new to the field. However, people involved in promoting citizens' discussions have not generally been involved in these issues. That is partly due to their focus on local government, but it also relates to the widespread perception that these issues are too hot to handle. Where energy issues have been taken up it has been in the context of environmental programs with a CO2 emissions reduction component.<sup>54</sup> The potential for citizens' discussions to play a role in developing local energy policies is discussed in section 5.4.

---

<sup>54</sup> Interview with Kenichi Kobari, 28 January 2013



## **Chapter 3 : Pre-Fukushima Public Participation**

### **3.1 Introduction**

The first two chapters addressed theoretical aspects of public participation and the status of public participation in Japan, both at the national and local levels. They provide a foundation for the main focus of the thesis, namely public participation in Japan's nuclear energy policy-forming process. In addressing the evolution up to the present day of public participation in this field, this thesis seeks to address the following key questions: 'To what extent and in what ways has public participation prevented and could public participation prevent in future the subversion of the political public sphere by power?' and 'To what extent and in what ways has power been shared and could power be shared in future between the governed and the government?' It may be noted that the use of the word 'power' in these two quotations is slightly different. The first usage relates to the wielders of power, while the second relates to power per se, but it is generally clear from the context which meaning is implied. These questions are addressed by investigating the background and motivations behind specific public participation exercises, the way in which public participation exercises were conducted, whether they were conducted effectively enough and with sufficient good faith to result in sharing of power between the governed and the government, and whether they influenced the policy outcomes in any discernable way.

This chapter begins the analysis of specific public participation processes by addressing the situation before the Fukushima nuclear accident. Chapter 4 continues the story into the post-Fukushima era and compares the pre-Fukushima and post-Fukushima processes. Finally, Chapter 5 looks at potential future directions. Chapters 4 and 5 extend the focus beyond nuclear energy to include the energy policy-forming process,

because the two processes have become so intertwined that it is no longer possible to restrict the analysis to nuclear energy policy.

After a brief overview in section 3.2 of early examples of public participation—at both the national and local levels and also unofficial forms of participation—this chapter looks in detail at developments after the December 1995 sodium accident at the *Monju* prototype fast breeder reactor (section 3.3) and during the 2000s (section 3.4). It concludes with an overall assessment of pre-Fukushima public participation processes in terms of various evaluation criteria (section 3.5).

## **3.2 Early examples of public participation**

### ***3.2.1 National policy: tentative beginnings***

For the first 40 years of Japan's nuclear energy program there was no institutionalised framework for public participation at a national level. During that period the entire official policy-forming process was conducted behind closed doors. The Citizens' Nuclear Information Center (CNIC) records a symposium entitled 'Why Plutonium Now?' as 'the first step toward citizen participation in the decision making process' (CNIC 1993). It says of the symposium, which was jointly hosted by CNIC and the Japan Atomic Industrial Forum (JAIF) in Osaka on 25 September 1993:

The symposium, the first of its kind in which pro and anti-nuclear sides got together and held an open debate, attracted great interest and more than 5,000 people applied for just 100 seats. More than 90% of the applications came from the government/industry side, and as a result most of the seats in the symposium hall were filled by them (CNIC 1993).

Nuclear proponents upheld the official position that the nuclear fuel cycle and plutonium use were a necessity for Japan, while critics emphasised the proliferation and

nuclear safety dangers these entailed, as well as the lack of public access to information. Speakers from JAIF acknowledged this last point, if not the substantive policy criticisms. Agreement that ‘public access to more information is vital to a democratic policy-making process’ (CNIC 1993) foreshadowed an important theme of future public participation processes (refer in particular the discussion of the post-*Monju* Round Table Conference in section 3.3).

The following year saw another first. On 4-5 March 1994 the Japan Atomic Energy Commission (JAEC) held a public hearing (*‘Goiken o Kiku Kai’*) on Japan’s nuclear energy policy ‘for the first time in history’ (CNIC 1994b). The initiative, taken in the context of the drafting of the 1994 *Long-Term Program for Research, Development and Utilization of Nuclear Energy (Long-Term Program)*, came during the brief period that the government of Morihiro Hosokawa was in power. When I interviewed Yoshinori Ihara, a JAEC commissioner at the time, he said, ‘The concept was to have a forum for discussion (*‘hanashiai no ba’*). It was an idea that was unthinkable for LDP politicians of the time.’<sup>55</sup> It required a change of government to open an official channel for public input into the nuclear energy policy-forming process, but although the Hosokawa government did not survive long enough to finalise the *Long-Term Program*, public participation found its way into the text. The 1994 *Long-Term Program* referred to ‘exchanging ideas’ with the public, the purpose of which was said to be to gain public acceptance (*‘nattoku’*) for the administration of nuclear energy (JAEC 1994, Chapter 3, Section 3 (1)). In other words, the government’s role was to set policy and the public’s role was to accept what the government decided. It was hoped that exchanging ideas with the public would increase acceptance, but there was no suggestion of allowing the public’s ideas to exert substantial influence on policy. The government’s perception of public participation did not extend to sharing power with the public.

---

<sup>55</sup> Interview with Yoshinori Ihara, 20 December 2013

CNIC records of the ‘*Goiken o Kiku Kai*’ process:

The public was invited to make submissions of their opinions concerning the Program, and some 14 people were selected to state their views to the Committee. 13 experts, local political leaders, and union leaders were also invited to make statements.

This was the first hearing of its kind in which the Committee has actually listened to the views of the public. The Committee has always been a totally closed circle, made up entirely of industry-related experts and officials. Discussions conducted by the Committee were not open even to the media (CNIC 1994b).

CNIC criticised the ‘*Goiken o Kiku Kai*’ for the restricted nature of the themes, which were pre-selected by JAEC (CNIC 1994b). CNIC’s Executive Director, Jinzaburo Takagi, took the opportunity to submit a proposal for a moratorium on Japan’s plutonium utilisation program (Takagi 1994), but his proposal was not taken up in the 1994 *Long-Term Program*.

Tentative attempts to engage the nuclear bureaucracy and industry in public debate continued with the Aomori International Symposium on Reprocessing, held in Aomori City on 26 June 1994 (CNIC 1994a). Originally the symposium was to be a follow up to the abovementioned 1993 ‘Why Plutonium Now?’ symposium, but JAIF refused to participate on this occasion, apparently due to pressure from the Aomori Prefecture government and JNFL, owner of the nuclear fuel cycle facilities in Rokkasho. At the last minute, officials from STA agreed to participate, so in the end views both for and against the nuclear fuel cycle were presented. The new *Long-Term Program* had been announced two days earlier, so STA officials gave presentations about that. The following year nuclear critics from Japan and abroad were invited to the ‘Round Table Conference on the Current Issues on Nuclear Fuel Recycling’ sponsored by STA and JAIF. CNIC reports that a Nikkei News article said that the critics were invited as token participants to give the impression of ‘fair debate’ on reprocessing policy (CNIC 1995a).

Thus, due to the lack of commitment from the government and the nuclear industry, early experiments with public participation did not lead to any significant outcomes. The nuclear administration was able to continue with business as usual. It was not until the December 1995 sodium accident at the *Monju* prototype fast breeder reactor that demands for a more open policy-forming process forced the government to establish a more regular process of consultation with the public. This is discussed in section 3.3.

### ***3.2.2 Local participation: nuclear facility siting***

Although there was no official requirement for public participation in the national policy-making process before the *Monju* accident, there had long been a requirement for public hearings in the siting of nuclear facilities. Siting is a local issue, but public participation in the siting of individual nuclear facilities can potentially have indirect implications for national policy. Indeed, given that nuclear energy policy takes the form of national policy implemented by private industry (*'kokusaku-min'ei'*), in some senses it could be argued that local projects are national policy.<sup>56</sup> The avenues available for local participation in the siting approval process before the Fukushima nuclear accident are described below.

The only official provision for public participation in the siting approval process was the requirement for two public hearings. The first was hosted by the Ministry of Economy, Trade and Industry (METI—formerly the Ministry of International Trade and Industry (MITI)) and was held during the environmental impact assessment process before designation of the site as an ‘important electric power development site’.<sup>57</sup> The

---

<sup>56</sup> This point was made by Hitoshi Yoshioka when I interviewed him on 10 January 2012.

<sup>57</sup> Under the former Electric Power Development Promotion Law the equivalent stage in the approval process was inclusion in the ‘Electric Power Development Master Plan’, but this law was repealed on 2 October 2003. A 10 September 2004 Cabinet Decision instituted the current system, whereby the Minister for Economy, Trade and Industry designates ‘important electric

second was hosted by the Nuclear Safety Commission (NSC) in the context of NSC's double check of METI's safety assessment. This system of hearings was first proposed by the Advisory Committee on Atomic Energy Administration (*Genshiryoku Gyōsei Kondan-kai*, chaired by Hiromi Arisawa) in a submission to then Prime Minister Takeo Miki (Genshiryoku Gyōsei Kondankai 1976). The submission laid out the framework for the division of the Japan Atomic Energy Commission (JAEC) into JAEC (with responsibility for promotion of nuclear power) and NSC (with responsibility for regulation), although it took two years for the administrative restructuring to be formalised. Tabusa (1992) makes the following comment regarding the inclusion of the public hearing system among the recommendations:

Added to these recommendations at the last minute was the public hearing system. During the licensing process of commercial nuclear power plants, two public hearings would be held in order to promote the public acceptance at plant-site communities: the first by MITI before the utilities' official applications for the construction license and the second by the NSC during its examination of MITI's assessments of the utility's plan. MITI and the utilities, which were satisfied with other aspects of the recommendations, fiercely opposed this last-minute addition. They feared that hearings would further delay the construction process which was already delayed by nascent local antinuclear movements; they were also afraid that the requirement of public hearings could be imposed in the future on construction of thermal and hydroelectric power plants; Arisawa rebuffed their opposition, reportedly saying "Do you think you can build a nuclear power plant without making an effort to gain acceptance of local residents?" (p. 106)

Although public participation was formally included in the siting approval process for nuclear power plants, the hearings never affected the outcome. Nishio (2010b) notes, 'if the project is not stopped before the environmental assessment begins, the process just keeps moving forward.' Iida calls the public hearings 'mere ceremonies', pointing out that the first hearing does not even take place until after the governor has given his

---

power development sites' (Chiikikan Renkeisen Tō no Kyōka ni kan suru Master Plan Kenkyūkai 2012, p. 67, Sankō 15). For the precise date of the Cabinet Decision, refer the following list of items decided at the 10 September 2004 Cabinet meeting (Prime Minister and Cabinet (Shushō Kantei) web site):  
<http://www.kantei.go.jp/jp/kakugi/kakugi-2004091016.html>

agreement.<sup>58</sup> Tabusa (1992) observes, ‘Screening of participants and restriction imposed on their presentation at hearings in effect excluded local antinuclear groups from the formal regulatory process’ (p. 409). Consequently, nuclear opponents were very critical of the way in which these hearings were conducted and sometimes refused to participate rather than give credence to a system that they believed to be unjust. Kaido (2011) describes attempts to obstruct hearings.

When establishing a new reactor, public hearings were held at two stages, the planning stage and the Nuclear Safety Commission's screening stage. Power struggles were organised, with members of unions affiliated to the then General Council of Trade Unions of Japan staging sit-ins surrounding the hearing venue (p. v).

Clearly official public participation processes at the local level did not represent an avenue for sharing power with the public, but that does not mean that citizens never succeeded in preventing the construction of nuclear facilities. The following section describes how unofficial participation by nuclear opponents blocked several proposed nuclear projects. It introduces the anti-nuclear energy movement and discusses early efforts by this movement to influence Japan’s nuclear program.

### ***3.2.3 Unofficial participation: nuclear critics***

In the mid 1950s, when Japan was first considering the introduction of a nuclear energy program, the eruption of a strong opposition movement was circumvented by a high profile public relations campaign, which included the Peaceful Use of Nuclear Energy Exhibition supported by the United States government (Appendix 2.1). A spontaneous popular uprising in response to the 1 March 1954 Bikini Atoll hydrogen bomb test culminated in the first World Congress Against Atomic and Hydrogen Bombs in Hiroshima in August 1955. Many atomic bomb survivors (hibakusha) were initially

---

<sup>58</sup> Tetsunari Iida’s handout for meeting 5 of the FY1998 series of the Round Table Conference (21 January 1999):

Handout: <http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

sceptical of nuclear power, but by the time of the second World Congress in August 1956 many had been won over (Kuznick 2011; Tanaka & Kuznick 2011). The movement against nuclear weapons was thus split between those who supported nuclear energy in its so-called 'peaceful' form and those who opposed the use of nuclear energy for both weapons and civilian purposes.

But although opposition to nuclear energy was neutralised in the early years, from the late 1960s siting nuclear power plants often proved difficult (Aldrich 2008). A national anti-nuclear energy movement did not emerge until the 1970s, but in many cases people living and working in the vicinity of proposed nuclear power plants vehemently opposed them. Opposition tended to focus around fishing rights and the acquisition of land. Fishermen and farmers were by no means the only people opposed to nuclear power plants. However, because of the legal rights conferred upon them through their membership of fishing cooperatives or as landowners, they had effective veto power, so electric power companies could not avoid dealing with them. Furthermore, they stood to suffer significant negative impacts on their livelihood.

One of the longest running battles was Chubu Electric Power Company's proposal to build a nuclear power plant in Ashihama in Mie Prefecture. Originally proposed in 1963, the plan was opposed by local fishing cooperatives from the outset, but Chubu Electric did not finally abandon it until February 2000. In 1996 a petition opposing the plant signed by more than 812,000 residents (more than half the prefecture's population) was submitted to the governor. The following year the plan was put on hold for several years before finally being withdrawn (Lesbirel 1998, pp. 61-79; Nishio 2000).

Local campaigns against siting of nuclear power plants have been labeled NIMBY (Not In My Back Yard) campaigns. No doubt there was often a degree of truth in this label,



but some of the participants had broader interests. In March 1978 people from all over Japan, who found common cause in opposing Japan's nuclear energy program, came together to form the National Network Against Nuclear Energy, a loose network held together by the *Hangempatsu Shimbun* ('Anti-nuclear Newspaper') (Nishio 2009).

Around the same time as nuclear opponents from the regions were beginning to develop a national awareness of their shared concerns, critical scientists formed the Citizens' Nuclear Information Center (CNIC). Led by nuclear chemist Jinzaburo Takagi, CNIC played a central role in developing the technical expertise of the movement and challenging the legitimacy of the nuclear establishment. It was an important focal point at the time of the Three Mile Island accident (USA, 1979) and the Chernobyl accident (Ukraine, 1986), supporting the growth of the movement within Japan and making connections with the international movement. Its bi-monthly English newsletter, *Nuke Info Tokyo*, first published in October 1987 (the year following the Chernobyl accident) provided the outside world with a window into the Japanese anti-nuclear energy movement and critical perspectives on Japan's nuclear energy program.

From the 1970s residents in the vicinity of proposed nuclear power plants began to mount legal challenges. Many of the lawsuits were supported by a team of lawyers and scientific experts, including scientists associated with CNIC. Yuichi Kaido, a lawyer who has represented nuclear opponents in many lawsuits, lists the first four lawsuits and their commencement dates as follows:

The lawsuit concerning the Ikata Nuclear Power Plant was initiated in August 1974 (Matsuyama District Court); the lawsuit concerning the Tokai Daini Nuclear Power Plant was initiated in October 1974 (Mito District Court); the lawsuit concerning the Fukushima Daini Nuclear Power Plant was initiated in January 1975 (Fukushima District Court); and the lawsuit concerning the Kashiwazaki Nuclear Power Plant was initiated in July 1979 (Niigata District Court). These four lawsuits were pioneering nuclear power plant lawsuits in Japan (Translated from Kaido 2011, p. v).

The only pre-Fukushima victories in cases directly challenging the construction of nuclear power plants were an ‘invalid approval’ verdict in January 2003 by the Nagoya High Court in an administrative lawsuit against the *Monju* fast breeder reactor, and a ruling in March 2006 by the Kanazawa District Court in a civil lawsuit to terminate operation of the Shika-2 nuclear power plant. (For an account of an important victory in a lawsuit that indirectly related to a nuclear power plant project see section 3.2.4.) Both verdicts were subsequently overturned by higher courts (Kaido 2011, pp. xx-xxi; Nishio 2005). Nevertheless the lawsuits had some positive side effects. They drew attention to the dangers of nuclear power, provided a focus for ongoing opposition and motivated activists to become experts in their own right. As such, nuclear lawsuits have played a major role in the movement against nuclear power in Japan. In some cases the lawsuits also pressured operators into upgrading the safety standards of their nuclear power plants (White & Ban 2010).

The lack of success of citizen initiated lawsuits (‘standing’ under Bishop and Davis’ categories—refer section 1.2.2) contrasts with the success of the environment movement just a few years earlier. Between 1971 and 1973 the courts found in the plaintiffs’ favour in each of four major pollution lawsuits.<sup>59</sup> The most notable difference between the pollution lawsuits and the nuclear lawsuits that were launched in the 1970s and after was that the pollution lawsuits related to damages incurred. In the pollution lawsuits, evidence for a connection between environmental pollution and medical conditions prevalent in the regions around the sources of the pollution had been growing for a decade or more before the verdicts were handed down (Ui 1992). The

---

<sup>59</sup> Minamata disease (Niigata case): the verdict was handed down on 29 September 1971 (Niigata District Court).

Minamata disease (Minamata case): the verdict was handed down on 20 March 1973 (Kumamoto District Court).

Toyama itai-itai disease case: a verdict was handed down on 30 June 1971 (Toyama District Court) and upheld on appeal on 9 August 1972 (Kanazawa Branch of the Nagoya High Court).

Yokkaichi asthma case: the verdict was handed down on 24 July 1972 (Yokkaichi Branch of the Tsu District Court) (Takemori 2012, p. 55; Upham 1976, pp. 579, 586).

damage to health was obvious and the symptoms were debilitating. By contrast, in the nuclear lawsuits, which were preventative in nature, judges were able to dismiss the plaintiffs' claims, saying that the operation of nuclear power plants did not pose a 'specific danger of violation to life or body of the plaintiffs'.<sup>60</sup> Whereas the courts did not accept that nuclear power represented a clear and present danger, the problems caused by pollution were plain for all to see.

From the above discussion it can be seen that the government and the nuclear industry did not share power willingly with the public, certainly not with those who challenged the official position. However, in some cases citizens were able to leverage property rights and fishing rights and mobilise public support to generate countervailing power.

### ***3.2.4 Local referendums***

As explained in section 3.2.3, local opposition did indeed influence site selection in some cases, but not as a result of official government-initiated public participation processes. One mechanism that blocked the construction of a few nuclear power plants and interfered with other aspects of the government's nuclear energy program was local referendums. In the terms used in this thesis, these referendums can be seen as a hybrid form of participation: partly unofficial and partly official. They were unofficial in that some were citizen initiated, but they were official in that they used an official mechanism. Article 74 of the Local Autonomy Act provides that if two percent of eligible voters petition the governor of a prefecture or the mayor of a municipality for the establishment, amendment, or repeal of an ordinance, he/she must submit the petition, along with his/her opinion on the matter, to the assembly for its consideration. Under that provision, residents may petition for the establishment of an ordinance for a

---

<sup>60</sup> Translated from 22 February 1999 verdict of the Sapporo District Court concerning a civil lawsuit demanding the termination of construction and operation of Tomari-1&2 Nuclear Power Plants. (Quoted in Kaido 2011, p. 23.)

local referendum. However, the assembly is not legally bound to call a referendum, no matter how many people sign the petition and no matter what the opinion of the governor or mayor might be.

Three nuclear-related local referendums have been held in Japan: in Maki Town (subsequently absorbed into Niigata City), Niigata Prefecture on 4 August 1996; in Kariwa Village, Niigata Prefecture on 27 May 2001; and in Miyama Town (subsequently merged to form Kihoku Town), Mie Prefecture on 18 November 2001 (Imai 2011).<sup>61</sup> In each case the results favoured nuclear opponents, but even where referendums were not in the end held, in some cases simply initiating the process effectively blocked the construction of nuclear power plants.

The first of seven towns to pass a nuclear-related referendum ordinance was Kubokawa Town (now Shimanto Town) in Kochi Prefecture. The ordinance, passed in 1982 (Imai 2011, p. 66), was the first local referendum ordinance passed in Japan on any topic (Direct Democracy Information Center).<sup>62</sup> Petitions were submitted by Kubokawa residents both in favour and against the town requesting Shikoku Electric Power Company to carry out a study into the possibility of building a nuclear power plant (Fujito 1983). The local council and the mayor judged in favour of those who supported making such a request, but the town was deeply divided over the matter and Mayor Susumu Fujito was recalled. He stood again successfully in the ensuing election, promising that a referendum would be held if Shikoku Electric requested permission for the construction of a nuclear power plant. The ordinance was passed, but the company never submitted a request for permission, so the referendum was never held.

---

<sup>61</sup> Aldrich (2008, p. 130) refers to 1972 referendums in Kashiwazaki (Niigata Prefecture) and Noto (Ishikawa Prefecture) against hosting nuclear power plants, but does not explain the official status of these votes.

<sup>62</sup> Kokumin Tōhyō / Jūmin Tōhyō Jōhōshitsu (Direct Democracy Information Center): <http://www.ref-info.net/ju/rep-10nen.html>

Except where indicated otherwise, the following account of the three nuclear-related referendums that were actually held is based on Imai (2011).

### Maki Town

The Maki nuclear power plant referendum was the first local referendum held in Japan on any theme. It related to a plan to build a nuclear power plant in Maki Town. The plan was first announced by Tohoku Electric Power Company in May 1971<sup>63</sup> and a siting application was submitted to the central government in January 1982.<sup>64</sup> The plan had already been endorsed by the local council (December 1977) and the mayor (December 1980) and compensation had been negotiated with the fishing cooperative, but Tohoku Electric had not yet managed to purchase some land within the proposed site from the Maki Town Council. After a decade without any progress,<sup>65</sup> in the lead up to the 1994 mayoral election Mayor Kanji Sato announced that he would promote construction of the plant. Sato won the election, but with fewer votes than the combined vote of his opponents, who either opposed or were cool towards the nuclear power plant plan. With the possibility that the final parcel of land would soon be sold to Tohoku Electric, some residents became concerned that the will of the people should be confirmed. To this end they established the Maki Gempatsu Jūmin Tōhyō wo Jikkō suru Kai (Maki Nuclear Power Plant Local Referendum Implementation Committee).

The mayor and the council were not willing to hold a referendum, so the Referendum Implementation Committee decided to go it alone. It organised an unofficial referendum,

---

<sup>63</sup> The existence of a plan to build a nuclear power plant was first revealed in a newspaper scoop in 1969 (8 March 2013 interview with Mie Kuwabara, an anti-nuclear activist from Maki Town).

<sup>64</sup> Construction of the Maki Nuclear Power Plant became national policy in November 1981 when it was incorporated into the Electric Power Development Basic Plan (Nakagawa, K 1996, p. 68).

<sup>65</sup> Tohoku Electric withdrew its safety review application in September 1983 amidst disputes over the ownership of the remaining land and a cautious approach to the project taken by subsequent mayors (Juraku, Suzuki & Sakura 2007, pp. 59-60; Nakagawa, K 1996, p. 68).

which closed on 5 February 1995, and in which 45.4% of eligible residents voted. The results of the referendum were overwhelming, with 95% opposed to construction of a nuclear power plant. Although the one-sided nature of the vote was due to the fact that most nuclear proponents boycotted the referendum, the number who voted against construction exceeded the number of votes garnered by Mayor Sato in the previous year's election. Despite this overwhelming vote, the mayor took the view that his actions had been legitimised by his re-election the previous year.

Tohoku Electric quickly applied to buy the remaining parcel of land, but before the sale could be made the balance of power in the council was reversed as a result of a council election in April. A referendum ordinance was duly passed, but a clause that was not in the original proposal was added to give the mayor the final decision on whether or not to hold a referendum. Mayor Sato remained adamant that a referendum would not be held, so the pro-referendum groups began the process of collecting signatures to recall him. Despite the social pressures against publicly putting one's name to such a petition, the required number of signatures was collected and Sato was duly recalled. In the election that followed, a leader of the Referendum Implementation Committee, Takaaki Sasaguchi, was elected, so Maki now had a mayor who was prepared to hold a referendum. The referendum took place on 4 August 1996 and 60.86% (53.73% of eligible voters) voted against construction of a nuclear power plant.

The results of the referendum were not binding, but the new mayor was committed to respecting the will of the people. However, the political situation took a turn in April 1999 when nuclear proponents won a majority of seats in the local council. To prevent the parcel of land ever being sold to Tohoku Electric, Mayor Sasaguchi sold it to members of the Referendum Implementation Committee without informing the council. This action became the grounds for a protracted lawsuit. The sale was judged to be legal

in both the District and High Courts and the Supreme Court rejected an appeal in December 2003. Tohoku Electric finally withdrew its plan to build a nuclear power plant in Maki in February 2004, over 30 years after the plan was originally announced.

The above account illustrates the circuitous and fraught path traversed by the referendum proponents. Great tenacity was required of residents who dared to challenge the might of an electric power company backed by the government, even though all they were demanding was that the public will be confirmed and respected. The formal hearings required when siting nuclear power plants (section 3.2.2) were inadequate for this purpose. Oyama (1999, p. 169) noted that the Maki referendum could be interpreted as a criticism of the inadequate public participation in the existing siting system.

In Yoshioka's (1997) view 'the Maki referendum revolved around two central points: how to coordinate the relationship between representative and direct democracy and the conflict between national policy and the will of local residents' (p. 10). He questioned the legitimacy of the government combining with an electric power company to forcibly impose a nuclear power plant in the name of national policy.<sup>66</sup> He also criticised the attitude of government representatives, including the Minister for International Trade and Industry, the Chairman of the Atomic Energy Commission and the head of the Agency for Natural Resources and Energy, who responded to the result by saying they would request the residents' understanding for the Maki nuclear power plant plan. Yoshioka questioned the legitimacy of this response. For the government the priority was to implement official policy, regardless of the will of the Maki residents.

On this occasion the citizen-initiated participation process prevented the political public sphere being subverted by power. It is worth noting, however, that nuclear proponents

---

<sup>66</sup> The Agency for Natural Resources and Energy repeatedly stated that implementation of the Maki nuclear power plant plan was national policy (Nakagawa, K 1996, pp. 71-72).

had no intention of honouring the public will. Without the mayor's decision to secretly sell the parcel of land, no doubt Tohoku Electric would eventually have got its hands on the land and proceeded with its plans. The transformation of the communicative power generated by the referendum process into more concrete forms of power, namely property rights and political representation, was vital to the success of the citizens' movement.

The outcome of the Maki referendum illustrates another important point about public participation, which has echoes in the post-Fukushima policy review process (refer discussion of the deliberative poll on energy and environment policy in section 4.2.4). It shows how, on polarising issues such as nuclear power, challenges are more likely to succeed if there is a neutral actor capable of appealing to people on both sides. The Referendum Implementation Committee was officially neutral and its leader, Takaaki Sasaguchi, was a local sake (rice wine) maker with no reputation for opposing nuclear power. He maintained a neutral stance on whether or not a nuclear power plant should be built. Nuclear opponents formed a separate alliance, which played an important role in promoting the referendum and gathering signatures for petitions, but without the perception that the organisation that led the campaign for a referendum was neutral, it is unlikely that a referendum would have been held. Juraku, Suzuki & Sakura (2007) expressed the point as follows:

[B]oth stakeholder actors and ordinary residents were obsessed with the hostility and conflict between pro- and anti-nuclear sides, but the referendum group introduced the idea that "to confirm the public opinion" should come before everything. Like other democratic societies, "democratic" is the last word in political controversy in this country. The group put greater emphasis on the democratic process. So finally even the pro-nuclear group could not help but accept the result of the referendum although they said that "a referendum without any legal basis is inconsistent with representative democracy" (p. 69).

From the above discussion it seems dubious to claim that the core proponents of the nuclear power plant project came to 'accept the result of the referendum', but as a result



of the neutrality of the group promoting the referendum and the perception of stubbornness on behalf of Mayor Sato, some nuclear proponents came to support holding a referendum (Imai 2011, p. 73). However the key point is not that the nuclear proponents accepted the results, but rather that the moral force of the referendum campaign and the referendum outcome shifted the political balance against the nuclear power plant plan. The results of the referendum carried great weight because they were perceived to be legitimate, even though they were not legally enforceable.

### Kariwa Village

The second nuclear-related referendum was held in Kariwa Village, host to the Kashiwazaki-Kariwa Nuclear Power Plant. On this occasion the referendum did not relate to the construction of a new nuclear power plant. Instead it related to the implementation of the government's pluthermal program—using plutonium-based MOX (mixed oxide of plutonium and uranium) fuel in light water reactors. This was a key component of the nuclear fuel cycle policy and was essential to the credibility of the government's international promise that Japan would not accumulate surplus plutonium (Appendix 2.4). The referendum came at a time when faith in Japan's plutonium use program was at an all time low. It was one and a half years after the JCO accident (Appendix 2.6) and the same length of time after discovery that data for MOX fuel manufactured for Kansai Electric Power Company's Takahama reactors had been falsified by the manufacturer BNFL. Also a scandal had emerged a year earlier about improper use of funds provided to Kariwa Village under the 'Three Electric Power Laws'.<sup>67</sup>

---

<sup>67</sup> Under these laws the Ministry of Economy, Trade and Industry provides subsidies for regions which host electric power facilities. The focus of this scandal was the Rapika adult education facility and a sports complex (Takemoto 2001).

Like the Maki referendum, the path was circuitous and, like Maki, neutral actors played a crucial role. The courage required by residents to petition for a referendum was even greater than for Maki, because a significant percentage of the population worked for, or were in some way connected to Tokyo Electric Power Company. Nevertheless, on the day 88 percent of eligible voters voted on a three way choice: (1) oppose pluthermal; (2) in favour of pluthermal; (3) reserve judgment. The results were 1,925 opposed, 1,533 in favour, and 131 reserve judgment.

In response to this vote against implementation of pluthermal, the mayor of Kariwa consulted with the mayor of Kashiwazaki City, the other host municipality, and the governor of Niigata and they decided to request TEPCO to postpone implementation of pluthermal. TEPCO and the Ministry for Economy, Trade and Industry agreed to this request, but did not agree to change the pluthermal policy. Instead, as with the government's response to the Maki referendum, they decided to increase their efforts to gain understanding for the policy. The negative reaction of the residents of Kariwa to this attitude is discussed in section 3.4.2. Nevertheless, the combined effect of the Kariwa referendum, the MOX data falsification scandal, and numerous other subsequent accidents and scandals was that the pluthermal program did not begin until November 2009,<sup>68</sup> and it still has not been implemented at the Kashiwazaki-Kariwa Nuclear Power Station.

### Miyama Town

The Maki and Kariwa referendums were both examples of citizens' movements actively transmitting democratic values based on a 'thick' understanding of democracy (section 1.2.1) in the face of resistance from pro-nuclear elected representatives who wanted the

---

<sup>68</sup> See the 'Japanese Nuclear Power Companies' Pluthermal Plans' page on Citizens' Nuclear Information Center's web site:  
<http://www.cnrc.jp/english/topics/cycle/MOX/pluthermplans.html>

concept of democracy limited to representative democracy. In this regard the referendum at Miyama Town was different. It was supported more by proponents of building a nuclear power plant than opponents. It was similar to the Kubokawa case in that petitions were submitted to the council by proponents and opponents of a nuclear power plant, with the former requesting the town to ask Chubu Electric Power Company to construct a nuclear power plant. A committee was established to consider the two petitions and it recommended that a referendum be held. Nuclear proponents supported this approach, but opponents did not because Chubu Electric had not even requested permission to build a plant.

The proposal to approach Chubu Electric did not come out of the blue. Miyama Town was on a list of three candidate sites in Mie Prefecture proposed in 1963, but instead of Miyama, it was Ashihama that Chubu Electric chose to pursue. The Ashihama nuclear power plant plan had a checkered history (section 3.2.3) and had been the subject of several referendum campaigns. Although a referendum was never actually held, three separate referendum ordinances were passed (the first on 26 February 1993) as well as one amendment strengthening an existing ordinance. The plan had reached an impasse in 2000 when the governor of Mie requested Chubu Electric to withdraw its plan (Citizens' Nuclear Information Center 1995b, 1996; Nakagawa, T 1993; Nishio 2010b). Some people in Miyama Town saw this as an opportunity to offer an alternative site and they thought supporting a referendum from the outset would circumvent the problems that had arisen elsewhere, but they miscalculated on at least two counts. They miscalculated their own ability compared to their opponents' ability to persuade the public, and they failed to take into account the poor performance of Japan's nuclear industry. Just over a week before the referendum a pipe ruptured in the emergency core cooling system of Chubu Electric's Hamaoka-1 plant (Citizens' Nuclear Information Center 2002). Exit polls indicated that this was a significant factor influencing the vote,

though not necessarily enough on its own to sway the outcome. As it turned out, 67 percent of votes cast (60 percent of eligible voters) opposed inviting Chubu Electric to build a nuclear power plant in Miyama Town. When the results became clear the mayor held a press conference, where he stated,

This brings to an end 40 years of discussions about nuclear power plants. In this town there will be no more nuclear-related talk about things such as hosting nuclear power plants or processing of nuclear waste (Imai 2011, p. 106).

Perhaps because it was nuclear proponents who supported the referendum in the first place, and no doubt because the nuclear power plant plan was not very far advanced, the referendum enabled Miyama Town to make a swift clean exit from its past history as a nuclear candidate site. This was a different type of outcome from Maki and Kariwa.

#### *Significance of local referendums*

What broader impact did these three referendums have for Japan's nuclear energy policy? Although the three local referendums and other referendum ordinances did not have substantial impact on official policy, they affected the implementation of policy. The Kariwa referendum was one of several factors that delayed the implementation of the plutothermal program, while the difficulty of finding sites for nuclear power plants had the potential to impose constraints on implementation of nuclear growth policy. The contrast between the impact of these bottom-up local referendums and the lack of impact of top-down public participation approaches such as the Round Table Conference (the subject of section 3.3) is striking, although in neither case was policy itself changed.

One final point worth noting relates to the role of referendums as a learning process for residents and their role in encouraging deliberation (refer discussion of deliberative systems in sections 1.2.2 and 3.5.2). Imai observes that the Maki and Kariwa

referendums provided a good opportunity for residents to study the issues in depth and that plenty of information was available to support them in their decision about how to vote (Imai 2011, pp. 76-79, 90-91). He makes this assessment on the basis of his own observation of the quality of debate in newspapers, on TV and in public forums, and on how well informed he found the residents to be. Both sides of the debate went beyond one-sided public relations and jointly participated in well-attended, high quality public forums. During the post-*Monju* Round Table Conference on Nuclear Power Policy, Tetsunari Iida drew a similar conclusion about the educational value of referendums, saying, ‘As a political subsystem local referendums are a wonderful chance for people, both proponents and opponents, to learn.’<sup>69</sup> Thirteen years later, in the context of the post-Fukushima energy policy review (section 4.2.2), he referred to a national referendum as a form of deliberative democracy that could be used (alongside market forces) to determine the future of nuclear power.<sup>70</sup>

These views are not supported by some academic literature. For example, Rowe and Frewer (2000, p. 21) suppose that voters ‘have no structured access to resources to enable them to make good decisions, and as such their output may reflect biases and misunderstandings that have no opportunity for resolution.’ For different reasons Parkinson (2003, p. 181) sees little deliberative value in referendums. There has been no national referendum in Japan to test whether a referendum at this level could be deliberative, but it seems from Imai’s observations that local nuclear energy referendums in Japan had both educational and deliberative value. This view is supported by Onai (2007). He argues that the existence of key referendum proponents from a conservative background opened new political divisions, which created space for

---

<sup>69</sup> Round Table Conference FY1998 meeting 5, 21 January 1999 (transcript):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/minute5.html>

<sup>70</sup> Fundamental Issues Subcommittee meeting 15, 14 March 2012 (handout 1 p. 5)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/015/pdf/15-1.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/015/pdf/15-1.pdf)

voters to change their preferences (Onai 2007, pp. 93-94). The openness to changing ones opinion is an important element of deliberation (section 1.2.2).

The fact that the referendums were initiated by residents in relatively small towns and that those residents worked very hard to make them happen means that it might not be possible to generalise to other cases, especially to the national level. But when I interviewed Mie and Masashi Kuwabara, anti-nuclear activists from Maki Town, they said that the taboo on expressing opinions about the nuclear energy plan was broken as a result of the process that led to the referendum. That must be seen as a first step towards deliberation. Mie said she visited many people door-to-door during the referendum campaign and in talking to the residents she came to know their feelings and she herself was changed in the process.<sup>71</sup>

### **3.3 Post *Monju* Round Table Conference**

#### **3.3.1 Background**

Section 3.2 discussed some tentative early initiatives towards public participation at the national level, as well as official and unofficial local examples that related more to the implementation of policy than to policy itself. This section considers the first extended official public participation process carried out at the national level that related directly to Japan's nuclear energy policy. It followed the December 1995 sodium accident at the *Monju* prototype fast breeder reactor (Appendix 2.6), which called into question Japan's nuclear fuel cycle policy in particular and nuclear energy policy in general. Japan's nuclear energy policy has been based on the assumption that plutonium extracted from spent nuclear fuel would be reused in fast breeder reactors (Appendix 2.4). It is impossible to know whether the public comments and hearings (*Goiken o Kiku Kai*)

---

<sup>71</sup> Interview with Mie and Masashi Kuwabara, 8 March 2013.

process instituted during the 1994 policy review (section 3.2.1) would have been repeated under an LDP-led government if the *Monju* accident had not occurred. Nor can we be sure what influence those hearings had on the format of the post-*Monju* public participation processes. However, history shows that after the *Goiken o Kiku Kai* it became standard practice to stage some sort of participation process in the context of nuclear energy policy reviews.

In response to the *Monju* accident, on 23 January 1996 the governors of Fukushima, Niigata and Fukui Prefectures, the prefectures hosting the largest number of nuclear power plants in Japan, took the unprecedented step (Fukushima Minpō 2012) of personally submitting a joint proposal to Prime Minister Ryutaro Hashimoto entitled ‘Proposal concerning the future promotion of Japan’s nuclear energy policy’ (three governors’ proposal) (Fukushima-ken Energy Seisaku Kentōkai (Fukushima Prefecture Energy Policy Study Group) 2002b, pp. 8-9). They claimed that the accident itself, problems with disclosure of information, and the inappropriate handling of the accident by *Monju*’s owner, the Power Reactor and Nuclear Fuel Development Corporation (PNC), had undermined public trust in Japan’s nuclear energy policy. They suggested that, in view of widespread concerns associated with nuclear power, including nuclear proliferation and the safety of plutonium use, it was necessary to have a broad-ranging debate and to ‘once again...form a national consensus’<sup>72</sup> about Japan’s plutonium use policy and the basic direction of Japan’s nuclear energy policy. It was extraordinary for them not to restrict themselves to demanding a consensus within their own prefectures, but rather to call for the formation of a national consensus about national policy (Oshima 1996, p. 239). Furthermore, by demanding that the public be involved in an open process, they were challenging the traditional approach to policy forming, which was to obtain the ‘reciprocal consent’ (Samuels 1987, pp. 260-262) of industry, the

---

<sup>72</sup> The ambiguity of the expression ‘national consensus’ is discussed in section 3.3.3.

bureaucracy and politicians, behind closed doors and without reference to the general public.

The governors' proposal led the government to set up a series of meetings entitled the Round Table Conference (*Entaku Kaigi*) on Nuclear Power Policy (Japan Atomic Energy Commission 1996–2000b). Eleven meetings were held in 1996 involving a wide range of participants, including supporters and critics of nuclear power and members of the general public. The meetings were held under the auspices of the Japan Atomic Energy Commission (JAEC). They were an unprecedented experiment in opening up to public input, but due to flaws in execution and intent they did not represent sharing of power between the government and the governed. The following sections describe the process in detail, while an overall assessment of this and subsequent processes is provided in section 3.5.

### ***3.3.2 Format and status***

This section provides an overview of the format and status of the Round Table Conference and highlights some key process issues, in particular problems of lack of independence and the lack of connection to the policy decision-making process.

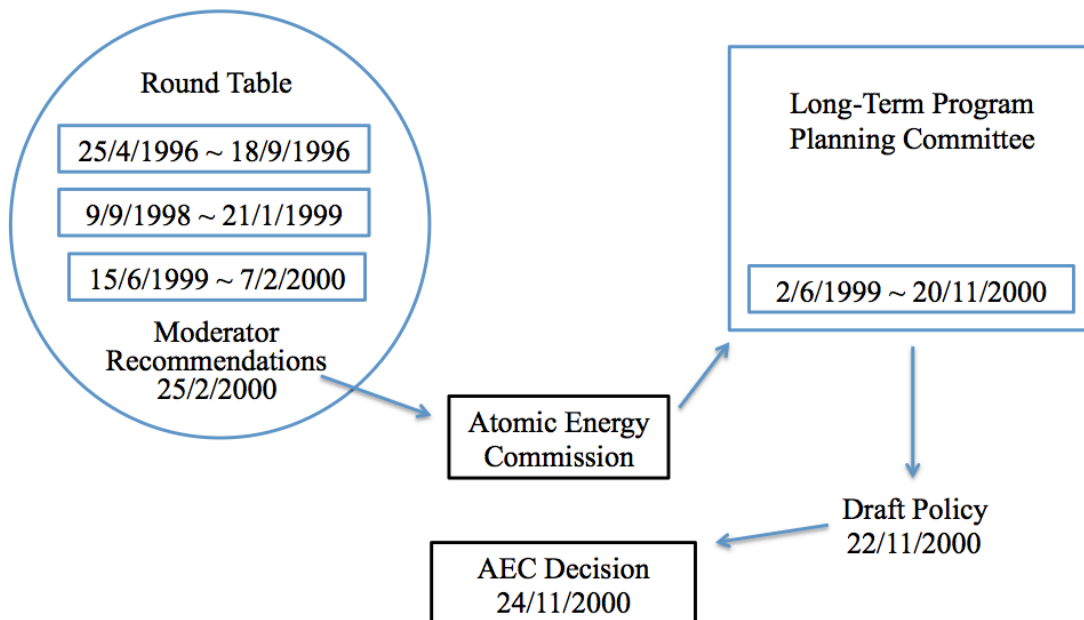
Lack of *independence* was a fundamental problem with the 1996 Round Table Conference. The process had the appearance of independence in that six external moderators were chosen to facilitate the meetings, to manage the process as a whole, to draw conclusions and to make recommendations. However the selection of the moderators was problematic: the manner in which they were chosen was totally untransparent and no nuclear critics were included (Yoshioka 1997, p. 12). By contrast, the *transparency* of the meetings themselves represented a watershed in Japan's nuclear administration (Yoshioka 1997, pp. 12, 14-15). The meetings were held in public, some



were televised and the transcripts were published on JAEC’s web site.<sup>73</sup> However the new transparency at a formal level did not equate to transparency about the real decision-making process (see discussion of secret meetings in sections 3.4.3 and 4.2.3).

The lack of clear connection to the policy *decision-making process* resulted from the fact that the Round Table Conference was not a policy-making body in itself, but rather a forum for discussion. The government undertook to reflect the debate in policy ‘as appropriate’,<sup>74</sup> but the vagueness of this commitment left the judgment entirely in the government’s hands as to what was ‘appropriate’. The moderators were supposed to act as a conduit linking the Round Table discussions with the official decision-making process, but the relationship was indirect and out of synchrony with the mainstream policy-making process. The following diagram shows the relationship between the Round Table Conference and the official policy-making process.<sup>75</sup>

### Round Table and Policy-Making Process



<sup>73</sup> See links from the ‘Round-Table Conference on Nuclear Power Policy’ page of JAEC’s English web site: [http://www.aec.go.jp/jicst/NC/iinkai/entaku/index\\_e.htm](http://www.aec.go.jp/jicst/NC/iinkai/entaku/index_e.htm)

<sup>74</sup> Opening comments to the first meeting (25 April 1996) of the Round-Table Conference by the Chairman of the Japan Atomic Energy Commission (transcript): <http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960520.html>

<sup>75</sup> Compare diagram in section 4.5.2 showing the post-Fukushima decision-making process.

The moderators issued formal recommendations to JAEC on two occasions during the 1996 Round Table Conference: the first<sup>76</sup> at the end of the fifth meeting, and the second<sup>77</sup> two weeks after the last meeting. The second set of recommendations included a call for a new round of the Round Table Conference. This recommendation is discussed in this section, as part of an overview of the whole Round Table Conference program, while the other recommendations are discussed in section 3.3.4. (Appendix 3 contains a summary of all moderator recommendations.)

JAEC responded that it would hold a further series of the Round Table Conference,<sup>78</sup> but did not indicate when it would take place. As it turned out, two years elapsed before the Round Table Conference was resumed. Hitoshi Yoshioka suggests that the reason for the delay was fear on the part of officials that a public participation process immediately after the fire and explosion at the Tokai Reprocessing Facility (11 March 1997—see Appendix 2.6) would have a negative impact on their efforts to get the fuel cycle policy back on track (Yoshioka 1999, p. 11). Yoshioka was articulating concern shared by nuclear critics about the government's *intentions* in holding the Round Table Conference. They feared the government was determined to proceed with the nuclear fuel cycle policy and that the Round Table Conference was a smokescreen (sections 3.5.3 and 3.5.5). In the end, a second series was held from 9 September 1998 to 21 January 1999 (Fiscal Year (FY) 1998 meetings) and a third series was held from 15 June 1999 to 7 February 2000 (FY1999 meetings).

---

<sup>76</sup> Transcript of meeting 5, 24 June 1996:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960718.html>

<sup>77</sup> Moderator recommendations, 'Genshiryoku Iinkai e no teigen' 3 October 1996:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/961003.htm>

<sup>78</sup> JAEC's decision in response to the first set of recommendations, 'Genshiryoku ni kan suru jōhō kōkai oyobi seisaku kettei katei e no kokumin sankā no sokushin ni tsuite' (25 September 1996): <http://www.aec.go.jp/jicst/NC/about/announce/960925.html>

JAEC's decision in response to the second set of recommendations, 'Kōgo no genshiryoku seisaku no tenkai ni atatte (Genshiryoku Seisaku Entaku Kaigi no giron oyobi Moderator kara no teigen o ukete)' (11 October 1996):

<http://www.aec.go.jp/jicst/NC/about/announce/961011.html>

The FY1998 and FY1999 series were different from the 1996 series in a number of ways. First, all except one of the moderators were changed. Five moderators presided for the duration of the FY1998–9 rounds of the Round Table Conference compared to six in 1996. Fewer participants were invited to subsequent Round Table Conference meetings (between six and ten at each meeting in FY1998–9, compared to between ten and sixteen in 1996, except the last meeting when there were only eight participants). The biggest organisational difference was that whereas the 1996 Round Table Conference was held under the auspices of JAEC, the FY1998–9 series were ostensibly independent of JAEC. In 1996 JAEC provided the secretariat (staff of the Science and Technology Agency) and the JAEC Commissioners attended and contributed to the discussion. In FY1998–9, however, although the government provided the funding, the moderators managed the entire process, the secretariat role was carried out by private think tank Mitsubishi Research Institute, and only one JAEC Commissioner (Noriko Kimoto—see section 3.3.4) participated as an observer. Moderator Tsutomu Kimura said that it was after deep reflection (*‘tsuyoi hansei’*) on the 1996 series that this arrangement was adopted.<sup>79</sup> He did not specify what the substance of the deep reflection was, except that it related to being directly under the JAEC umbrella, but it seems that the moderators of the 1996 series felt unduly constrained.

While the FY1998–9 Round Table Conference might have been formally more independent than the 1996 series, the balance of the moderator team in the FY1998–9 series was nevertheless clearly pro-nuclear. Yoichi Kaya, the sole survivor from the 1996 series, was chairman of the Advisory Committee for Natural Resources and Energy, which produced Japan’s nuclear energy oriented energy policy. Two moderators were or had been directly employed in the nuclear energy field. One of these, Tokunosuke Nakajima, who previously worked at the Japan Atomic Energy Research

---

<sup>79</sup> Transcript of meeting 5, 30 October 1999, p. 1:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/5kokai/minute5.pdf>

Institute in Tokai Village, had long been a critic of Japan's existing nuclear energy policy (EP Report 1998b, p. 2), but he nevertheless supported nuclear energy per se. Michio Ishikawa, special advisor to Nuclear Power Engineering Corporation (NUPEC), was the most outspoken in his support of nuclear power.<sup>80</sup> The other two moderators, Tsutomu Kimura and Ryoko Ozawa, said little to betray their opinions.

The formal independence of the FY1998–9 Round Table Conference from JAEC made little difference to the general thrust of the moderators' recommendations, but it was significant in that it increased the distance between the Round Table Conference and the policy decision-making process. This separation was articulated by Yoichi Kaya in meeting 3 (23 August) of the FY1999 series.

We are operating on the premise that we don't have any close substantial connection with the activities of the Japan Atomic Energy Commission. It is true that the committee to draft the *Long-Term Program* has been formed and has met twice. We are aware that it is in progress, but we have no intention of having direct input to it each time. We expect to be able to make recommendations early next year [after the seven planned meetings are finished].<sup>81</sup>

From the outset nuclear critics voiced their concern that the views expressed in the meetings would not be reflected in policy. Assurances to the contrary by moderators and JAEC commissioners did not allay their fears. Aileen Smith, a prominent Kyoto-based anti-nuclear activist, was invited to participate in the 1996 and FY1999 series. Noting that in the past public opinions were just heard and not acted upon (*'kikippanashi'*), she said that it would be too late if the views expressed at the Round Table Conference were not submitted to the *Long-Term Program* drafting process until

---

<sup>80</sup> For example, in meeting 2 of the FY1998 series (26 October), while acting as facilitator, Ishikawa became embroiled in a heated exchange with Baku Nishio of the Citizens' Nuclear Information Center about whether or not nuclear waste would be left to future generations. Ishikawa's position (that it would not be) degenerated into absurdity and in the end he was relieved of his role as facilitator for the rest of the meeting. Refer transcript:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/2kokai/minute2.html>

<sup>81</sup> My translation from transcript of meeting 3, 23 August 1999 p. 14:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/3kokai/minute3.pdf>

after the direction was decided.<sup>82</sup> As it turned out, the critics' fears were well founded (section 3.3.4). Arguably the arms length distance from the decision-making process adopted by the Round Table Conference at least partially accounted for this. Hitoshi Yoshioka makes the point that the fact that the FY1998 Round Table Conference was not directly under the auspices of JAEC meant that the practice of automatically authorising advisory committee recommendations did not apply (Yoshioka 1999, p. 12).

This section addressed some of the key process issues, but there were also problems with the aims and the execution of the Round Table Conference. These are discussed in the next section.

### ***3.3.3 Forming a consensus***

The submission by the three governors (section 3.3.1), which was the inspiration for the Round Table Conference, demanded that the government 'conduct anew a broad discussion and conversation with every sphere and stratum of society in an attempt to form a consensus (*gōi*)' (Fukushima-ken Energy Seisaku Kentōkai (Fukushima Prefecture Energy Policy Study Group) 2002b, pp. 8-9) and the terms of reference of the 1996 Round Table Conference<sup>83</sup> stated that the purpose was to contribute to the formation of a national consensus (*kokuminteki gōi*) on nuclear energy research, development and use. Things which made it difficult to achieve this aim included the *lack of clarity about what was meant by a national consensus, problems with the process, and lack of trust in the nuclear administration*. This section describes how these problems obstructed the achievement of a national consensus, the Round Table Conference's original goal, and, more importantly, how they undermined the effectiveness of the process as a whole.

---

<sup>82</sup> Transcript of meeting 3, 23 August 1999, p. 21:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/3kokai/minute3.pdf>

<sup>83</sup> Terms of reference, 'Genshiryoku Seisaku Entaku Kaigi no secchi ni atatte' 15 March 1996:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960315-2.html>

According to Tatsujiro Suzuki, ‘The goal of this round table process was making public consensus on nuclear energy, but there was no consensus on what was meant by public consensus among the participants.’<sup>84</sup> Judging from comments by Yoshinori Ihara, Vice-Chairman of the Japan Atomic Energy Commission at the time, one reason for this was unfamiliarity with the round table format. He said that solving problems and reaching consensus through discussion is a feature of Japanese culture.<sup>85</sup> Ihara used the word ‘*hanashiai*’, translated here as ‘discussion’, but at the same time he noted,

The *Entaku Kaigi* forum was not such a universal concept in Japanese. It’s called a ‘Round Table Conference’ isn’t it? It was a new concept. Not just for nuclear energy, but for other fields as well.<sup>86</sup>

If the traditional concept of *hanashiai* applied to the old style of consensus making, where members of the nuclear village held discussions behind closed doors, the Round Table Conference represented culture borrowed from overseas, where discussions were conducted in public between a much wider range of people. It was more difficult to form a consensus under these conditions.

The Round Table Conference faced two major challenges if it was to form a consensus among participants:

- 1) bridging the gap between experts and non-experts; and
- 2) bridging the gap between nuclear proponents and nuclear critics.

---

<sup>84</sup> Interview in English with Tatsujiro Suzuki (direct quote from 16 May 2011 interview, but he repeated the comment during a 3 September 2012 interview). Tatsujiro Suzuki was JAEC Vice-President at the time of the Fukushima Daiichi nuclear accident and a participant in the 1998 round of the Round Table Conference (Meeting 2, 26 October 1998).

<sup>85</sup> Interview with Yoshinori Ihara, 20 December 2012

<sup>86</sup> *ibid*

In order to extend the consensus to make it a ‘national consensus’ it would have been necessary to bridge a third gap, namely:

- 3) bridging the gap between the participants in the Round Table Conference and the wider population.

As explained below, bridging these gaps proved too ambitious a goal. Indeed setting an aim of forming a ‘national consensus on nuclear energy research, development and use’ was misguided in the first place. Eventually this fact was effectively acknowledged, because the reference to a national consensus was left out of the documents establishing the FY1998–9 Round Table Conference. The following much more modest objective was articulated for that series:

The Round Table Conference on Nuclear Power Policy is convened for the purpose of inviting people from all spheres to express their views, holding discussions from various perspectives in a public forum about the problems surrounding nuclear energy, and making recommendations to the Atomic Energy Commission about the government’s nuclear energy policy (Japan Atomic Energy Commission 1998).

As discussed below, it would have been more reasonable to aim for a meta-consensus on the issues rather than a consensus on the policy itself, but no such aim was ever articulated, despite suggestions consistent with such an aim from some participants.

#### *Gap between experts and non-experts*

Even if it was misguided to aim for a national consensus, from a process perspective it was still important to bridge the abovementioned gaps in some way. Addressing first the gap between expert and non-expert, the following discussion of the meeting format illustrates how weaknesses in the process prevented this gap from being bridged and

shows how the failure to clearly distinguish the roles of experts and non-experts prevented non-expert laypeople from making an effective contribution.

Among the Round Table Conference participants this gap took several forms: the gap between nuclear experts and experts in other fields, the gap between experts in general and non-expert public figures, and the gap between experts and members of the general public. Most of the meetings comprised a mixture of participants invited for their field of expertise, participants invited on the basis of the organisations and interests they represented, and participants invited because they were recognised as commentators and opinion leaders. People from a fourth category, members of the general public, only participated in a few of the meetings. The category of 'expert' was by no means limited to nuclear experts. Academics from fields such as social science and energy economics were also invited. The different backgrounds and level of expertise of the participants meant that for the most part it was not possible to go very deeply into issues, although on some occasions an effort was made to go deeper by restricting participants to people with expertise related to the theme of the day.

Members of the general public were invited to participate in two meetings in the 1996 series. The selection method did not produce a representative sample of the population, but the process was transparent. Applications were called in two ways: (1) through a general public call for expressions of interest and (2) from a list of about 1,000 people acting as 'nuclear monitors' for the Science and Technology Agency. Responses were received from 162 people in the first category and 68 people in the second category. From these, during the seventh meeting six participants each for meetings 8 (24 July) and 10 (22 August) were chosen by lot (four from the first category and two from the second).



Due to the hurried preparation and limited budget, no members of the general public were invited to participate in the FY1998 series, but an opportunity was again provided for lay people to participate in the FY1999 series. In FY1999 the method of selection was different from 1996. Five participants each were chosen for meetings 3 (23 August) and 4 (27 September) from 51 respondents to a public call for expressions of interest. Whereas in 1996 lay participants were chosen by lot, in FY1999 the moderators selected five participants for each meeting at their own discretion. The process was less transparent, but the quality of discussion was enhanced.

The term 'lay people' is used here to refer to participants recruited through the above processes. However, as discussed below, some of the people selected to participate in the FY1999 series were by no means average uninformed 'laypeople'. In the 1996 series most (but not all) of the layperson participants fully deserved that label, but the format of the meetings meant that the true lay people found it difficult to make a meaningful contribution.

During the 1996 series the lay participants each delivered an initial statement then made comments when prompted, but contributed very little to the free discussion, which was dominated by participants from the other three categories. By contrast, some of the people recruited from the general public to participate in the FY1999 series made significant contributions. The more targeted method of selection produced a more informed and articulate group of participants. However, some of them could scarcely be classified as lay people. At meeting 3, of the five participants chosen from the general public, one identified herself as an employee of Japan Atomic Power Company, another was a PhD student who was also a photovoltaic cell engineer, and one was involved in environmental activities with Ibaraki Coop. These people all made significant contributions to the general discussion. Likewise, amongst the five participants selected

from the general public to participate in meeting 4, at least two could not really be called lay people. One said he had worked at a nuclear power plant for fourteen years and another was a journalist for an electric power industry magazine.

One genuine layperson who had some impact on the debate came from Fukui Prefecture, home to fourteen nuclear reactors including the *Monju* Prototype Fast Breeder Reactor. The strength of his contribution lay in the fact that he was able to connect personal experience with an important theme of the Round Table Conference, namely the plight of regions hosting nuclear facilities. He made a moving statement about the pressures which silence critical debate about nuclear power in Fukui Prefecture.<sup>87</sup>

The only unequivocally anti-nuclear participant in meeting 4 was a company executive from Fukui Prefecture who was selected as a member of the general public. Evidently she felt less constrained than the lay participant from Fukui Prefecture at the previous meeting. However her contribution is mentioned here to illustrate a different point. It appears from the transcript that she had the communication skills and the force of character to present an argument, but when the experts and the moderators challenged her she did not have the knowledge to defend her position on the technical issues she had raised, including the lifecycle carbon dioxide emissions of nuclear energy or the potential for renewable energy.<sup>88</sup>

This illustrates a key weakness of the Round Table Conference, namely that the respective *roles of experts, stakeholders, public figures and lay people were not clearly distinguished*. It was inappropriate that a non-expert should be placed in a position where she was left to defend herself on such issues against a leading expert like Yoichi

---

<sup>87</sup> Transcript of meeting 3, 23 August 1999, p. 7:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/3kokai/minute3.pdf>

<sup>88</sup> Transcript of meeting 4, 27 September 1999, pp. 12-13:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/4kokai/minute4.pdf>

Kaya. As a consequence of the lack of consideration for how to include lay participants, the voices of those who deserved the ‘layperson’ label were drowned out by the other more expert, confident and articulate participants. In micro-deliberative processes such as those discussed in sections 1.2.2 and 2.3 this problem is addressed by placing ordinary citizens in a role similar to lay jury members and allowing them to quiz expert witnesses, but this approach was not employed in the Round Table Conference.

### *Themes discussed*

In regard to the second gap, the gap between nuclear proponents and nuclear critics, in addition to process problems, the lack of trust in the nuclear administration was a significant obstacle to achieving any sort of consensus. The way these problems played out in relation to the policy debate is discussed below. But first, in order to put the discussion in context, the themes of the meetings are listed.

The first four meetings in 1996 were free ranging discussions between the participants. On the basis of these early meetings the moderators identified the following four overall themes:

- 1) nuclear energy and society in regard to issues of safety (*‘anzen’*) and sense of security (*‘anshin’*);
- 2) issues related to energy and nuclear energy;
- 3) issues related to the nuclear fuel cycle;
- 4) the relationship between nuclear energy and society.

Each of the ensuing meetings focused on one of these themes. The difference between the first and fourth theme is not immediately obvious. Whereas the first theme related principally to nuclear safety and public fears about nuclear power, the fourth theme

related mainly to issues associated with the siting of nuclear facilities, such as the subsidies paid to host towns and the different perceptions of people living in host regions and people living in big cities. Meetings 8 and 10, the meetings in which members of the general public participated, focused on this theme.

In FY1998, after a general discussion in the first meeting focusing on the question ‘Why [raise] the issue of nuclear energy now?’ the moderators chose the following three themes:

- 1) the position of nuclear energy within energy overall;
- 2) ‘administration of the development and utilisation of nuclear energy, and the procedure for obtaining a national consensus, namely disclosure of information’;
- 3) issues related to the siting of nuclear facilities.<sup>89</sup>

In addition to covering much of the same ground as the FY1998 series, the FY1999 series also took up the issue of the nuclear fuel cycle. More than any other policy issue the nuclear fuel cycle was under the spotlight, because the *Monju* Prototype Fast Breeder Reactor, where the accident that led to the formation of the Round Table Conference occurred, was a core element of Japan’s nuclear fuel cycle policy. *Monju* was seen as a stepping-stone to the dream of realising a plutonium-based fuel cycle that would provide Japan with a virtually bottomless national energy resource.

#### *Gap between nuclear proponents and nuclear critics*

Returning to the question of the gap between nuclear proponents and nuclear critics, the only semblance of a strategy in the 1996 series for bridging this gap was to identify

---

<sup>89</sup> Transcript of meeting 3, 24 November 1998:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/3kokai/minute3.html>  
Theme (2) is rather convoluted, but it indicates the importance placed on disclosure of information.

issues on which there was broad agreement and to include these in the recommendations. There was some agreement on process-related issues, but very little agreement on policy issues, and the quality of discussion was by no means deliberative. Hitoshi Yoshioka, a critical nuclear energy policy expert from Kyushu University, described his impression of the 1996 discussion as ‘running in parallel, with proponents and opponents expressing one-sided opinions.’<sup>90</sup> He also said, ‘the meetings ended with participants just stating their beliefs.’<sup>91</sup> Responding to this failing, a different approach was adopted in the FY1998 and FY1999 series. Before the FY 1998 series began ‘a person associated with the Atomic Energy Commission’ was quoted as saying, ‘Moderators will select just a few participants depending on the theme. It will be a forum where people of different opinions engage in thorough debate’ (EP Report 1998b, p. 2). However, after the first meeting had taken place, the same publication was scathing, saying:

The participants stated their own views, but they didn’t have the ability to logically refute each other’s opinions ... What some moderators and participants definitely lacked was not knowledge about nuclear energy, energy issues, and administration, but an attitude of actively listening to the views of other speakers, asking for clarification if they had any questions, refuting appropriately if they disagreed, and of engaging in constructive discussion (EP Report 1998a, p. 2).

Writing after the FY1998 Round Table Conference had finished, Yoshioka was less critical, saying that it was an improvement on 1996 in that at least the participants shared ownership of the themes, if not their opinions about those themes (Yoshioka 1999, p. 13). In that superficial sense, it could be said that there was some degree of ‘meta-consensus’. Likewise in the FY1999 series the themes were more focused and there was more interaction between participants than in the 1996 series. The moderators’ policy of choosing just a few participants appropriate to the theme of the day was an

---

<sup>90</sup> Transcript of meeting 1, 9 September 1998:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/1kokai/minute1.html>

<sup>91</sup> Hitoshi Yoshioka’s handout for meeting 1, 9 September 1998:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/1kokai/1koukai7.html>

important factor in the greater degree of interaction and agreement on themes. Other than the meetings to which members of the general public were invited, this made it easier to stay on topic. However the original aim of the Round Table Conference was not meta-consensus on the themes for discussion, but ‘national consensus on nuclear energy research, development and use’—in other words, consensus on policy itself.

According to Boswell, Niemeyer and Hendriks (2013),

[D]eliberative democrats are turning toward ... the pursuit of ‘metaconsensus’, in which agreement is sought on the important issue dimensions at play, not on a single outcome (p. 171).

Dryzek (2010) asserts,

[T]he key goal of deliberation is *not* to secure consensus. Instead, the key goal of deliberation is to produce meta-consensus that structures continued dispute. Meta-consensus can refer to agreement on the legitimacy of contested values, on the validity of disputed judgments, on the acceptability and structure of competing preferences, and on the applicability of contested discourses (p. 15).

This is a higher dimension of meta-consensus than was achieved by the Round Table Conference, but most significantly these quotations provide support for the argument that the original aim of the Round Table Conference, namely achieving consensus on policy, was misconceived.

In regard to the approach of selecting fewer participants, although this made it easier to stay on topic, that came at the cost of reduced *representativeness*. The Round Table Conference was not set up to be representative in either a formal or descriptive sense, but it did purport to represent a range of discourses (section 1.3). However, the range was narrowed by reducing the number of participants. In the final meeting moderator

Ryoko Ozawa commented that she found the Round Table Conference to be very insular. She wondered why it was always the same people presenting.<sup>92</sup>

Besides the themes for discussion, what areas of agreement were found? The most salient areas related to process: the need for more public participation and for disclosure of information. Criticism of the absence of public participation and disclosure of information in nuclear energy policy-making in the past and calls for their inclusion in future were a recurring theme throughout the Round Table Conference, although the reasons given varied depending on the speakers' point of view. Nuclear proponents believed that they were important for rebuilding trust, which had been greatly damaged by the *Monju* accident, and for creating understanding and acceptance of Japan's nuclear energy policy. Nuclear opponents, on the other hand, called for more participation and disclosure of information because they felt excluded from policy making processes and believed that important information was being concealed. Happy to find a point of agreement, the moderators recommended that JAEC 'take the necessary measures' to promote public participation and disclosure of information in future (Appendix 3).

#### JCO criticality accident and loss of trust

Before addressing the gap between nuclear proponents and critics on policy issues, an account of an interruption to the flow of the 1999 round of the Round Table Conference is in order. It relates to the JCO criticality accident (Appendix 2.6), which occurred on 30 September, three days after the fourth meeting of the FY1999 series.

The JCO criticality accident had a profound impact on the Round Table discussions and brought to the fore the issue of the *lack of trust* in the nuclear administration. In as much

---

<sup>92</sup> Transcript of meeting 7, 7 February 2000, pp. 20-21:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/7kokai/minute7.pdf>

as the government's aim was to form a consensus in favour of its nuclear energy program, the JCO accident made the task much harder. This accident occurred when uranium was being produced for the Joyo Experimental Fast Reactor. As such, it was directly related to the nuclear fuel cycle, though not as directly as the *Monju* accident. The JCO accident dominated the next meeting and cast a shadow over the remaining meetings.

Loss of trust after the *Monju* accident was referred to in JAEC's 15 March 1996 decision establishing the first round of the Round Table Conference.<sup>93</sup> In the decisions responding to the moderators' recommendations from the 1996 series JAEC expressed the expectation that disclosure of information and public participation in the decision making process would help recover understanding and trust in the development and utilisation of nuclear energy.<sup>94</sup> Similarly, JAEC noted the importance of trust in a statement responding to the moderators' recommendations from the FY1998 series.<sup>95</sup> However, in its decision responding to the recommendations from the FY1999 series JAEC was forced to acknowledge that the JCO accident had greatly shaken public trust in nuclear energy.<sup>96</sup>

---

<sup>93</sup> JAEC's 15 March 1996 decision establishing the first round of the Round Table Conference 'Genshiryoku Seisaku Entaku Kaigi no secchi ni atatte':

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960315-2.html>

<sup>94</sup> JAEC decision about disclosure of information and public participation, 'Genshiryoku ni kan suru jōhō kōkai oyobi seisaku kettei katei he no kokumin sanko no sokushin ni tsuite', 25 September 1996:

<http://www.aec.go.jp/jicst/NC/about/announce/960925.html>

JAEC decision in response to the Round Table discussions and the moderators' comments, 'Kongo no genshiryoku seisaku no tenkai ni atatte (Genshiryoku Seisaku Entaku Kaigi no giron oyobi Moderator kara no teigen o ukete)', 11 October 1996:

<http://www.aec.go.jp/jicst/NC/about/announce/961011.html>

<sup>95</sup> JAEC statement in response to the moderators' interim recommendations, 'Genshiryoku Seisaku Entaku Kaigi Moderator kara no chūkan teigen o ukete (an)', 6 April 1999:

<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryo99/siryo22/siryo3.htm>

<sup>96</sup> JAEC statement in response to the moderators' recommendations, 'Genshiryoku Seisaku Entaku Kaigi Moderator kara no teigen o ukete', 14 March 2000:

<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryo2000/siryo16/siryo1.htm>



### Gap on policy issues

Returning to the question of the gap between nuclear proponents and critics on policy issues, suffice to say that the gap was bridged in few if any substantive areas. There was agreement on the need for renewable energy and energy conservation (*'shō-ene'*), but agreement on that general principal could not really be called 'substantive', because wide differences remained on their potential contribution to Japan's energy needs. In regard to the nuclear fuel cycle, the differences between those who believed that plutonium should be seen as a resource and that the benefits of nuclear power far outweigh the dangers, and those who viewed plutonium as a dangerous waste product and nuclear power as entailing unmanageable risks were too fundamental to bridge in the sense of agreeing on policy. Nuclear proponents and critics found common ground on the need for interim storage of high-level radioactive waste (HLW) and spent nuclear fuel, but their reasons and the length of time they envisaged were different. The law was amended in 1999 to permit interim storage of spent fuel.<sup>97</sup> Proponents saw this as a necessary measure to deal with spent fuel accumulating at nuclear power plant sites, but they were wary of the concept being used by nuclear critics as an excuse to change the existing policy of reprocessing all spent fuel. (Appendix 4 provides a summary of views expressed on the nuclear fuel cycle during the FY1999 Round Table Conference.)

Neither the moderators nor JAEC had any strategy for bridging these gaps, or even of making sense of the differences. They had no mechanism for, in the words of Dryzek (2010, p. 15), forming a meta-consensus 'on the legitimacy of contested values, on the validity of disputed judgments, on the acceptability and structure of competing preferences, and on the applicability of contested discourses'.

---

<sup>97</sup> 16 June 1999 Amendment to the Reactor Regulation Act.

It was not that no proposals were made directed at achieving such a meta-consensus, but rather that the proposals were not taken up. The most detailed proposal came from Hitoshi Yoshioka of Kyushu University. Yoshioka proposed repeatedly that a comprehensive criteria-based policy assessment be carried out. Agreement might not be reached on the final assessment, but, if there were agreed criteria, policy makers would have to defend their decisions on rational grounds. He first proposed this approach during the 1996 series.<sup>98</sup> On that occasion he presented a handout in which he proposed that three possible paths (non-nuclear, fossil fuel plus uranium, fossil fuel plus plutonium) be assessed against eight criteria (feasibility, peace, safety, environment, economy, resource, democracy, human rights).<sup>99</sup>

#### *Attitudes to public participation*

When Yoshioka presented a variation of this table during the FY1998 series, Kenji Yamaji of Tokyo University responded that this analysis should be done by experts before a policy-making forum or national debate is convened. Without this the debate would have no rational basis.<sup>100</sup> This relates to the abovementioned weakness of the Round Table Conference that the respective roles of experts and non-experts were not clearly defined, but Yamaji did not see it as a distinction between experts and non-experts in the sense of lay citizens. He believed that analysis of options was the role of experts and saw it as the role of politicians and stakeholders to make judgments about those options. The only role he recognised for the general public was as voters in a representative democracy. Shunsuke Kondo, a Tokyo University professor who later became Chairman of the Atomic Energy Commission, expressed much the same view

---

<sup>98</sup> Transcript of meeting 9, 7 August 1996:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960805.html>

<sup>99</sup> Hitoshi Yoshioka handout to meeting 9 (7 August 1996) of the Round Table Conference (original in English):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/960909/2-9.jpg>

<sup>100</sup> Transcript of meeting 5, 21 January 1999:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/minute5.html>

in a convoluted defence of technocracy.<sup>101</sup> Kondo and Yamaji are strong supporters of nuclear energy, but civil society-based nuclear critics saw a much greater role for ordinary citizens. Tetsunari Iida of the Renewable Energy Promoting People's Forum (REPP)<sup>102</sup> agreed with Yamaji that representative democracy was the basis, but believed it needed to be supplemented by other subsystems with more direct public involvement. He suggested using the consensus conference method in which ordinary citizens broadly representative of the demographic profile are selected to deliberate on an issue, and, making use of advice from expert witnesses, produce a consensus report. Had the roles of experts and non-experts been distinguished in this way, ordinary citizens would have been able to make a meaningful contribution. Consensus conferences were first introduced into Japan at about this time (section 2.3.1), so Iida's suggestion was not completely novel or unrealistic.

It would not have been possible to adopt any of these approaches without radically changing the framework of the Round Table Conference. Any meaningful assessment of the type proposed by Yoshioka would have required several meetings with the same participants, but participants in the Round Table Conference changed from meeting to meeting. A consensus conference as suggested by Iida would have involved a highly structured method quite different from the format of the Round Table Conference. So rather than expecting the Round Table Conference to achieve something for which it was not designed, the proponents of these proposals were in effect proposing the establishment of alternative forums, where, even if it were not possible to reach agreement on policy itself, at least it might be possible to reach a meta-consensus on policy options, criteria for assessing them and the scientific basis of assessments.

---

<sup>101</sup> *Ibid.*

<sup>102</sup> Tetsunari Iida is now Executive Director of the Institute for Sustainable Energy Policies.

### Gap between participants and the wider population

As it was, the Round Table Conference remained polarised on most issues. It was unable to bridge the gaps among participants in any meaningful way, let alone bridge the gap between participants and the wider population. When I interviewed Noriko Kimoto, former Japan Atomic Energy Commissioner, she summed up the Round Table Conference as follows:

The Round Table Conference was open, but I don't think it had the power to appeal to ordinary people. It was like the participants exchanging opinions huddled around a table then publishing that.<sup>103</sup>

Clearly the Round Table Conference's original aim of forming a national consensus on nuclear energy research, development and use was unrealistic, but its effectiveness as a participation exercise was further undermined by weaknesses in the process, lack of trust in the nuclear administration (exacerbated by the JCO accident), as well as the fundamentally polarised nature of the field.

#### **3.3.4 Outcomes**

The problems with the process and execution of the Round Table Conference discussed in sections 3.3.2 and 3.3.3 meant that the fundamental assumption behind participation as articulated by Bishop and Davis (section 1.2.2), namely sharing of power between the government and the governed, was not met. Moderators met behind closed doors to draw conclusions and compile recommendations, without consulting participants (section 3.3.2). Their recommendations (Appendix 3), which supported the status quo and gave little credence to the views expressed by nuclear critics, reflected their unbalanced composition and lack of true independence.

---

<sup>103</sup> Interview with Noriko Kimoto, 27 February 2013

### Arbitrary judgments

The final recommendations announced after the FY1999 series<sup>104</sup> were accompanied by brief explanatory comments, but these served more to confirm the *arbitrariness* of the moderators' judgments than to provide convincing justifications. The recommendation concerning the nuclear fuel cycle and the future of the *Monju* prototype fast breeder reactor illustrates the point. The moderators justified their support for the nuclear fuel cycle as follows:

From the perspective of the effective use of uranium resources, there were many positive opinions in regard to conducting research and development into the nuclear fuel cycle as one future option and the moderators unanimously supported such research and development.<sup>105</sup>

It would be a mistake to interpret this as just a justification for some kind of limited laboratory level research program. Two paragraphs later the moderators used their support for research and development into the nuclear fuel cycle as the basis for their justification of the early restart of the *Monju* FBR.

If one takes the position of promoting research and development, it is illogical to shut down the reactor unconditionally.

The reference to 'many positive opinions' completely discounted the many negative opinions that were expressed. It also failed to acknowledge the fact that more nuclear proponents were selected to participate in the Round Table Conference than nuclear opponents. As discussed in section 3.3.3, no criteria-based assessment to support the moderators' position was conducted.

---

<sup>104</sup> Moderator recommendations, 'Genshiryoku Seisaku Entaku Kaigi kara no teigen: Moderator kara no message' issued 25 February 2000

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/teigen/teigen.html>

<sup>105</sup> *ibid.* (Recommendation 6)

Despite the critical views voiced within the Round Table Conference, the moderators chose not to venture outside the bounds of existing policy. One factor was that the Round Table Conference had been overtaken by other developments. A separate series of meetings specifically addressing the question of what to do about Japan's FBR program (*FBR Kondankai*) had been held in 1997 (JAEC 1997a).<sup>106</sup> The following recommendation in the *FBR Kondankai*'s report represented a subtle shift from past policy:

We believe it is appropriate to proceed with research and development into fast breeder reactors as one strong future non-fossil fuel energy option, in order to pursue their potential for practical use (Kōsoku Zōshokuro Kondankai (Fast Breeder Reactor Committee) 1997, p. 15).

According to Suzuki (2000),

The most remarkable outcomes of the meeting were a declaration of nuclear power as “an effective future alternative to fossil fuels” and the statement that “In commercializing the FBR, flexibility must be used while ensuring safety and economy,” which helped to cause a stir in the hitherto inflexible development effort.

While supporting a continuation of the FBR research and development effort, this proposal offered flexibility, which was contrary to the official policy of the Atomic Energy Commission (Suzuki 2000, p. 9).

The 1994 *Long-Term Program* (JAEC 1994) saw FBRs as the future mainstream of nuclear power, but in endorsing the *FBR Kondankai* report JAEC demoted them to the status of one strong option among others (*hitotsu no yūryokuna sentakushi*) (JAEC 1997b).

---

<sup>106</sup> *FBR Kondankai* web site: <http://www.aec.go.jp/jicst/NC/senmon/old/koso/menu.htm>

Other than process matters, the establishment of the *FBR Kondankai* was, according to Yoshioka (1997, p. 13), the only new decision made by JAEC<sup>107</sup> in response to the 1996 Round Table Conference. It was established under the auspices of JAEC in response to a recommendation by the moderators of the 1996 Round Table Conference.<sup>108</sup> This recommendation in turn was a response to a request during the ninth meeting from the governor of Fukui Prefecture, Yukio Kurita.<sup>109</sup> In that sense, the abovementioned subtle policy shift could be seen as an indirect outcome of the first round of the Round Table Conference, but since the Round Table moderators made no specific policy recommendation before the *FBR Kondankai* took place, it would be more accurate to see this recommendation too as relating to process.

The *FBR Kondankai* itself could be seen as a part of the slight opening up of the policy making process. According to JAEC Vice-Chairman Tatsujiro Suzuki, ‘It was historic in the sense that JAEC’s so-called expert committee opened up to non nuclear energy experts.’<sup>110</sup> However no substantial changes were made in response to the public comments<sup>111</sup> received and, as in the Round Table Conference, the debate was not rigorous. One of the *FBR Kondankai* members was Hitoshi Yoshioka. As in the Round Table Conference, he pushed for a comprehensive criteria-based assessment, but his proposal fell on deaf ears. Indeed, he criticised the whole process as biased, bureaucrat-driven and untransparent in the drafting process (Yoshioka & Yoshioka 1998).

---

<sup>107</sup> JAEC’s 11 October 1996 decision in response to the Round Table discussions and the moderators’ comments, ‘Kongo no genshiryoku seisaku no tenkai ni atatte (Genshiryoku Seisaku Entaku Kaigi no giron oyobi Moderator kara no teigen o ukete)’:  
<http://www.aec.go.jp/jicst/NC/about/announce/961011.html>

<sup>108</sup> ‘Genshiryoku Iinkai e no teigen’, 3 October 1996, Recommendation 2 (4):  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/961003.htm>

<sup>109</sup> Transcript of meeting 9, 7 August 1996:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960805.html>

<sup>110</sup> Interview in English with Tatsujiro Suzuki, Vice-Chairman of the Japan Atomic Energy Commission (3 September 2012).

<sup>111</sup> Responses to public comments discussed at meeting 12, 28 November 1997:  
<http://www.aec.go.jp/jicst/NC/senmon/old/koso/siryu/koso12/siryu1221.htm>

Another arbitrary element of the final Round Table recommendations was the timidity of a recommendation that energy supply and demand scenarios be produced for the purposes of public debate.<sup>112</sup> This recommendation had some impact on future process, but as explained below, it fell well short of expectations.

The moderators specifically suggested three scenarios: a business as usual scenario, a scenario in which the contribution of nuclear energy was somewhat less than the business as usual scenario, and a scenario in which the contribution of nuclear energy was maintained at the existing level. What was arbitrary about this recommendation was the fact that the moderators did not call for the development of a nuclear phaseout scenario. On several occasions during the course of the meetings moderators expressed support for developing such a scenario, not because they supported a nuclear phaseout per se, but because such a scenario would enable the nuclear phaseout option to be compared with other options and increase the scope for debate between proponents and critics of nuclear energy.<sup>113</sup> Why then did they not include the production of a nuclear phaseout scenario in their recommendations? They justified their decision as follows:

Considering that in view of the high level of dependence on nuclear energy (about 35% of electric power) in the existing energy supply the nuclear phaseout scenario lacks practicality, and that many opinions were expressed in support of maintaining the current level of nuclear energy overall, in our recommendation we limited the range of scenarios to be investigated to between the existing promotion and maintaining the current situation.

However, we note that the opinion was expressed among the moderators that it is not just up to the government to produce such scenarios; citizens should make the effort to produce them themselves.<sup>114</sup>

---

<sup>112</sup> ‘Genshiryoku Seisaku Entaku Kaigi kara no teigen: Moderator kara no message’, Recommendation 1, 25 February 2000:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/teigen/teigen.html>

<sup>113</sup> For example, Michio Ishikawa, Tokunosuke Nakajima and Yoichi Kaya at meeting 3 of the FY1999 Round Table Conference (23 August 1999) (transcript):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/3kokai/minute3.pdf>

Yoichi Kaya at meeting 6 of the FY1999 Round Table Conference (13 January 2000) (transcript): <http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/6kokai/minute6.pdf>

<sup>114</sup> ‘Genshiryoku Seisaku Entaku Kaigi kara no teigen: Moderator kara no message’, Recommendations issued 25 February 2000:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/teigen/teigen.html>



If ‘many opinions were expressed in support of maintaining the current level of nuclear energy’, that was largely an artefact of the selection of participants. As for the practicality of the phaseout scenario, if it was indeed impractical that would presumably have emerged when the scenarios were assessed. It was not a valid reason for not developing a scenario for analysis and debate. In the end the moderators chose to leave it up to the public to produce alternative scenarios if they wished. Some statements during the course of the Round Table Conference had called for the government to produce a nuclear phaseout scenario, while others had called for nuclear critics to produce such a scenario. Where the moderators’ recommendation was lacking was not so much that it left it to nuclear critics to produce their own phaseout scenario, but rather that it did not specifically call for a nuclear phaseout scenario to be officially considered.

At the time of the Round Table Conference Japan had never had experts publicly evaluate multiple energy policy options.<sup>115</sup> Indeed, to a significant degree nuclear energy policy was decided separately from overall energy policy. Therefore, from a process perspective, the moderators’ call to place nuclear energy policy clearly within the context of energy policy and to publicly debate multiple energy scenarios was something of a breakthrough. Although official consideration of the possibility of a nuclear phaseout did not happen until after the Fukushima Daiichi nuclear accident, the moderators’ – recommendation for consideration of alternative scenarios was taken up by the Advisory Committee for Natural Resources and Energy in the process that produced the 2001 energy policy (Advisory Committee for Natural Resources and Energy - Coordination Subcommittee / Supply and Demand Subcommittee 2001). In

---

<sup>115</sup> Comment by Kenji Yamaji during meeting 5 of the FY1998 Round Table Conference (21 January 1999) (transcript):  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/minute5.html>

that process a scenario in which no new nuclear power plants would be constructed was considered along with a ‘standard scenario’ and a ‘target scenario’. The committee’s report rejected the no new nuclear power plants scenario on economic grounds, so although the Round Table moderators’ recommendation had an impact on process, it had no impact on policy.

### Public participation and disclosure of information

The Round Table Conference moderators’ recommendations regarding the nuclear fuel cycle and the production of multiple energy scenarios were described above as arbitrary. In neither area did the recommendations lead to substantial policy change, but in both areas they had *some, albeit limited, impact on the policy-making process*. Other recommendations that had some *influence* on process were the recommendations regarding public participation and disclosure of information. These recommendations were not arbitrary in that they were consistent with the general consensus of the participants. From JAEC’s perspective it was important to be seen to be promoting public participation and disclosure of information in order to regain public trust and acceptance and form a national consensus in support of nuclear energy. On this basis, JAEC responded to the moderators’ initial recommendation with the following undertakings:

1. Public participation

Call for public opinions during drafting of policy reports by expert committees.  
Reflect public opinions as appropriate and give reasons why other opinions were not adopted.

2. Disclosure of information

In principle conduct JAEC’s expert committees in public.  
In coordination with relevant agencies establish a system for swiftly and appropriately responding to requests for nuclear energy information.  
Use the internet to swiftly provide records of proceedings and meeting documents.<sup>116</sup>

---

<sup>116</sup> Japan Atomic Energy Commission’s 25 September 1996 decision concerning disclosure of information and public participation, ‘Genshiryoku ni kan suru jōhō kōkai oyobi seisaku kettei katei e no kokumin sankā no sokushin ni tsuite’:  
<http://www.aec.go.jp/jicst/NC/about/announce/960925.html>

This is the oldest JAEC decision published on the ‘decisions’ page of its existing web site.<sup>117</sup> It predates by over two years the Act on Access to Information Held by Administrative Organs<sup>118</sup> and predates by nine years an amendment to the Administrative Procedures Act specifying public comment procedures when establishing administrative orders (section 2.2.2). It was a progressive decision, which ironically made the nuclear energy administration a leader within the whole bureaucracy (Yoshioka 1997, pp. 14-15), but nevertheless it fell well short of what some people were calling for. In regard to public participation, the moderators’ recommendation for the establishment of an independent Nuclear Policy Communication Committee was not taken up.<sup>119</sup> The nearest thing was the Conference for Public Participation and Decision Making for Nuclear Energy Policy (section 3.4.2), but that was established within JAEC, so it could not be called independent.

In regard to disclosure of information, despite the undertaking to establish a system for responding to requests for information, the focus was on disclosing information that the government was comfortable about disclosing. Nuclear critics continued to have difficulty accessing the data on which analyses were based and a great deal of information was denied on what to many appeared arbitrary judgments about what should be considered commercial in confidence.<sup>120</sup> During the first meeting of the Round Table Conference (25 April 1996) environmentalist Komichi Ikeda stressed the

---

<sup>117</sup> Decisions page on JAEC’s web site (Genshiryoku Iinkai Kettei):

<http://www.aec.go.jp/jicst/NC/about/kettei/kettei.htm>

Some older decisions are published elsewhere on JAEC’s web site, for example the 15 March 1996 decision to establish the Round Table Conference, ‘Genshiryoku Seisaku Entaku Kaigi no secchi ni atatte’:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960315-2.html>

<sup>118</sup> Proclaimed 14 May 1999, came into force 1 April 2001

<sup>119</sup> Recommendations issued 25 February 2000, ‘Genshiryoku Seisaku Entaku Kaigi kara no teigen: Moderator kara no message’:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/teigen/teigen.html>

<sup>120</sup> Interview with Masako Sawai of Citizens’ Nuclear Information Center (5 March 2013)

importance of providing raw data,<sup>121</sup> but in many cases the government did not possess the raw data, relying instead on industry analysis.<sup>122</sup> In the case of, for example, safety-related documents, the government may have obtained the information in the course of licensing procedures, but when requested by members of the public for copies of these documents it often blanked out all or large portions of the documents before releasing them.<sup>123</sup>

### Other parallel policy developments

There were policy changes in areas related to some of the other recommendations, but those changes were in train anyway and could not be directly attributed to the Round Table Conference. For example, in response to the JCO accident, on 17 December 1999 the Reactor Regulation Act was amended and a new Act on Special Measures Concerning Nuclear Emergency Preparedness was enacted. The moderators had recommended three years earlier that a disaster prevention system be established,<sup>124</sup> but it took the worst accident to that point in Japan's nuclear energy history to induce the government to take action. The inadequacy of the post JCO measures was demonstrated by the failure to prevent the Fukushima Daiichi nuclear accident and the ineffective response to that accident.

---

<sup>121</sup> Transcript of meeting 1 of the 1996 Round Table Conference (25 April 1996): <http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960520.html>

<sup>122</sup> Interview with Yukiko Miki, Executive Director of Information Clearinghouse Japan (5 February 2013)

<sup>123</sup> Interview with Masako Sawai of Citizens' Nuclear Information Center (5 March 2013) Refer also a comment by Tetsunari Iida during meeting 31 (5 November 2013) of the Preparatory Diet Committee on Energy. He said that pre-Fukushima he made a freedom of information request for the calculations of the cost of nuclear power plants, but what he received was mostly blacked out. See the following Ustream recording (from 00:18:10 – note that the times shown by Ustream may be misleading):

<http://www.ustream.tv/recorded/40492143>

By contrast, Post-Fukushima the calculations of the Cost Estimation and Review Committee were published as excel files on the internet:

<http://www.cas.go.jp/jp/seisaku/npu/policy09/archive02.html>

<sup>124</sup> Moderator recommendations, 'Genshiryoku Iinkai e no teigen' 3 October 1996: <http://www.aec.go.jp/jicst/NC/iinkai/entaku/961003.htm>

The moderators of the 1996 series also recommended that a policy on high-level radioactive waste be developed. A new policy was indeed developed, but the Round Table Conference had little if any impact on it. That was largely because at almost the same time as the Round Table Conference was commenced, JAEC established a Committee into the Disposal of High-Level Radioactive Waste (*HLW Kondankai*). A brief outline of the *HLW Kondankai*, which involved a separate public participation process, is provided in Appendix 5.

### Conclusion

To summarise, the Round Table Conference covered the broad scope of nuclear energy policy, some of its recommendations about process were taken up, but it had *no discernible impact on policy per se*. Juraku, Suzuki, & Sakura (2007) made the following assessment:

[T]he conference did not produce clear decisions on Japanese nuclear policy, and many experts were of the opinion that the conference was an unsuitable setting for substantial discussion. Pickett commented that the conference could not even achieve consensus on the goal of the conference itself, meaning that the participants were unable to enter intensive discussions on each particular issue. Oyama drew attention to another problem from the context of policy and administration studies. He pointed out that although the conference did collect a wide range of opinions, the lack of a well-defined position for the conference within the context of the whole national policy making process on nuclear power was a problem (Juraku, Suzuki & Sakura 2007, p. 55).

The last point about the lack of clarity of the position of the conference within the whole national policy making process confirmed the fears expressed by Aileen Smith and others (section 3.3.2). Without the potential for exerting influence on policy, it could not be said that power was shared between the government and the governed.

In the end, the main significance of these public participation processes was that they followed up the precedent of the initial experiment with a public hearing (*Goiken o Kiku Kai*) in March 1994 during the development of the 1994 *Long-Term Program* (section

3.2.1). They created a track record that was built on in the following decade, particularly by JAEC Commissioner Noriko Kimoto.

*First female non-expert JAEC Commissioner*

The appointment in 1998 of Noriko Kimoto as a JAEC Commissioner was in fact one small breakthrough that could possibly be attributed to the Round Table Conference. Kimoto was a journalist who, after showing an interest in nuclear energy during her TBS news program, was asked to become a member of several official committees related to energy and nuclear energy policy.<sup>125</sup> She first became involved in nuclear energy committees in the 1980s and was a member of one of the subcommittees involved in the production of the 1994 *Long-Term Program for Research, Development and Utilization of Nuclear Energy*. Other than the position of JAEC chairman, which had always been held by a politician (the minister responsible for the Science and Technology Agency), she was the first woman to become a commissioner and she was also the first commissioner who was not a nuclear expert. Former governor of Fukushima Prefecture, Eisaku Sato, suggested that her appointment was the result of his questioning of the make up of JAEC during the Round Table Conference and his call for a citizens' voice on the Commission.<sup>126</sup> Kimoto herself agreed that the Round Table Conference was probably a factor in her appointment.<sup>127</sup> Kimoto became a strong advocate for public participation within JAEC and led the Conference for Public Participation discussed in section 3.4.2.

---

<sup>125</sup> Interview with former JAEC Commissioner Noriko Kimoto (27 February 2013)

<sup>126</sup> Interview with Eisaku Sato (24 January 2013). Governor Sato participated in meeting 3 of the Round Table Conference on 31 May 1996.

<sup>127</sup> Interview with former JAEC Commissioner Noriko Kimoto, 27 February 2013

### 3.4 Public participation in the 2000s

#### 3.4.1 Introduction

The Japan Atomic Energy Commission (JAEC) promulgated a new *Long-Term Program for Research, Development and Utilization Of Nuclear Energy (Long-Term Program)* in November 2000. In keeping with the impetus for greater public participation the policy stated:

With the “Monju” fast breeder reactor accident as the stimulus, the Atomic Energy Commission of Japan has been promoting public participation in the policy-making process, taking the initiative in this regard among all government agencies. The government must make continued efforts to encourage citizens to take part in the policy-making process by holding public hearings on policy options, and take advantage of opportunities to demonstrate its accountability. These processes should be reviewed in a flexible manner to meet changes in the social situation. The Round-Table Conference on Nuclear Policy made policy proposals after compiling the views of people in all walks of life. In order to continue to hear what citizens have to say and to reflect that in nuclear energy policy, a study should be made on creating a new forum for listening to the people, similar to that of the Round-Table Conference (Japan Atomic Energy Commission 2000, p. 23).

The new forum that was created was called the Conference for Public Participation and Decision Making for Nuclear Energy Policy (Conference for Public Participation). This initiative is discussed in section 3.4.2. Then in section 3.4.3 a separate public participation process, which was conducted in parallel with the Conference for Public Participation as part of the policy review that produced the 2005 *Framework for Nuclear Energy Policy*, is discussed. Besides these processes, the 2000s saw a plethora of hearings, public comment processes and public relations activities in relation to nuclear energy policy.<sup>128</sup> Some were carried out under the auspices of the Cabinet Office (Japan Atomic Energy Commission and Nuclear Safety Commission) and others were conducted by ministries with responsibility for nuclear energy-related matters (the

---

<sup>128</sup> For example, activities for the 2007 and 2008 fiscal years are listed in handouts for the last meeting (meeting 32, 9 June 2009) of the Conference for Public Participation core members: ‘Kankei shōchō no genshiryoku ni kakaru kōchō/kōhō oyobi kyōiku katsudō ni tsuite’ <http://www.aec.go.jp/jicst/NC/simin/sankon/siryō/sankon34/siryō1-1.pdf> ‘Kankei shōchō no genshiryoku ni kakaru kōchō/kōhō oyobi kyōiku katsudō (seirihyō)’ <http://www.aec.go.jp/jicst/NC/simin/sankon/siryō/sankon34/siryō1-2.pdf>

Ministry for Economy, Trade and Industry and the Ministry of Education, Culture, Sports, Science and Technology). These are not specifically addressed in this thesis.

### **3.4.2 Conference for Public Participation (2001-2009)**

The Conference for Public Participation and Decision Making for Nuclear Energy Policy (hereafter referred to as the Conference for Public Participation) was officially established within JAEC by a 3 July 2001 decision in order ‘to promote greater public understanding’.<sup>129</sup> The driving force behind it was JAEC Commissioner Noriko Kimoto (section 3.3.4), who saw promoting public participation as her mission within the JAEC. She said, ‘I wanted to be a pipe connecting [JAEC] to the public.’<sup>130</sup> However, the commitment to ‘reflecting’ (*han’ei*) public opinion in policy<sup>131</sup> was vague and never realised in any discernible way.

An initial committee of 13 core members and two JAEC commissioners was established to guide the process. The core members included academics, journalists and media commentators, as well as NGO representatives, but there were no clearly anti-nuclear NGOs. Hideyuki Ban, Co-Director of Citizens’ Nuclear Information Center, a well-known Japanese anti-nuclear energy NGO, was invited to join but refused, although he subsequently participated in one of the regional forums. He gave the following reason for his refusal:

There was no point in participating for the sake of participation. If it were a decision-making forum I should participate and express my opinions to the full, but that was not the case ... It was the era of the *Long-Term Program*. With that as a given, public participation would be promoted along those lines, with the government’s nuclear energy policy as the basis. The logic would be how to get

---

<sup>129</sup> JAEC’s 3 July 2001 decision establishing the Conference for Public Participation, ‘Shimin Sanka Kondankai no secchi ni tsuite’:

<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryoy2001/siryoy29/01071003.htm>

<sup>130</sup> Interview with former JAEC Commissioner Noriko Kimoto, 27 February 2013

<sup>131</sup> JAEC’s 3 July 2001 decision establishing the Conference for Public Participation, ‘Shimin Sanka Kondankai no secchi ni tsuite’:

<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryoy2001/siryoy29/01071003.htm>



public understanding for that nuclear energy policy, so I decided not to participate.<sup>132</sup>

The only clear nuclear critic on the committee was Hitoshi Yoshioka of Kyushu University. He described the process as follows:

About three times a year they held events in the regions about policy issues and let off steam (*'gas nuki'*).<sup>133</sup>

Whereas the post-*Monju* Round Table Conference had been an ad hoc response to a crisis, the Conference for Public Participation was an attempt to make public participation an established part of Japan's nuclear energy policy process. However, lacking independence from JAEC, mistrusted by nuclear critics, and with no direct connection to decision-making, it did not provide an avenue for sharing power between the governed and the government.

Eighteen 'Conference for Public Participation' forums were held throughout Japan between January 2002 and February 2009. In addition to the core members, panelists representing a range of perspectives were chosen for each forum, and members of the audience were also able to participate in the debate. Despite their general scepticism about the meetings, some nuclear critics agreed to participate as panelists, and members of the general public, both pro- and anti-nuclear, also came to express their views about Japan's nuclear policy. As with the Round-Table Conference, meeting documents and transcripts were published on JAEC's web site (JAEC 2001–2009). Transcripts of the core members' meetings were also published on the web site, so at this level the process was *transparent*, but, as with the Round Table moderators, the selection of the core members was *opaque*.

---

<sup>132</sup> Personal correspondence with Hideyuki Ban, Co-Director of Citizens' Nuclear Information Center.

<sup>133</sup> Interview with Hitoshi Yoshioka, 10 September 2012

### *Amateurish beginnings*

The first forum was held on 15 January 2002 in Kariwa Village, co-host to Tokyo Electric Power Company's Kashiwazaki-Kariwa Nuclear Power Plant. During the preceding year Kariwa had been rocked by a scandal involving corruption in the use of funds provided under the 'Three Electric Power Laws'<sup>134</sup> and by a local referendum on the implementation of pluthermal (section 3.2.4). Under these conditions the forum was conspicuously boycotted by most of the town's nuclear critics, who said that the government should first rescind its pluthermal plan, which had been rejected by the Kariwa residents in the referendum (Kashiwazaki Nippō 2002).

The Kariwa forum lacked focus and was dominated by the core members. Very little time was left for comments from the floor and only a few members of the audience spoke. On these grounds, the forum could reasonably be said to have failed in its stated aim of listening to the views of the people.<sup>135</sup> Even the pro-nuclear participants were critical of the way the meeting was conducted. One pro-nuclear participant, Noboru Kondo, agreed with nuclear critics who had refused to attend on the grounds that it was just a ceremony.<sup>136</sup> Kondo also made a telling criticism of TEPCO's efforts at communicating with local residents, saying,

TEPCO comes here to get our understanding. They get a negative reaction from nuclear opponents, but as for understanding, it is not that the people of Kariwa lack understanding. It is TEPCO that lacks understanding of the feelings of the local people.

---

<sup>134</sup> Under these laws the Ministry of Economy, Trade and Industry provides subsidies for regions which host electric power facilities. The focus of this scandal was the Rapika adult education facility and a sports complex (Takemoto 2001).

<sup>135</sup> The aim as stated in the notice about the forum, 'Shimin Sanka Kondankai in Kariwa: Kaisai no go-annai': <http://www.aec.go.jp/jicst/NC/simin/sankon/kariwa/kaisai.html>

<sup>136</sup> Transcript of the Kariwa Forum, 15 January 2002:  
<http://www.aec.go.jp/jicst/NC/simin/sankon/kariwa/giji.html>

In so saying he gave expression to the same criticism that Masaharu Kitamura articulated in regard to the ‘deficit model’ approach to communication followed by the nuclear industry and nuclear administration (section 2.3.1).

A second forum was planned for Kashiwazaki City, neighbour to Kariwa Village and co-host to the Kashiwazaki-Kariwa Nuclear Power Plant. However on this occasion local nuclear opponents were not going to be satisfied with just boycotting the event. They planned a protest meeting to coincide with the Conference for Public Participation forum. The core members judged that the forum should not be held under those circumstances and the event was cancelled (Yoshioka 2002, p. 18). As a result the second forum did not take place until 24 July 2002. Held in Tokyo, it suffered from the abovementioned failings of the Kariwa meeting, plus the additional problem of a lack of clear rationale for the choice of panelists, all of whom were from leading Japanese organisations.<sup>137</sup>

Another problem was the audience. Many appeared to be from nuclear-related companies. One nuclear critic from the audience made special mention of the people in the audience wearing suits and ties.<sup>138</sup> This became a point of discussion in the follow-up core members’ meeting, with some members wondering if something couldn’t be done about it to ensure that priority was given to ordinary citizens.<sup>139</sup> This problem went beyond compromising the representativeness of the process. After the Fukushima accident the issue of electric power companies encouraging their employees to attend

---

<sup>137</sup> The panelists came from the following organisations: Japan Business Federation, Japanese Trade Union Confederation, Junior Chamber International, Shufuren consumer groups association, Japan Consumer Cooperatives Union, Japan Fisheries Cooperatives, Japan Agricultural Cooperatives, Nikkei Newspaper. Some of the core members criticised both the selection process and choice of panelists at the 9 September 2002 core members’ meeting. Refer comments by Ryoko Ozawa and Hitoshi Yoshioka in the transcript:

<http://www.aec.go.jp/jicst/NC/simin/sankon/siryosankon06/siryos5.htm>

<sup>138</sup> Transcript of meeting 2 (24 July 2002) of the Conference for Public Participation:

[http://www.aec.go.jp/jicst/NC/simin/sankon/siryosankon05/siryos1\\_3.htm](http://www.aec.go.jp/jicst/NC/simin/sankon/siryosankon05/siryos1_3.htm)

<sup>139</sup> Transcript of core member meeting 5, 9 September 2002:

<http://www.aec.go.jp/jicst/NC/simin/sankon/siryosankon06/siryos5.htm>

public meetings, both as members of the audience and as speakers from the floor, became a major scandal. In particular, it emerged that in the late 2000s several electric power companies had ‘planted’ speakers at important public meetings about the introduction of pluthermal. In addition, Kyushu Electric Power Company was found to have planted 150 insiders at a hearing held in Saga (22 August 2005) concerning the draft Framework for Nuclear Energy Policy (section 3.4.3). These insiders made up 80 percent of the audience and it is suspected that 11 of the 21 speakers from the floor were insiders (Mainichi Japan 2013b).

The flaws described above reveal an amateurishness in execution, but at a more fundamental level they demonstrate an unwillingness to allow the views of citizens to influence policy and an intent on behalf of the nuclear industry to manipulate the process. The core members acknowledged that the first two meetings did not go as well as they would have liked and sought to improve their execution, but, as discussed below, they did not develop any mechanism for citizens’ views to be reflected in policy.<sup>140</sup>

One reason why the Conference for Public Participation did not influence policy was because very few of the forums articulated directly with the official policy review process. (Compare discussion of the format and status of the Round Table Conference in section 3.3.2. The process that produced the 2005 *Framework for Nuclear Energy Policy* is discussed in section 3.4.3.) One which did, held in Osaka on 29 October 2004, took place in the lead up to the 12 November release of an interim report addressing the nuclear fuel cycle (JAEC 2004). It took the nuclear fuel cycle as its theme, but, held such a short time before the interim report’s release, it had no discernible influence on the contents.

---

<sup>140</sup> *Ibid.*: The Core Members discussed ways to improve the format, in particular to ensure that they spoke less themselves and focused more on drawing out invited panelists and speakers from the audience than on pushing their own points of view.

Aileen Smith's proposal re process

Another forum that articulated directly with the official policy review process was held in Tokyo on 27 March 2004, three months before the start of the official policy review process. It included a very rare contribution – rare in that it focused specifically on the process by which the policy review should be conducted. Aileen Smith of the Kyoto-based group Green Action believed that under the existing policy-making process there was little chance that citizens could influence the outcome. The following six-point approach<sup>141</sup> that she proposed would have created more potential for citizens' influence:

1. Sum up ('*sōkatsu*') the existing *Long-Term Program*.
2. The policy-planning committee should give specific directions to the bureaucrats as to how the policy should be drawn up.
3. Form subcommittees to address specific issues. People with vested interests should not be members of these subcommittees. Instead they should be called to give evidence.
4. Draft interim reports with multiple options, hold hearings around the country and call for public opinions.
5. Take on board the public opinions and deliberate again before producing a final draft. Call for public opinions again.
6. When finalising the policy, for opinions that were not adopted, indicate why.

In Smith's proposal the policy-making process should be decided in advance and be based on disclosure of information and accountability. A drafting committee should be

---

<sup>141</sup> Taken from a handout presented by Smith to the 27 March 2004 Conference for Public Participation forum (pp. 25-27):

<http://www.aec.go.jp/jicst/NC/simin/sankon/siryosimin07/siryos1s.pdf>

Transcript of the meeting:

<http://www.aec.go.jp/jicst/NC/simin/sankon/siryosimin07/gijiroku01.pdf>

formed with equal numbers of pro-nuclear, anti-nuclear and neutral members, selected after a call for expressions of interest on the basis of publicly disclosed criteria. This committee should assess scenarios based on specific criteria, such as practicability, safety, economics, environmental burden, sustainability, local benefit, development potential, democracy, peace, fairness, and international compatibility.

Smith's proposal was the subject of considerable discussion at the follow-up core members' meeting.<sup>142</sup> No firm conclusions were drawn, but there was support for some of her suggestions. It is unclear to what extent her presentation influenced the format of the official policy review, but some aspects of points 3, 4, 5 and 6 were taken up, though by no means to her satisfaction, and not in a way that created opportunities for citizens to influence the outcome.

I mentioned that Smith's proposal was a rare contribution about process. Surprisingly, Smith found little interest within the anti-nuclear energy movement for lobbying on the process aspect of nuclear policy-making. Tetsunari Iida made proposals about process during the Round Table Conference (section 3.3.3), and Jinzaburo Takagi made an issue of process in the first meeting of the Round Table Conference,<sup>143</sup> but the Japanese movement as a whole found it difficult to focus its attention on process. Interestingly, the three people who showed the strongest interest were all people with a deeply international outlook. They were more aware than their colleagues of the importance placed on process by the anti-nuclear movement in Europe and the United States. Traditionally the Japanese movement had focused on technical issues and this formed

---

<sup>142</sup> Refer transcript of core members' meeting 18, 6 April 2004, pp. 5-8:  
<http://www.aec.go.jp/jicst/NC/simin/sankon/siryo/sankon19/siryo4.pdf>

<sup>143</sup> See transcript of Round Table Conference meeting 1, 25 April 1996:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960520.html>

the basis of the culture of the movement, making it difficult for it to turn its attention to process (section 5.4).<sup>144</sup>

The Tokyo forum at which Smith presented her proposal about process was held before the official policy review formally began, whereas the Osaka forum was held when the review was in progress, two weeks before the Nuclear Policy-Planning Council released its interim report on the nuclear fuel cycle. The Osaka forum was held on the presumption that the debate could potentially influence policy,<sup>145</sup> but in fact there was no discernible influence on the contents of the interim report. A summary of the proceedings of the Osaka forum was submitted to the 1 November 2004 meeting of the Nuclear Policy-Planning Council and also to the 2 November regular meeting of the Japan Atomic Energy Commission, but no statement was ever released detailing how the opinions expressed in the forum were reflected in the interim report.

### *'Reflecting' in policy*

At the next meeting of the core members of the Conference on Public Participation there was discussion about whether or not public opinions had been reflected in the interim report. Hitoshi Yoshioka concluded,

People would be completely justified in making the criticism that they can't see how opinions expressed here have been specifically reflected in policy. We have not investigated this ... but if we did I think the answer would be that there is nothing. If we don't develop a mechanism for picking up opinions, participants will get tired of us.<sup>146</sup>

---

<sup>144</sup> Interview with Aileen Smith, 15 January 2013

<sup>145</sup> Refer Noriko Kimoto's comments at the beginning of the Osaka forum of the Conference for Public Participation (29 October 2004) (transcript page 2):

<http://www.aec.go.jp/jicst/NC/simin/sankon/siryosankon20/siryosankon13.pdf>

<sup>146</sup> Refer Hitoshi Yoshioka's comments at Conference for Public Participation core member meeting 20 (23 February 2005) (transcript page 2):

<http://www.aec.go.jp/jicst/NC/simin/sankon/siryosankon21/siryosankon21.pdf>







### ***3.4.3 2005 Framework for Nuclear Energy Policy***

The process that produced the 2005 *Framework for Nuclear Energy Policy* was carried out by JAEC's New Nuclear Policy-Planning Council (JAEC 2004–2005), a separate process from the Conference for Public Participation. This policy review, which began in June 2004, was different in two main ways from previous processes: it included for the first time a representative of an overtly anti-nuclear NGO (Hideyuki Ban of the Citizens' Nuclear Information Center (CNIC)), and a criteria-based assessment of multiple nuclear fuel cycle scenarios was conducted.

In regard to the first point, the committee that produced the 2000 *Long-Term Program* was the first to include a nuclear critic—Hitoshi Yoshioka of Kyushu University—but there had never before been a representative of an anti-nuclear organisation on the drafting committee. Yoshioka was again a member of the 2004-2005 committee and some degree of critical input was also provided by Mitsuyo Watanabe of the Japan Consumers' Cooperative Union. The inclusion of these critical voices presumably reflected a recognition that it would not be possible to recover the trust lost as a result of the accidents and scandals of the past decade if policy committees did not include some people from outside the nuclear village (Ban 2006, p. 20). Another committee member, Kenji Yamaji of Tokyo University, had a critical perspective on the nuclear fuel cycle, although he could not be defined as from outside the nuclear village. He was the representative of Genshiryoku Mirai Kenkyūkai (Nuclear Future Research Group), which at the time was calling for a moratorium on reprocessing. Although the selection of committee members was not transparent, the representation of a wider range of discourses than ever before was progress on past practice.

I well recall the meeting at CNIC after our Co-Director Hideyuki Ban received the invitation to become a member of the New Nuclear Policy-Planning Council. It was a

very difficult decision. Concerns about the burden it would place on the organisation and the realisation that JAEC would use our participation as an alibi were uppermost in our minds. On the other hand, at the time there were some signs of flexibility in regard to nuclear fuel cycle policy, so we thought it might represent an unprecedented opportunity for nuclear critics to exert influence. Another reason why we were inclined to support Ban's membership of the New Nuclear Policy-Planning Council was that CNIC had sought to engage JAEC and the nuclear industry in direct discussions for over a decade: beginning with the 'Why Plutonium Now?' symposium, jointly hosted by CNIC and the Japan Atomic Industry Forum (JAIF) in 1993, and followed by the participation in 1994 of CNIC's Director Jinzaburo Takagi in the *Goiken o Kiku Kai*, the first public hearing held in the context of an official policy review process (section 3.2.1). The previous year (11 October 2003) CNIC had jointly sponsored with JAEC and anti-nuclear NGO the Japan Congress Against A- and H-Bombs (Gensuikin) a symposium in Aomori City entitled 'Open Debate: Rethinking Reprocessing and the Nuclear Fuel Cycle' (Ban 2003, 2004). In an unprecedented show of cooperation, the three host organisations met on ten occasions over a period of about a year in preparation for the symposium, which from the perspective of the anti-nuclear groups was a follow on from the submission in December 2002 of a petition signed by a million people calling for an end to reprocessing. With this background, and given that the theme of the Aomori symposium was destined to be the most important issue for the forthcoming policy review, it would have been difficult to refuse JAEC's invitation to join the New Nuclear Policy-Planning Council.

#### Criteria-based assessment of the nuclear fuel cycle

The nuclear fuel cycle was the first theme tackled by the Nuclear Policy-Planning Council. As mentioned above, the second difference from previous processes was that a criteria-based assessment of multiple nuclear fuel cycle scenarios was conducted. Four

scenarios – (1) reprocess all spent nuclear fuel, (2) reprocess a portion of the spent fuel, (3) direct disposal, (4) temporary storage and postponement of a final decision – were assessed against ten criteria (Appendix 6) and an Interim Report was finalised on 12 November 2004 (JAEC 2004). Although the Interim Report did not represent policy per se—official policy was not decided until the *Framework for Nuclear Energy Policy* was issued in October 2005—its publication was taken as sufficient indication of the policy direction for JNFL to gain approval to proceed to uranium testing of its Rokkasho Reprocessing Plant. Uranium tests, which began on 21 December 2004, just 3 weeks after the Interim Report’s release (Sawai 2005), represented a landmark, because they were the first time the plant was contaminated by radioactive material. In that sense they were a decisive step from which there was no return.

Hitoshi Yoshioka had been calling for a criteria-based assessment since the 1996 Round Table Conference (section 3.3.3). It is impossible to know to what extent his lobbying was responsible for persuading JAEC to adopt this method—he was not the only person<sup>157</sup> who had recommended such an approach—but he had been very persistent and detailed in his suggestions. JAEC Chairman Shunsuke Kondo said he had the idea independently of Yoshioka.<sup>158</sup> For him it was a matter of reviewing policy in an understandable fashion. From that perspective, criteria-based assessment of multiple options was a natural approach. When asked why such a process had not been conducted before, his first response was to say that there had not previously been an issue for which such an approach would have been suitable. On further reflection he gave the example of the decision to abandon the Advanced Thermal Reactor (ATR),<sup>159</sup> but in that case there were no supporters of alternative options, so there would have

---

<sup>157</sup> For example, Yamaji (2000).

<sup>158</sup> Interview with Shunsuke Kondo, 11 December 2012. (Kondo became Chairman of JAEC in January 2004, immediately before the 2004-2005 policy review process began.)

<sup>159</sup> In 1995 the utilities finally pulled the plug on the ATR, even though just one year earlier JAEC had included it in its 1994 *Long-Term Program* (Low, Nakayama & Yoshioka 1999, pp. 78-81; Samuels 1987, pp. 240-245).

been no meaning in conducting a comparative analysis. However, in 2004 there were some people within the bureaucracy pushing for the abandonment of the Rokkasho Reprocessing Plant (see details at the end of this section), so the situation was completely different. He concluded that the Yoshioka approach was not necessarily suitable in all circumstances.

CNIC's Hideyuki Ban made the following generally positive comment about the nuclear fuel cycle policy review process:

The method used for debating the nuclear fuel cycle was to select possible scenarios and conduct a comprehensive 10-point assessment of these. It was the first time that a comprehensive assessment of options had been carried out in policy decision-making since the *Long-Term Nuclear Program* began. It was a major feature of the review process this time and I believe it was a good method (Ban 2006, p. 110).

By contrast, Hitoshi Yoshioka was scathing from the outset:

After meeting 5 (1 August), I said at each meeting, 'Of course the object of policy assessment must be realistic policies, not fanciful ultra long-term scenarios.' 'Fictions' cannot be the object of policy assessments. An assumption of a 20% increase by 2060 compared to the present in the scale of nuclear generation is unrealistic, as is an assumption that the Rokkasho Reprocessing Plant will operate at full capacity from cradle to grave. It is meaningless to carry out an analytical assessment of such a fiction ... At meeting 9 (7 October) I proposed that they abandon the meaningless analysis of policy fictions and begin a proper policy assessment (Yoshioka 2005b, p. 21).

During an international symposium (refer discussion of ICRC below) he commented,

The Interim Report gave consideration to a moratorium option on reprocessing, and a direct disposal option. The point that they gave thought to such possibilities is one step forward, because in the past they said that they are going to do reprocessing and thought about nothing else. And, also we can appreciate that they accepted that direct disposal is much more economical than reprocessing, we now have common understanding on this. However, they have this scenario evaluation instead of a policy evaluation so the output is essentially irrelevant.<sup>160</sup>

---

<sup>160</sup> Transcript of the International Symposium on Nuclear Fuel Cycle, Tokyo, 4 September 2005, p. 13: <http://www.pref.fukushima.lg.jp/uploaded/attachment/14703.pdf>

In so saying, Yoshioka drew attention to the potential for policy assessments to be *distorted* by choosing artificial scenarios based on unrealistic assumptions. Hence, although the criteria-based approach had the potential to enable a meta-consensus on the basis for assessment, in this case Yoshioka was not willing to subscribe to any such meta-consensus.

In addition to the problems with the terms of the assessment, there were also problems with the logic used. Two examples of flawed logic are addressed below to illustrate the way the assessment was biased towards the government's preferred outcome.

The first related to the assessment of the nuclear non-proliferation criterion. The Interim Report concluded that there was 'no significant difference' between the nuclear proliferation risks associated with reprocessing and direct disposal of spent fuel (Japan Atomic Energy Commission 2004, p. 4).<sup>161</sup> It has long been an article of faith for many in Japan's nuclear village that this is so,<sup>162</sup> although the international community has not been inclined to take such a sanguine attitude.<sup>163</sup> Japanese fuel cycle proponents

---

<sup>161</sup> The Citizens' Nuclear Information Center (CNIC) translated the Interim Report and published it on the 'New Nuclear Policy-Planning Council Interim Report' page of its web site: <http://www.cnic.jp/english/topics/policy/chokei/longterminterim.html>

<sup>162</sup> Arguments given include the following: (1) Japan's nuclear fuel cycle program is covered by strict IAEA safeguards; (2) Japan is committed to peaceful use; (3) Japan's plutonium is not stored in pure form but as a mixed oxide with uranium (MOX); and (4) plutonium is not necessarily more secure if left in spent fuel because it will become more accessible in future (300 hundred or so years from now) when the fissile products decay. These arguments are covered in the fuel cycle Interim Report (JAEC 2004). See also, for example, Kuno & Tanaka (2013).

<sup>163</sup> It is specious to compare a hypothetical risk 300 or more years from now with the clear and present risk from large stockpiles of separated plutonium. Frank Von Hippel of Princeton University and Co-chair of the International Panel on Fissile Materials responded to this aspect of the Interim Report as follows:

This is a problematic comparison because no one can predict the type of society that will exist so far in the future. If there are central governments, they ought to be able to keep terrorist groups from recovering plutonium from a central nuclear-waste repository hundreds of meters underground much more easily than a government today could prevent the theft of plutonium in surface storage, processing or transport (ICRC 2005, p. 53).

have taken the view that Japan just needs to do a better job of convincing the international community that there is nothing to worry about<sup>164</sup>—a type of ‘deficit model’ (section 2.3.1) approach directed at the rest of the world. But Japan’s nuclear fuel cycle is a matter of great concern to nuclear non-proliferation experts around the world, so the 2004–2005 policy review attracted considerable international interest. In the lead up to the publication of the *Framework for Nuclear Energy Policy* CNIC provided support for two independent international reviews of Japan’s nuclear fuel cycle policy, both of which expressed profound concern about the proliferation implications of starting up the Rokkasho Reprocessing Plant (Barnaby & Burnie 2005; ICRC 2005). The background to one of these reports, by the International Critical Review Committee on the Long-Term Nuclear Program (ICRC), is discussed later in this section.

Another area where an arbitrary assessment benefiting the status quo was made related to the ‘cost of policy change’ criterion. Before the cost of policy change was added, the direct disposal scenario was calculated to be significantly cheaper than the other scenarios, but after this cost was added scenarios involving reprocessing were assessed as cheaper. In addition to sunk costs<sup>165</sup> in the construction of the Rokkasho Reprocessing Plant, the secretariat’s calculation of the cost of policy change included a figure for replacement electricity generation, on the assumption that one after another nuclear power plants would be forced to shut down as a consequence of terminating the reprocessing policy. This figure, which made up the bulk of the cost of policy change, included the cost of constructing new thermal power plants and related infrastructure, as

---

In regard to storage of plutonium in the form of MOX, the International Atomic Energy Agency takes the view that this does not represent a significant security improvement (IAEA 2001, p. 22, Table 1).

<sup>164</sup> See comments by Masao Nakamura, Yasumasa Tanaka and Atsushi Suzuki at FY1999 Round Table Conference meeting 2, 13 July 1999 (transcript, pp. 23-24):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/2kokai/minute2.pdf>

<sup>165</sup> The inclusion of sunk costs was criticised by Fred Barker in his analysis for the International Critical Review Committee on the Long-Term Nuclear Program (ICRC) (ICRC 2005, p. 23).

well as a figure for the cost of increased carbon emissions.<sup>166</sup> The reason given for including these costs was that nuclear power plants were presumed to run out of spent nuclear fuel storage capacity, in which case they would be unable to continue operating. Municipalities hosting nuclear power plants were very negative towards the idea of allowing spent fuel to accumulate on site indefinitely and Aomori Prefecture (where the Rokkasho Reprocessing Plant is located) was threatening to return spent fuel already stored at the Rokkasho Reprocessing Plant to the nuclear power plants from which it originated.<sup>167</sup> Under these circumstances storage space at some nuclear power plants would run out immediately and all spent fuel pools would be full by the end of 2015.

Nuclear critics on the New Nuclear Policy-Planning Council regarded the cost of policy change calculation as a trick to justify continuation of the existing reprocessing policy. Hideyuki Ban noted that there were many options for addressing the issue of storage of spent fuel.<sup>168</sup> Hitoshi Yoshioka took issue with the details of the calculation, but at a more fundamental level he challenged the way the worst-case scenario was treated as a *fait accompli*. In his opinion the chance of running out of storage capacity was low. He therefore argued that, if an estimate for the cost of policy change was to be made, the bottom of the range should be set at zero.<sup>169</sup> Seven and a half years later, during the

---

<sup>166</sup> New Policy-Planning Council meeting 10, 22 October 2004, document 4: <http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei10/siry04.pdf>

<sup>167</sup> The idea of returning spent fuel to where it came from originates in a 29 July 1998 agreement between Aomori Prefecture, Rokkasho Village, and JNFL, with the Federation of Electric Power Companies as a witness. The agreement states:

In the case where it is extremely difficult to ensure the execution of reprocessing, upon consultation between Aomori Prefecture, Rokkasho village, and JNFL, JNFL shall promptly take necessary and appropriate measures including the removal of the spent nuclear fuel from the site (Aomori Prefecture 2012, p. 149).

<sup>168</sup> Member submissions New Policy-Planning Council meeting 10, 22 October 2004, document 8, p. 5: <http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei10/siry08.pdf>

<sup>169</sup> *Ibid.* p. 34-37. The secretariat's estimated range for the cost of a policy change to direct disposal of spent nuclear fuel was 0.7~1.3 yen/kWh, bringing the cost of the direct disposal scenario to 5.4~6.2 yen/kWh, compared to 5.2 yen/kWh for the full reprocessing scenario. Yoshioka's suggested range for the cost of policy change was 0.0~1.3 yen/kWh, making the cost of the direct disposal scenario 4.7~6.2 yen/kWh. In that case a policy change to direct disposal could work out either cheaper or more expensive than continuing with the existing policy.



policy review that followed the Fukushima nuclear accident, JAEC Chairman Shunsuke Kondo effectively accepted Yoshioka's argument, saying,

Last time ... we freely (*'katte ni'*) added it, but the cost of policy change ... only expressed the magnitude of the difficulty ... If you really want to add it you must multiply it by the probability.<sup>170</sup>

It is a great irony that the calculation that more than anything else was used to justify the continuation of the existing fuel cycle policy should be dismissed so lightly by the man most responsible for the policy in question.

The above account of the New Nuclear Policy-Planning Council's assessment of the nuclear non-proliferation and cost of policy change criteria illustrates how the Interim Report was *biased in favour of the status quo*. An even more fundamental problem was that critical opinions were not addressed in any substantial way. For the most part, exceedingly *arbitrary judgments* were presented as if they were uncontroversial. In order to give a semblance of balance, the Interim Report made reference in five places to criticisms<sup>171</sup> raised during the New Nuclear Policy-Planning Council meetings. However, these were all summarily dismissed without addressing the underlying issues.

---

<sup>170</sup> 'Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc' meeting 11, 12 April 2012 (transcript p. 35):

<http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryu/siryu15/siryu4.pdf>

<sup>171</sup> (1) The suggestion that scenarios 1 and 2, which involve reprocessing, require more facilities to handle spent fuel than the other scenarios, and therefore could entail a higher release of radioactivity into the environment.

(2) The suggestion that a comprehensive assessment should consider, in addition to reprocessing, reducing the concentration of the tailings (the uranium left after the process of enriching natural uranium).

(3) The suggestion that scenarios involving facilities requiring large investments (i.e. scenarios involving reprocessing) are more rigid than other scenarios.

(4) The suggestion that the direct disposal option should be chosen on the grounds that it is superior to the reprocessing option, not just from the point of view of 'economic considerations', but also from the point of view of 'safety' and 'non-proliferation'.

(5) The suggestion that private companies should be allowed to choose between reprocessing or direct disposal (Japan Atomic Energy Commission 2004).

Hitoshi Yoshioka's critique of the process showed how the assessment could be *distorted* by choosing artificial scenarios based on unrealistic assumptions, and the above discussion shows two other ways in which a scenario-based assessment can be distorted: by cherry-picking arguments that are advantageous for the preferred outcome and disadvantageous for the non-preferred option, and by abstaining from rigorous analysis.<sup>172</sup> These techniques effectively *marginalised nuclear critics* on the official policy review committee. In order to counter this distortion and marginalisation, citizens groups set up their own alternative process. This is discussed below.

### *International Critical Review Committee (ICRC)*

CNIC published on its web site a translation of the Interim Report, with critical comments for each of the 10 criteria added to the Appendix.<sup>173</sup> This translation was used as the basis for an independent international critical review of the Interim Report. Originally Yoshioka proposed to JAEC that an international review be conducted,<sup>174</sup> but his proposal was not taken up. However the Takagi Fund for Citizen Science and the Institute for Sustainable Energy Policies also believed an international review was desirable, so they established the International Critical Review Committee on the Long-Term Nuclear Program (ICRC) and requested Yoshioka to become Chairman. ICRC was sponsored by the Takagi Fund and comprised four overseas expert members and five Japanese members. The overseas members wrote critical reviews of the Interim Report, which were published along with an overview by Yoshioka (ICRC 2005).

---

<sup>172</sup> International Critical Review Committee on the Long-Term Nuclear Program (ICRC) member Fred Barker addresses the Interim Report's lack of rigour in his contribution to the ICRC report (ICRC 2005, pp. 18-26).

<sup>173</sup> CNIC translation of the New Nuclear Policy-Planning Council's 12 November 2004 Interim Report Concerning the Nuclear Fuel Cycle Policy:

<http://www.cnic.jp/english/topics/policy/chokei/longterminterim.html>

Appendix: <http://www.cnic.jp/english/topics/policy/chokei/longterm4scenarios.html>

<sup>174</sup> Hitoshi Yoshioka's submission to New Nuclear Policy-Planning Council meeting 12, 12 November 2004: <http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei12/siryoy7.pdf>

Yoshioka distributed the full report at the second last meeting<sup>175</sup> of the New Nuclear-Policy Planning Council. This was very late in the policy review process, so perhaps it was not surprising that JAEC neither refuted ICRC's challenges nor reflected them in the final policy. However, ICRC's report stands as an incisive critique of both the process and content of the nuclear fuel cycle policy.

### International Symposium on Nuclear Fuel Cycle

Three of the overseas members also participated in the 'International Symposium on Nuclear Fuel Cycle' held in Tokyo on 4 September 2005 sponsored by the Fukushima Prefecture government (White 2005; Yamaguchi 2005).<sup>176</sup> Other panelists at the symposium included Japanese members of the ICRC and pro-nuclear academics, two of whom were members of the New Nuclear Policy-Planning Council. The opening and closing addresses were delivered by Fukushima Governor Eisaku Sato, who had become increasingly critical of the nuclear industry and the government's nuclear fuel cycle policy since becoming governor in 1988. After the *Monju* accident, along with the governors of Niigata and Fukui Prefectures, he had submitted a proposal to the central government that led to the formation of the Round Table Conference (section 3.3.1). Under his leadership, Fukushima Prefecture became the first prefecture to challenge the central government's energy policy. He established the Fukushima Prefecture Energy Policy Study Group (Fukushima Prefecture 2001–2010),<sup>177</sup> which held its first meeting on 12 June 2001 and issued an interim report on 19 September 2002 (Fukushima-ken Energy Seisaku Kentōkai 2002a). Hideyuki Ban believes this interim report was a factor

---

<sup>175</sup> Meeting 32, 16 September 2005. The report itself was tabled, but not posted on the committee's web site, but Yoshioka's comments on the report are on the following URL (pp. 2-21): <http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei32/siryō8.pdf>

<sup>176</sup> Documents, including a full record of proceedings, were published in Japanese and English on Fukushima Prefecture's web site, 'Kokusai Symposium "Kaku Nenryō Cycle o Kangaeru" H17.9.4 kaisai' (Fukushima Prefecture 2005):

<http://www.pref.fukushima.lg.jp/sec/11025c/energy50.html>

<sup>177</sup> Fukushima Prefecture Energy Policy Study Group web sites:

<http://www.pref.fukushima.lg.jp/sec/11025c/energy3.html>

<http://www.pref.fukushima.lg.jp/sec/11025c/energy49.html>

in JAEC's decision to carry out a comprehensive assessment of the nuclear fuel cycle.<sup>178</sup> The international symposium was held under the auspices of this Study Group and represented a remarkable example of cooperation between civil society-based nuclear critics and a regional government in challenging the central government. (Refer discussion in sections 5.3.2, 5.4.3 and 5.4.5 of the potential for cooperation between local governments and citizens' movements to influence energy policy in future.)

### Public hearings and public comments

Besides the input of civil society through Hideyuki Ban's presence on the official policy review committee and the unofficial ICRC initiative, there were also some formal opportunities for input from the general public. In the final stages of the drafting of the *2005 Framework for Nuclear Energy Policy* public hearings were held and public comments were invited. First, public comments were called on a draft outline of the policy. The secretariat's responses to the comments received were formulaic, almost all along the lines of 'We are considering opinions like yours in the drafting of clause — .'<sup>179</sup> A one-month public comment period on a complete draft text followed, and five public hearings were held. The transcripts of the hearings and the secretariat's responses to over 1,700 comments received from 701 people were tabled at the committee's second last meeting<sup>180</sup> and an amended version of the responses was tabled at the final meeting.<sup>181</sup> Some of the public comments specifically demanded that opinions expressed during the hearings and in the public comments be reflected in policy. The secretariat's response to this demand only stated that opinions received were 'tabled and

---

<sup>178</sup> Interview with Hideyuki Ban, 21 March 2013

<sup>179</sup> Public comments and responses tabled at meeting 30, 15 July 2005:  
<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei30/siry02.pdf>

<sup>180</sup> Transcripts of five public hearings tabled at meeting 32, 16 September 2005:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei32/siry01.pdf>  
Responses to public comments tabled at meeting 32, 16 September 2005:  
<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei32/siry03.pdf>

<sup>181</sup> Responses to public comments tabled at meeting 33, 29 September 2005:  
<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei33/siry01.pdf>

discussions were based on them'.<sup>182</sup> Thus, it followed the interpretation of the word 'reflect' (*'han'ei'*) discussed in section 3.4.2—namely that comments would be reflected in the policy-forming process, but not necessarily be directly reflected in policy. Wording changes were made in many places, but public comments did not significantly influence the substance.

In this way, the word 'reflect' became an example of *bureaucratic rhetoric* of the type described by Shigeaki Koga (2013), a former director of industrial policy at the Ministry of Economy, Trade and Industry, who became an outspoken critic of the bureaucracy and nuclear industry after the Fukushima Daiichi nuclear accident. For Koga, bureaucratic rhetoric refers to bureaucrats' 'technique of crafting sentences and turns of phrase so as to leave room for interpretations favourable to themselves in a way that the public does not understand' (p. 5). Using bureaucratic rhetoric, bureaucrats were able to neutralise contributions by the general public.

Nevertheless, the process that produced the 2005 policy represented an improvement on the 2000 policy review, in that public comments were called not only at the very end, but also during the drafting phase. The public comment process during the 2000 review had suffered from another major flaw. When Aileen Smith of Green Action was lobbying members of the 2000 Nuclear Policy-Planning Council, one whom she visited pulled out a thick unopened file of public comments that had just arrived from the secretariat and said, 'Here, you can have it.' He gave it to her without ever looking at the comments within.<sup>183</sup> In a foreword for a publication after the Fukushima Daiichi

---

<sup>182</sup> *Ibid.* Response to public comments number 0-2.

<sup>183</sup> Refer transcript of Conference for Public Participation meeting 7, 27 March 2004, page 15: <http://www.aec.go.jp/jicst/NC/simin/sankon/siryosimin07/gijiroku01.pdf>  
Smith showed me the file when I interviewed her in her office on 15 January 2013.  
Also refer Fukui Shimbun (21 November 2000) for a discussion of the 2000 public comments process.

nuclear accident, she made the following comments about the treatment of public comments submitted during the 2000 process:

Public hearings were held by the Committee on Japan's Long Term Plan for the Research, Development and Utilization of Nuclear Energy. We citizens and our organizations had labored hard for a year and a half to make that round of deliberation on nuclear power in Japan more inclusive and democratic, to gather massive numbers of public comments, and to clearly demonstrate the level of opposition. Seats were limited but citizens had "observer" status during the hearings. So we were in the audience when the Chairman of the Committee turned to his fellow Committee members and said, "We've received public comments from the people of this country. But the comments have come in too late. This is our next-to-last session. We've already deliberated the new policy for well over a year."

The man who spoke those lines, the Chair of these grand deliberations, was Sho Nasu, top advisor for the Tokyo Electric Power Company (TEPCO). He had been appointed by the Atomic Energy Commission (AEC) to head the committee. Nasu had been president of Tokyo Electric from June 1984 to June 1993. From June 1993 to May 1999 he was chairman of the board. Anyhow, the Committee had knowingly set the schedule for receiving public comment at the *end* of the deliberation process, so now Chairman Nasu was saying they were "too late." Nasu did publicly admit that, "over 90% of the people are against Monju." (Monju is Japan's prototype fast breeder reactor, the government's showcase nuclear development program.)

A brief discussion followed. The committee concluded that, "The Japanese public still doesn't seem to understand nuclear power correctly. We must step-up our efforts to educate the public." The committee decided that better programs were needed to "educate" children about nuclear power. School teachers would be obligated to use pro-nuclear materials to "teach" the children of this nation. So much for the democratic process (Smith 2011, p. ix, Foreword by Aileen Mioko-Smith).<sup>184</sup>

I am not in a position to judge whether public comments were treated more seriously in the 2005 process, but Smith's account of the 2000 process is a powerful rebuke of the *lack of good faith* in public participation exercises conducted in the context of the nuclear energy policy-forming process.

---

<sup>184</sup> I take the words in quotation marks to be indicative of the tone and intent of what was said rather than verbatim quotes. A full transcript of the meeting to which Smith referred (8 November 2011) has not been published. A summary of proceedings is available on the following web link: <http://www.aec.go.jp/jicst/NC/tyoki/gijiroku/gaiyou15.htm>

## Dissenters

With their views marginalised and citizens' demands deflected by bureaucratic rhetoric, Hideyuki Ban and Hitoshi Yoshioka, the two nuclear critics on the New Nuclear Policy-Planning Council, dissented from the final version of the 2005 *Framework for Nuclear Energy Policy* and submitted minority opinions.<sup>185</sup> Ban's minority opinion referred specifically to public participation, saying that it was something that 'still is not established', but which was 'recognised as an issue from now on (*kongo*)'. He stressed that future policy reviews should consider the option of a nuclear phaseout, instead of being bound by the notion that JAEC's mission is restricted to promoting nuclear energy.<sup>186</sup> Yoshioka also criticised the lack of consideration of a nuclear phaseout option, but he was particularly concerned about the government trying to dictate to private industry what it should do, including setting numerical targets for nuclear power generation. He believed he had played a role in removing some of the numerical targets from the 2000 *Long-Term Program* and was chagrined to see them reinstated (Yoshioka 2001, pp. 15-17; 2006b, p. 12). The other two members mentioned above as having a critical perspective endorsed the final policy. In doing so, Watanabe criticised the unbalanced membership of the Council and said that she felt pressure as a result.<sup>187</sup> Yamaji's change of position was more mysterious. In the final meeting he said that the review process had taught him how difficult and risky it was to change the reprocessing policy. Even though he still believed it was not economically rational, he acknowledged that it was not practical to abandon it,<sup>188</sup> but Hitoshi Yoshioka believes nuclear proponents pressured him to choose sides.<sup>189</sup>

---

<sup>185</sup> Meeting 33, 29 September 2005, handout 3 pp. 2-5:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei33/siry03.pdf>

<sup>186</sup> Article 1 of the Atomic Energy Basic Act (which states that the purpose of the Act is to 'encourage' or 'promote' nuclear energy) is seen as an obstacle to considering a nuclear phase out.

<sup>187</sup> Meeting 33, 29 September 2005, transcript p. 17:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/gijiroku/gijiroku33.pdf>

<sup>188</sup> *Ibid.* pp. 12-13

<sup>189</sup> Interview with Hitoshi Yoshioka, 10 September 2012

Although their views were marginalised, arguably the role of the critical members of the New Nuclear Energy Policy-Planning Council was more significant than their direct influence would suggest. Perhaps their most significant contribution was to give voice to arguments in favour of an alternative to the existing nuclear fuel cycle policy. In so doing they opened up a new discourse within the official policy-making process and helped break the taboo<sup>190</sup> on questioning the status quo of reprocessing all spent nuclear fuel. The fact that there was support for a shift away from the full reprocessing policy from some quarters within the bureaucracy and also from the Fukushima Prefecture government lent weight to their arguments.<sup>191</sup> One small though significant concession to the critics was a reference in the 2005 *Framework for Nuclear Energy Policy* to the need for research into direct disposal of spent nuclear fuel in (JAEC 2005, p. 34). In the past, the need for such research was not even acknowledged. The reference to research into direct disposal had the potential to open a crack in the armour of arguments for full reprocessing—the lack of such research in Japan was cited as a disadvantage of the direct disposal scenario compared to the reprocessing scenarios—although in fact little progress had been made on this when the next policy review began in 2010 (section 4.2.3).

### *Shadow process*

The above discussion focused mainly on the conduct of official public participation processes in the drafting of the 2005 *Framework for Nuclear Energy Policy*. But in

---

<sup>190</sup> See comment by Yuichi Tonzuka at the last meeting (meeting 33) on 29 September 2005 (transcript p. 7):

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/gijiroku/gijiroku33.pdf>

<sup>191</sup> Fukushima Governor Eisaku Sato expressed his dissent towards the final policy document in an opinion submitted to the second last meeting of the New Nuclear Policy-Planning Council. See reference document 1 tabled at meeting 32, 16 September 2005:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/sakutei32/sanko1.pdf>

In addition to critiquing the details of the policy, he stressed the need for more public participation, calling for a national debate mechanism, and specifically referring to referendums and consensus conferences as possible approaches.



order to understand why nuclear critics on the New Nuclear Policy-Planning Council and opinions expressed at public hearings and in public comments had such limited impact on the 2005 policy, it is necessary to be aware of other factors that influenced the outcome. The New Nuclear Policy-Planning Council was the public face of the decision making process, but there were other more influential discussions going on. These other discussions did not take place in the public domain, but there is enough evidence to conclude that the New Nuclear Policy-Planning Council was not where the policy direction was actually decided.

In regard to the nuclear fuel cycle, it seems that critics within the bureaucracy were neutralised about the time the official policy review commenced. As mentioned above, JAEC Chairman Shunsuke Kondo cited the existence of alternative views within the bureaucracy as a reason why it was worthwhile to conduct an assessment of different scenarios, but it seems that people who might have promoted change were rotated out of positions of influence. According to Hideyuki Ban,<sup>192</sup> all officials in the Agency for Natural Resources and Energy's Nuclear Fuel Cycle Industry Division were rotated out after a scandal in which the existence of nuclear fuel cycle cost calculations that had been covered up for 10 years was divulged to the press in July 2004 (The Asahi Shimbun 2004a, 2004b).<sup>193</sup> This was just after the New Nuclear Policy-Planning Council began its deliberations. A key replacement, Tadao Yanase, claimed to be neutral, but Ban's impression was that he immediately started moving in the direction of promoting the fuel cycle. Ban said that he did not know whether or not the outcome of the nuclear fuel cycle policy was preconceived, but that his impression was that the

---

<sup>192</sup> Interview with Hideyuki Ban, 21 March 2013. He said that both proponents and critics of the nuclear fuel cycle were moved.

<sup>193</sup> Estimates comparing the cost of reprocessing with direct disposal of spent nuclear fuel were made in February 1994, but the existence of such calculations was denied for ten years. The calculations showed that direct disposal was cheaper than reprocessing. Disclosure of such a comparison would have been disadvantageous for the government's preferred policy.

revelations of the cover up and the subsequent staff rotation was a significant turning point.

A few months earlier, in January 2004, three young reprocessing critics within METI had made an unsuccessful last-ditch attempt to prevent the reprocessing program from going ahead, citing the high cost of the reprocessing option (Kyodo 2011a). Apparently the careers of the three young bureaucrats suffered as a result of their temerity and one of them resigned (Koga 2011, p. 149). The one who resigned is believed to be Tomohito Ihara, who several years later was recruited to the Cabinet Secretariat's National Policy Unit by the Democratic Party of Japan administration and played an important role in the post-Fukushima policy review process (Mainichi Shimbun 2013). He resigned again in January 2013 after the LDP returned to power.<sup>194</sup>

I am not in a position to say how rare such a level of internal conflict may have been, but this case has become something of a legend within the nuclear policy field. More commonly the Japanese bureaucracy follows a conservative principle that militates against acceptance of radical proposals from the public and nuclear critics. Hitoshi Yoshioka, a regular member of nuclear-related advisory committees, describes the phenomenon as follows:

Basically [bureaucrats] take the existing policy as the base line and slightly change it from there. That way of deciding policy came to be taken for granted. The responsible section chief or assistant section chief make the changes and asks various people's opinions. That's how I think they do it.<sup>195</sup>

Of course, the bureaucracy does not make up its mind in isolation. In particular it is influenced by industry; in the case of nuclear energy policy that means above all the

---

<sup>194</sup> A couple of days before he left the public service I interviewed him about the 2012 national debate, but at that stage I was not aware that he was one of the three young Turks from the 2004 debacle.

<sup>195</sup> Interview with Hitoshi Yoshioka, 10 September 2012

electric power industry. Evidence of backroom negotiations between METI and the electric power industry relating to the nuclear fuel cycle came to light amongst the flurry of investigative reporting that followed the Fukushima nuclear accident. Mainichi Shimbun reported on meetings held in 2002 between Tokyo Electric Power Company (TEPCO), the Federation of Electric Power Companies (FEPC) and officers of METI, in which the future of the Rokkasho Reprocessing Plant was discussed (Mainichi Japan 2011a, 2011b, 2011c). Allegedly, TEPCO and METI at one point agreed to withdraw from the Rokkasho Reprocessing Plant project, but in the end they decided to proceed. TEPCO routinely publishes refutations of media stories on its web site and it denied the veracity of Mainichi's report, but TEPCO itself does not have a good reputation for veracity.<sup>196</sup> Without hearing evidence from people directly involved it is impossible to know the truth of the matter, but it fits the general story of machinations behind the scenes about whether or not to proceed with the nuclear fuel cycle, in particular whether or not to start up the Rokkasho Reprocessing Plant.<sup>197</sup> It is reasonable to assume that such machinations had greater impact on policy than the discussions in the public meetings of the New Nuclear Policy-Planning Council. It would surprise no one if key stakeholders attempted to influence policy behind the scenes. '[T]he stable and largely oligopolistic politics of reciprocal consent' (Samuels 1987, p. 262) that characterised Japan's energy policy meant that 'routines of mutual accommodation' between industry and the bureaucracy (p. 260) inevitably came into play.

---

<sup>196</sup> TEPCO refuted the details of Mainichi's reports in the following two statements.

'Concerning the headlining article in the December 3, 2011 edition of THE MAINICHI NEWSPAPERS, "Abandon nuclear reprocessing was pointed in FEPC, TEPCO executives and senior METI officials"', 3 December 2011

<http://www.tepco.co.jp/en/news/topics/11120301-e.html>

'Concerning the headlining article in the December 2, 2011 edition of the Mainichi Shimbun, ""Withdrawal from the nuclear fuel reprocessing business" was agreed upon in 2002, during discussion between TEPCO executives and senior METI officials"', 2 December 2011

<http://www.tepco.co.jp/en/news/topics/11120201-e.html>

<sup>197</sup> See also Iida (2011, pp. 40-41) for an account of the behind the scenes machinations between METI and TEPCO about the nuclear fuel cycle.

Further evidence that the New Nuclear Policy-Planning Council was not where policy was decided emerged after the Fukushima nuclear accident. It was revealed that for over a decade secret meetings with nuclear proponents had been held in parallel with public policy meetings (Kyodo 2012a). Nuclear critics were not invited to these secret meetings. This situation was exposed after a series of scoops by Mainichi Shimbun in 2012 (section 4.2.3). Under these circumstances there was little chance that arguments presented at the public meetings would change the decision negotiated by stakeholders behind closed doors. It was irrelevant that, as the International Critical Review Committee on the Long-Term Nuclear Program (ICRC) pointed out, the arguments in the November 2004 *Interim Report on Nuclear Fuel Cycle* did not stand up to scrutiny. Bureaucratic rhetoric sufficed as justification for policy decisions (Koga 2013).

Another factor militating against the possibility that the general public or nuclear critics might exert influence on policy was the make up of the secretariat. As mentioned above, the secretariat dominated the policy-drafting process, but after administrative changes in 2001 (Appendix 2.6) JAEC lost the services of the Science and Technology Agency and came to rely heavily on people seconded from other ministries and also from the nuclear industry. In the wash-up after the abovementioned secret meetings scandal, JAEC decided that staff seconded from electric power companies should return to their companies.<sup>198</sup> The presence of these secondees had meant that the secretariat could not be impartial (Technical Subcommittee Investigation Team 2012a).

---

<sup>198</sup> Japan Atomic Energy Commission's 19 June 2012 decision concerning its administrative structure, 'Genshiryoku Iinkai no jimmu taisei ni tsuite no tōmen no hōshin': [http://www.aec.go.jp/jicst/NC/about/kettei/kettei120619\\_1.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/kettei120619_1.pdf)  
JAEC's 19 June 2012 decision only referred to people seconded from electric power companies. It made no reference to people seconded from nuclear power plant makers, or people seconded from nuclear research agencies (see transcript of Council for a New Framework for Nuclear Energy Policy meeting 20 (29 May 2012), p. 19 for a list of secondees): <http://www.aec.go.jp/jicst/NC/tyoki/sakutei/siryosakutei20/siryos6.pdf>

The above account paints a picture of a nuclear industry and a nuclear bureaucracy which used their power to influence the direction of nuclear energy policy behind the scenes. Public participation exercises were a façade which offered no point of entry for nuclear outsiders, such as nuclear critics or the general public, to exert influence. They became a mechanism by which nuclear critics were marginalised, so as to allow the continued subversion of the political public sphere by power. Weinberg's 'right of access' was honoured in form only and there was no sign of Beck's 'new political culture in participation' (section 1.2.1).

### **3.5 Overall assessment**

#### ***3.5.1 Barrier in the political system***

The preceding sections of this chapter described how during the late 1990s and through the 2000s new participatory processes involving the general public and a range of discourses were initiated, but how despite these innovations policy was not decided discursively. Instead of opinion-formation in the public sphere determining policy outcomes, policy continued to be determined, as in the past, through the alignment of stakeholder interests. The fact that this process occurred behind closed doors and was not generally subjected to media scrutiny meant that there was an impenetrable barrier isolating the decision-making sphere from the public sphere.

Funabashi (2012, p. 68, Figure 1) represented the pre-Fukushima policy-making system as containing a 'barrier in the political system' that excluded nuclear critics.<sup>199</sup> He addressed structural factors within Japanese society that acted as a barrier to critical

---

<sup>199</sup> See also Harutoshi Funabashi's presentation at the Two-Way Symposium on high-level radioactive waste, 17 February 2013 (p. 14): [http://www.enecho.meti.go.jp/category/electricity\\_and\\_gas/nuclear/rw/sohoko/doc/20130217\\_funabashi.pdf](http://www.enecho.meti.go.jp/category/electricity_and_gas/nuclear/rw/sohoko/doc/20130217_funabashi.pdf)

input. These structural factors led to the formation of a ‘nuclear complex’ based on three kinds of power: economic power, political power, and power from information manipulation (Funabashi 2012, pp. 67-69). Funabashi identified vertical, mutually-dependent relationships (‘binary combination’), which he believed are characteristic of Japanese society, as factors which ‘tend to produce a group or organization that is closed to outsiders’ (p. 71).

The barrier to criticism from the wider public sphere was indeed high, but within the nuclear complex the barrier was not absolute. Episodes such as the three young bureaucrats’ last-ditch challenge, the leaking of fuel cycle cost calculations, and the consideration by TEPCO and METI of the possibility of abandoning reprocessing show that will-formation within the nuclear complex was complex, but it was certainly not open. Decision making about nuclear energy policy was a matter of ‘bargaining and negotiation’ between players within the nuclear complex to form a ‘reciprocal consent’, which was ‘quite different from consensus’ (Samuels 1987, p. 261).

The theory of the existence of an impenetrable barrier isolating the decision-making sphere from the public sphere is supported by this thesis’ investigation of the official public participation exercises of the 1990s and 2000s and their relationship (or lack thereof) to the actual decision-making process. The next section uses this investigation as the basis for an assessment of these public participation exercises against various evaluation criteria.

### ***3.5.2 Assessment against public participation criteria (part 1)***

This thesis uses sets of criteria proposed by Frewer and Rowe (2005) and Moro (2005) (section 1.2.3) to assess specific official participatory processes and uses the International Association for Public Participation’s (IAP2) core values (section 1.2.2) as

a tool for judging whether they were conducted in good faith. In order to assess the position of discrete participatory processes within the broader political system Dryzek's deliberative systems concept (section 1.2.2) is used. This section discusses each of these sets of criteria, except Moro's, which is discussed in section 3.5.4. The assessment is based on the discussion in the preceding sections of this chapter, so it does not repeat that discussion in detail where the case has already been adequately made. It forms a basis for comparison with post-Fukushima public participation processes (section 4.5).

### *Frewer and Rowe*

Beginning with Frewer and Rowe's (2005) evaluation criteria, the following comments provide an overall assessment of official public participation in pre-Fukushima nuclear energy policy processes based on these criteria, with the exception of cost effectiveness.

#### Representativeness

Pre-Fukushima public participation was not representative in any formal sense.<sup>200</sup> Participants on advisory committees and public hearings were selected by JAEC, or associated bodies, mostly in an untransparent fashion (sections 3.3.2 and 3.4.2). Where expressions of interest in participating in public meetings were called for, the participants were self-selecting and neither authorised by nor accountable to anyone.

A variety of discourses were represented, but the process was not deliberative in either a micro or a macro sense (see discussion of deliberative systems later in this section), so potential benefits of discursive representation were not realised (Dryzek 2010).

---

<sup>200</sup> Refer Parkinson (2006, pp. 29-36) for a discussion of representation and accountability.

## Independence

None of the pre-Fukushima public participation processes was truly independent. The 2001-2009 Conference for Public Participation (section 3.4.2) and the New Nuclear Policy-Planning Council (section 3.4.3) were advisory committees to JAEC chaired by JAEC commissioners, so they could not be called independent. The FY 1998–9 series of the Round Table Conference had a degree of independence from JAEC, but they were not independent of the nuclear village and the moderators' recommendations were not objective, accountable, or transparent (sections 3.3.2 and 3.3.4).

## Early involvement

In section 1.2.2 two schemes showing stages in the policy-forming process were presented. Moro (2005) identified five stages (agenda-setting, planning, decision-making, implementation and evaluation), while Parkinson (2006) identified four stages (define, discuss, decide, implement). Public participation exercises that could arguably be said to have occurred at the 'agenda-setting' or 'define' stage of the policy-forming process included the Round Table Conference and one of the Conference for Public Participation forums (meeting 7, 27 March 2004).

The Round Table Conference began with free ranging discussions aimed at identifying key issues, followed by further discussions leading to policy recommendations. JAEC stated that where appropriate policy changes would be made without waiting for a full policy review. The discussions began well in advance of the review of the *Long-Term Program*, so there was ample opportunity to influence the agenda if the process had been conducted in good faith.

In addition to calling for more public participation and more disclosure of information, the Round Table Conference led to the establishment of a committee into Fast Breeder Reactor policy (*FBR Kondankai*), which in turn led to a subtle but significant change of policy (section 3.3.4). In this sense it could be argued that the



Round Table Conference influenced the policy agenda. However, rather than saying that FBR policy was placed on the agenda as a result of the Round Table Conference, it would be more accurate to say that the Round Table Conference was established because FBR policy was called into question as a result of the *Monju* accident.

Other than this, there is no evidence that the Round Table Conference was a decisive factor in putting anything on the agenda except public participation and disclosure of information.

In regard to the 27 March 2004 meeting of the Conference for Public Participation, chronologically it came before the review of the *Long-Term Program*, which was the main topic of discussion, but as it turned out the forum had no discernible influence on the review of the *Long-Term Program*, unless it could be said that Aileen Smith's process suggestions were taken up to some limited extent.

Other than these examples, the hearings and public comment processes conducted under the auspices of the official review of the *Long-Term Program* occurred after a draft policy document had been published, so they came late in the process. They were technically part of the decision-making stage.

### Influence

As shown in section 3.4.3, public input did not influence policy in any substantial way. Policy was determined independently of the public discussion. In particular, the outcome of the key policy issue in the 2004–2005 policy review (the future of the nuclear fuel cycle) was decided behind closed doors (section 3.4.3). However public input did have some influence on process, notably the institution of continuing public participation processes and greater disclosure of information.

### Transparency

Transparency improved as a result of the public participation processes initiated in the mid 1990s. Transcripts, or at least summaries of committee meetings, were published on the internet and in some cases meetings were broadcast on TV or on the internet. However the selection of advisory committee members and panellists on public meetings was generally not transparent, the recommendations of the Round Table Conference moderators were produced in closed meetings, and, most importantly, actual policy-making took place in secret.

### Resource accessibility

Accessibility of information is one aspect of this criterion. Others include accessibility of human resources (e.g., access to scientists, witnesses, decision analysts), material resources and time resources (Rowe & Frewer 2000, p. 15).

By and large participants in public forums were expected to come prepared to debate without any information provided in advance, except where hearings were called on a specific policy document, in which case the document was published on the internet. In the case of advisory committees, the secretariat prepared documents (slanted to favour its preferred outcome) and opinions submitted by committee members were distributed at meetings and published on the internet.

Estimates of the cost of the nuclear fuel cycle were published in 2004, but the data on which the estimates were based were not published. Previous estimates (February 1994) comparing the cost of reprocessing with direct disposal of spent nuclear fuel were not disclosed for ten years (section 3.4.3), enabling the 1994 and 2000 *Long-Term Programs* to escape public scrutiny on this score. More generally, although disclosure of information improved during the 1990s and 2000s, it continued to be difficult to obtain information due to constraints such as commercial in confidence (section 3.3.4).

It should also be noted that although micro-deliberative techniques developed over the last few decades (sections 1.2.2 and 2.3) provide balanced information showing multiple perspectives, no such material was provided for participants in Japan's pre-Fukushima public participation exercises.

Of the three other types of resources, access to human resources was especially lacking for lay participants. Micro-deliberative techniques distinguish between the role of experts and ordinary citizens and provide the latter with an opportunity to question experts representing a range of views. Such techniques were not used in the pre-Fukushima nuclear energy policy-forming processes. Rather, interaction that occurred between lay participants and experts during public participation exercises tended to take the form of domination or drowning out of lay people's voices by experts (sections 3.3.3 and 3.4.2).

### Task definition

The tasks of the Round Table Conference and the Conference for Public Participation were never clearly defined. Such tasks as were defined were not fulfilled, except in a minimal sense of hearing the views of a wide range of people. As a consequence, both the Round Table Conference and the Conference for Public Participation were forced to delete key components of their original terms of reference: the aim of contributing to the formation of a 'national consensus' in the former case (section 3.3.3), and the aim of 'making recommendations to the Atomic Energy Commission' in the latter (section 3.4.2). The degree of achievement of vague goals such as 'to promote greater public understanding'<sup>201</sup> was not measured. In the end, both processes turned out to be public participation for the sake of having public participation – for the sake of hearing a range of views from experts and the general

---

<sup>201</sup> JAEC's 3 July 2001 decision establishing the Conference for Public Participation, 'Shimin Sanka Kondankai no secchi ni tsuite': <http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryō2001/siryō29/01071003.htm>



the Round Table Conference, except that transcripts of the core member meetings were published. However the core members never managed to produce any recommendations.

There was a structured decision-making process of sorts for the review of the *Long-Term Program*. The New Nuclear Policy Planning Council prepared a draft policy; public comments were called, compiled, ‘reflected’ and responded to; the final draft was then endorsed by the Japan Atomic Energy Commission, and finally submitted to Cabinet for approval. But the decision-making process within the New Nuclear Policy Planning Council was opaque. It appeared that decisions were made by gentlemen’s agreement at the chairman’s discretion, with dissenters kept to a minimum by the initial selection of members; but while these meetings were taking place (or even before the official process started) matters of substance were decided through stakeholder negotiations and secret meetings that excluded critical committee members (section 3.4.3).

The above assessment against Frewer and Rowe’s criteria reveals many areas where there was plenty of room for improvement, but without a standard against which to compare it is difficult to draw conclusions. The primary value of this assessment is to provide a basis for comparison with the post-Fukushima situation (section 4.5.2). However it is worth noting at this point that there was a relationship between the problems observed and the government’s lack of good faith. How this was so is discussed after the analysis in terms of IAP2 core values below.

#### *IAP2 core values*

Section 1.2.2 proposed the application of the International Association for Public Participation’s (IAP2) seven core values as one way of ensuring that public participation is carried out in good faith. An assessment of pre-Fukushima official public participation against IAP2’s core values is provided below, abbreviated to avoid

repetition of the above assessment against Frewer and Rowe's criteria. It should be compared with the assessment of the post-Fukushima process in section 4.5.3.

1. The public should have a say in decisions about actions that could affect their lives.
  - Beginning with the 1994 public hearing '*Goiken o Kiku Kai*' (section 3.2.1) and especially following the *Monju* accident (section 3.3), there was a growing recognition that the public should be given a chance to 'have a say', in the sense that they should be given a chance to speak. However the level of involvement did not go beyond 'inform' and 'consult' on the IAP2 spectrum (section 1.2.2), with a predisposition towards 'deficit model' thinking (sections 2.3.1, 3.4.2 and 0) in which concerns of ordinary citizens were seen to be the result of ignorance.
  
2. Public participation includes the promise that the public's contribution will influence the decision.
  - As noted in the discussion of Frewer and Rowe's criteria above, the public's contribution did not influence policy in any substantial way.
  
3. Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
  - Of particular note was the fact that the interests of the electric power companies were not communicated in an open fashion. Their interests, which were a key factor in determining the future of the Rokkasho Reprocessing Plant (of which they were the principal shareholders), were reconciled behind closed doors (section 3.4.3). This probably did not affect the sustainability of the decision, because in the pre-Fukushima era the reconciliation of these interests and the decision-making process were one and the same thing, while citizens did not have the power to influence the decision (although they sometimes had power to

influence its implementation). However it is instructive to compare this with the post-Fukushima process, where the failure to recognise and communicate the needs and interests the electric power companies had significant implications for the sustainability of the decision (section 4.5.3).

4. Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
  - Organisationally affiliated people representing a range of views were invited to participate in numerous public forums that were to a greater or lesser degree connected to the nuclear policy-forming process. Furthermore, on several occasions applications were called for members of the general public to present or participate as members of the audience. Nevertheless, the range of participants was limited and nuclear critics were under-represented compared to nuclear proponents (sections 3.3.2, 3.3.3, 3.4.2 and 3.4.3).
  
5. Public participation seeks input from participants in designing how they participate.
  - Input into the process design was not actively sought before or during the Round Table Conference. Process-related suggestions by participants including Hitoshi Yoshioka were not taken up (section 3.3.3).
  - It could be argued that an opportunity was provided to influence the process design before the 2004–2005 policy review process began. One meeting of the Conference for Public Participation addressed the forthcoming review of the *Long-Term Program* and Aileen Smith took the opportunity to offer a detailed proposal about process (section 3.4.2). However her suggestions were only taken up in a superficial way, defanged of those elements that might have made the process more independent, deliberative and influential.

6. Public participation provides participants with the information they need to participate in a meaningful way.
  - Refer to the discussion above of ‘resource accessibility’ under Frewer and Rowe’s criteria.
  
7. Public participation communicates to participants how their input affected the decision
  - Recommendations by the moderators of the Round Table Conference were not accompanied by explanations of how they reflected the contributions of participants, except that there was general consensus on the need for more disclosure of information and more public participation (section 3.3.4).
  - The Conference for Public Participation did not make recommendations and did not report on how public opinions were reflected in policy (section 3.4.2).
  - A proforma response to public comments was published at the end of the official 2004–2005 policy review process (section 3.4.3).

All the IAP2 core values were upheld to some degree in pre-Fukushima public participation, but for most of them it was to a very low degree. It is, therefore, not possible to conclude that public participation was conducted in good faith. Beginning in 1994 citizens were given opportunities to express their views, but they were not given high quality opportunities for substantial deliberation with the potential to influence policy outcomes. Aileen Smith’s critique of the treatment of public comments submitted to the 2000 policy review encapsulated the anti-nuclear energy movement’s lack of confidence in the good faith of the government (section 3.4.3). In some cases there was so little trust that nuclear critics preferred to boycott public participation exercises completely (sections 3.2.2 and 3.4.2).



In regard to the relationship between good faith (defined in terms of IAP2's core values) and the assessment against Frewer and Rowe's criteria, lack of *influence* on policy is particularly striking. However the unwillingness to establish truly *independent* processes, with *clearly defined tasks*, which were connected to *decision making* in a *transparent* way (Frewer and Rowe's criteria in italics), was also a reflection of the government's lack of good faith. If the government had initiated the public participation exercises in good faith, it would have tried harder in these areas, but then it would have been more difficult for it to maintain the status quo by distorting the arguments and marginalising critics with bureaucratic rhetoric (section 3.4.3). This issue of the government's objective in conducting public participation exercises is taken up in section 3.5.3, and again in the context of a discussion of legitimacy in section 3.5.5.

#### *Micro and macro deliberation and Dryzek's deliberative systems scheme*

It was noted in the assessment of Frewer and Rowe's 'representativeness' criterion that pre-Fukushima official public participation processes were not deliberative in either a micro or a macro sense. This judgment is based on the definitions of deliberation provided in section 1.2.2. Following Gastil and Black's (2008, p. 2) definition, problems were not carefully examined to 'arrive at a well-reasoned solution'. Mostly participants just expressed their opinions and did not deliberate with each other on the merits and demerits of the views expressed. The 2004–2005 policy review process, by virtue of the fact that it resulted in a new policy document, was more clearly directed towards finding solutions than the Round Table Conference or the Conference for Public Participation. However, following Hendriks, Dryzek and Hunold's definition (2007, p. 366) (section 1.2.2, footnote 11), participants were not 'open to having their preferences shaped and transformed through reflective public reasoning'. Instead of processes in which participants were willing to 'shift position based on new information

and arguments’, policy decisions were made based on ‘horse trading or negotiation’ (Kahane et al. 2013, p. 5) (section 1.2.2, footnote 11).

To assess the deliberative qualities of pre-Fukushima public participation from a macro-perspective, Dryzek’s deliberative systems scheme is useful. The elements of Dryzek’s deliberative systems scheme are as follows: public space, empowered space, transmission, accountability, meta-deliberation, decisiveness (Dryzek 2010, pp. 11-12) (section 1.2.2). Pre-Fukushima public participation was lacking when measured against most of the elements of this scheme. (Compare the pre-Fukushima assessment below with the assessment of the deliberative qualities of post-Fukushima public participation processes in section 4.5.4.)

#### Public space

Funabashi identified the need for the ‘enrichment of the public sphere’, implying that *public space* was underdeveloped (Funabashi 2012, pp. 73-74). When I interviewed him, he made the following observation in the context of an explanation of the state of the public sphere in Japan, not just in regard to nuclear energy, but in general:

I think the discussion space in Japan is very poor. There is a discussion space that utilises expert knowledge and a discussion space of the everyday speech of ordinary people. In Japan the discussion space is poor overall.<sup>203</sup>

Such discussion as there was of nuclear energy issues was described by Kobayashi as like people ‘on opposite banks of the river throwing rocks at each other’.<sup>204</sup>

---

<sup>203</sup> Interview with Harutoshi Funabashi, 26 February 2013

<sup>204</sup> Transcript of the 18 March 2004 meeting of the Japan Atomic Energy Commission’s ‘Chōkei ni suite goiken o kiku kai’ (p. 28):  
<http://www.aec.go.jp/jicst/NC/tyoki/chokei2004/chokei09/09gijiroku.pdf>

## Empowered space

There was an *empowered space* that made policy decisions, but little deliberation occurred there. For example, former Prime Minister Naoto Kan said, ‘Before 3.11 there was not much discussion in the Diet about the possibility of phasing out nuclear energy.’<sup>205</sup> Nuclear energy policy was drafted by a JAEC advisory committee, while energy policy was drafted by METI’s Advisory Committee for Natural Resources and Energy (ACNRE). In both cases the policy was simply rubber stamped by Cabinet.<sup>206</sup> The discussion in section 3.4.3 of the process by which the 2005 *Framework for Nuclear Energy Policy* was drafted showed that the New Nuclear Policy-Planning Committee did not follow deliberative principles and that the public process was largely a façade.<sup>207</sup>

## Transmission

*Transmission* from public space to empowered space was very limited. Dryzek describes transmission from public space to empowered space as ‘some means through which deliberation in public space can influence that in empowered space’. As explained in section 3.4.3 and in the discussion of the ‘influence’ category of Frewer and Rowe’s criteria above, public participation processes did not substantially influence policy. As discussed in section 3.5.3, after the Monju accident ‘residents’ power’ (Yoshioka 1997, pp. 9, 11) was strong enough to put nuclear policy issues on the public agenda and to force the establishment of the Round Table Conference, but it was not strong enough to influence the policy outcome.

---

<sup>205</sup> Interview with Naoto Kan 12 March 2013 (refer section 4.2.1 for a longer version of this quote).

<sup>206</sup> In the case of energy policy, a report must be submitted to the Diet every year (Basic Act on Energy Policy Article 11), but Diet approval is not required.

<sup>207</sup> In a handout prepared for meeting 5 of the FY1998 series of the Round Table Conference (21 January 1999), Tetsunari Iida questioned the legitimacy of advisory committees, in view of the fact that despite their very unrepresentative membership they make decisions about extremely political matters:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

### Accountability

There was a lack of *accountability* from empowered space to public space. Answers provided were proforma and arbitrary—for example the response to public comments (section 3.4.3). The rationalisation of policy amounted to bureaucratic rhetoric (section 3.4.3).

### Meta-deliberation

Some *meta-deliberation* about how the deliberative system itself should be organised occurred during the Round Table Conference. Issues discussed included disclosure of information and public participation, the appropriate form of nuclear administration, and the need to consider multiple options (section 3.3.3). These discussions were reflected to a limited extent in the form of increased disclosure of information, more regular public participation forums and consideration of multiple nuclear fuel cycle scenarios in the 2004/5 nuclear policy review.

### Decisiveness

Public participation was not *decisive*, because the other five elements of Dryzek's scheme did not 'together determine the content of collective decisions'.

From the above discussion it can be seen that, while some of the elements of Dryzek's deliberative systems scheme were present to a minimal degree, there was nothing like the coverage required to justify saying pre-Fukushima nuclear energy and energy governance at the national level represented a deliberative system. By contrast, the official-unofficial hybrid processes of local referendums were much more deliberative. Section 3.2.4 discussed how activist Tetsunari Iida and political scientist Takayuki Onai extolled the deliberative qualities of these referendums, but in terms of Dryzek's

deliberative systems concept too, it can be said that they were deliberative to a significant degree. In the Maki and Kariwa cases, a vibrant *public space* generated debate and *transmitted* its message to *empowered space* through a range of actions. Empowered space in the form of the local council and public space in the form of residents engaged in *meta-deliberation* about how the issue should be decided. This culminated in the decision to hold a referendum. Empowered space, in the form of the mayor, was *accountable* in that in each case he honoured the verdict of the referendum. The Mayor of Maki took the *decisive* step of selling the crucial parcel of land to people who would not sell it to the electric power company. This was not a deliberative act in itself, but it was based on the outcome of the five other elements of Dryzek's deliberative systems scheme. In the Kariwa case, the mayor requested the electric power company to postpone implementation of plutothermal, a request which was grudgingly honoured. The weakness in this argument is the degree to which the local governments and the mayors could really be regarded as empowered space. They had defacto but not legal power of veto over the projects in question, but had no power over national policy. Nevertheless, within the limited scope of the projects in question, the local decision-making processes operated as nearly to deliberative systems as could reasonably be hoped for and the participation processes exerted substantial influence.

### ***3.5.3 What was the purpose?***

Based on the IAP2's core values, Frewer and Rowe's criteria, and Dryzek's elements of deliberative systems, the top-down official public participation in pre-Fukushima nuclear energy policy-making receives a very low score. It appears to have been largely a performance, while the real decisions were made behind closed doors. Asahi Shimbun referred to the pre-Fukushima public participation processes as 'fake democracy':

[In Japan] the atomic energy policy has been plagued by fake democracy. Spurious efforts to seek the opinions of local communities that are actually

designed to justify the predetermined plans to build nuclear power facilities have been rampant (The Asahi Shimbun, 6 May 2012).

Two questions arise from this assessment: ‘What was the real motivation behind this public participation?’ and ‘Did public participation fulfil any useful purpose?’

Going back to JAEC’s first official public participation exercise, the ‘*Goiken o Kiku Kai*’ (section 3.2.1), this was an initiative of a government that was far more open to public input than the LDP had been. Although the Hosokawa government did not survive long enough to finalise the policy, the 1994 *Long-Term Program* stated that the purpose of ‘exchanging ideas’ with the public was to gain *public acceptance* (*‘nattoku’*) for the administration of nuclear energy (JAEC 1994, Chapter 3, Section 3 (1)), so after the ‘*Goiken o Kiku Kai*’ experiment the motivation for public participation was that it was seen as a way of promoting the nuclear energy program.

It is impossible to know how the precedent set by *Goiken o Kiku Kai* would have developed had the *Monju* accident not occurred, but public participation became a major issue after the accident. The official reasons for establishing the Round Table Conference were ‘to reflect public opinions in nuclear energy policy’ and ‘to contribute to the formation of a national consensus’. As discussed in sections 3.3.3 and 3.3.4, these objectives were not fulfilled, but the government had a more pressing objective. It wanted to ensure the cooperation of the governors of Fukushima, Fukui and Niigata with (or at least to prevent their obstruction of) nuclear fuel cycle policy. It was in response to demands from these three governors that the Round Table Conference was established in the first place (section 3.3.1). These governors were under pressure from citizens to take action. Citing the local referendum about the proposed Maki nuclear power plant (section 3.2.4), Yoshioka points out that ‘the *Monju* accident gave impetus to residents’ power in all host sites and proposed host sites and the leaders of local and

prefectural governments had no choice but to take this into account' (Yoshioka 1997, pp. 9, 11).<sup>208</sup> According to Oshima (1996, pp. 242-243), after the *Monju* accident, of 35 municipalities in Fukui Prefecture four demanded the reactor's decommissioning or permanent shut down, while another 10 demanded that it remain closed until its safety was confirmed.

So in response to the question 'Did public participation fulfil any useful purpose?', in the case of the Round Table Conference, from JAEC's perspective the answer would have to be 'Yes.' A national consensus was not achieved and public opinions were not reflected in policy, but obstruction by the three governors to the government's principle objective of maintaining the overall direction of nuclear fuel cycle policy was prevented. For example, between 1998 and 1999 each governor consented to the implementation of pluthermal in reactors located in their prefectures, although as it turned out these approvals were later withdrawn due to subsequent scandals and accidents.<sup>209</sup>

Other hopes and expectations that the government brought to the public participation processes included recovery of *trust*, which was seen as 'extremely important for smooth promotion of the development and utilization of nuclear energy'.<sup>210</sup> Besides

---

<sup>208</sup> Onai (2014) observes, 'The substance of the Maki referendum debate were mostly ignored during the Round Table Conference. That was a manifestation of the government's attitude of excluding discussion that could lead to policy change' (p. 118). In fact there was quite a bit of discussion at the meeting following the referendum (meeting 9, 7 August 1996), but it addressed the significance of the result rather than the substance of the debate. See transcript:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960910.html>

<sup>209</sup> See the following table regarding TEPCO's and KEPCO's pluthermal plans on the 'Japanese Nuclear Power Companies' Pluthermal Plans' page of Citizens' Nuclear Information Centre's web site:

<http://www.cnrc.jp/english/topics/cycle/MOX/pluthermplans.html#table%201>

<sup>210</sup> JAEC's 11 October 1996 decision in response to Round Table discussion and moderators' recommendations, 'Kongo no genshiryoku seisaku no tenkai ni atatte (Genshiryoku Seisaku Entaku Kaigi no giron oyobi Moderator kara no teigen o ukete)':

<http://www.aec.go.jp/jicst/NC/about/announce/961011.html>

‘trust’, another word that features in JAEC’s statements is ‘understanding’.<sup>211</sup> These words were used on the assumption of the continuation of nuclear energy and the nuclear fuel cycle, just like the notion of ‘public acceptance’ in the 1994 *Long-Term Program*. The government was looking for trust, understanding and public acceptance for its own predetermined agenda and regarded such trust and understanding as necessary in order to implement its preferred policies smoothly. In a report on the 1996 Round Table Conference Takashi Murata, an official of the Science and Technology Agency, essentially admitted as much:

Steadily developing nuclear energy is extremely important, and creating a situation where we think about this together with lots of people embodies the Atomic Energy Commission’s ‘nuclear energy with the people’ idea (Murata 1997, p. 9).

However it was very difficult to build trust and understanding in the decade and a half between the *Monju* and the Fukushima accidents, because the nuclear program was plagued by scandals and accidents (Appendix 2.6). The lack of trust and understanding had very concrete consequences for the implementation of policy, of which the following are a few examples:

- *Monju* was not restarted for over 14 years (White & Ban 2010);
- the pluthermal program was delayed by over a decade (Sawai 2001);<sup>212</sup>
- TEPCO was forced to shut down all of its nuclear power plants after the revelation of data fabrication in 2002 (Citizens' Nuclear Information Center 2003a);

---

<sup>211</sup> JAEC’s 25 September 1996 decision in response to Round Table Conference moderators’ recommendations, ‘Genshiryoku ni kan suru jōhō kōkai oyobi seisaku kettei katei e no kokumin sanko no sokushin ni tsuite’:

<http://www.aec.go.jp/jicst/NC/about/announce/960925.html>

<sup>212</sup> Citizens’ Nuclear Information Center web site, ‘Japanese Nuclear Power Companies’ Pluthermal Plans’: <http://www.cnic.jp/english/topics/cycle/MOX/pluthermplans.html>



- none of the reactors at the Kashiwazaki-Kariwa Nuclear Power Plant were able to recommence commercial operations for over two years after the 16 July 2007 Chuetsu-oki Earthquake (Yamaguchi 2009);
- permission was not given to restart most of Japan's nuclear power plants after they entered periodic inspections post Fukushima (Kyodo 2012d, 2013b).

The delays to these programs were to a significant extent due to unofficial participation by citizens.<sup>213</sup> Creating official forums for public participation and disclosing more information were not sufficient to overcome obstacles to the smooth promotion of the nuclear energy program. Lack of trust and lack of acceptance, and citizen-initiated unofficial forms of participation continued to obstruct the government's agenda.

The above discussion related to the government's motivations, but what purpose did official public participation exercises serve for nuclear critics, especially given that they had some success in obstructing the implementation of nuclear policy through unofficial forms of participation? At the time of the Round Table Conference, Japan's leading nuclear energy critic, Jinzaburo Takagi, did not endorse the government's objectives in establishing public participation exercises, but he nevertheless agreed to participate. He explained his position at the time, saying that even though his impression was that 'in the end the purpose of the conference was to impose the government's and the Atomic Energy Commission's existing policy', he wanted to support people in the regions, whose criticism had induced the three governors to submit their proposal (Takagi 1996,

---

<sup>213</sup> A lawsuit helped prevent an early restart of *Monju* (Citizens' Nuclear Information Center 2003b).

Citizens' groups played an important role in blocking the plutonium program after a data fabrication scandal was exposed (Ban 2000b).

Civil society, including the Citizens' Nuclear Information Center, provided support for nuclear critics on committees set up by Niigata Prefecture after the Chuetsu-oki Earthquake. The investigations of these committees prevented an early restart of the Kashiwazaki-Kariwa Nuclear Power Station (Yamaguchi 2011, 2013).

See section 4.3 for a discussion of post-Fukushima unofficial public participation.

p. 7). In so saying he drew attention to the fact that the three governors' proposal did not arise in a vacuum. This was also the implication of Yoshioka's reference to 'residents' power' (see above). In a Habermasian sense, the three governors' proposal was the result of *opinion-formation within the public sphere* (section 1.2.1). Underdeveloped though the public sphere may have been in the field of nuclear energy in Japan (Funabashi 2012), after the *Monju* accident it was active enough to put the issues of Japan's nuclear fuel cycle policy and the nuclear energy policy forming process on the public agenda, if not to influence the policy outcome. Takagi, who saw himself as a 'citizen scientist', sought to support this upwelling within the public sphere.

Not all nuclear critics who were invited agreed to participate in the Round Table Conference. One leading nuclear critic, Yuko Fujita of Keio University, refused to participate on the grounds that the Science and Technology Agency was not qualified to run such a process because it was a key promoter of nuclear energy. He believed that it was just trying to 'form a consensus' (which he interpreted in a negative sense) and overcome its current difficulties by making minor policy revisions (Yoshioka 2007, p. 12). Jinzaburo Takagi recognised this, but he did not seek to justify his participation in terms of the government's intentions, in which he had no faith. Rather he justified his decision to participate in terms of solidarity with people in the regions who had forced the government to establish the Round Table Conference.

As it turned out, the Round Table Conference and the Conference for Public Participation failed to live up to anyone's expectations and made very little contribution to the development of the public sphere. The public sphere generated communicative power to force the establishment of the Round Table Conference, but once established it was subsumed into the relentless process of subverting the public sphere by power.

Rather than official public participation processes, it was public concern in response to successive scandals and accidents that obstructed this process of subversion.

Summarising Bachrach and Baratz (1970), Gaventa and Cornwall (2008, pp. 173-174) pointed out that ‘the hidden face of power was not about who won and who lost on key issues, but was also about keeping issues and actors from getting to the table in the first place’ (section 1.3). They added that even when actors are given a place at the table, ‘Simply creating new spaces for participation...does not by itself change social inequities and relations of power ... [M]arginalized groups may enter these spaces but find themselves without voice within them, co-opted as tokens or manipulated by the powers that be’ (184-185). This is a fair description of the position of Japanese nuclear critics in pre-Fukushima official public participation exercises. ‘The institutionalization of participation therefore does not negate the need for mobilization and action outside the “new democratic spaces”.’ In as much as nuclear critics were able to prevent the subversion of the public sphere by power, it was by acting outside formal public participation processes, particularly at a local level. In that way they were able to delay implementation of policy, but not change the policy itself.

#### ***3.5.4 Assessment against public participation criteria (part 2)***

Having discussed questions relating to the purpose of pre-Fukushima public participation, it is now possible to address Moro’s five evaluation criteria (section 1.2.3). Whereas the assessment against Frewer and Rowe’s criteria in section 3.5.2 related primarily to the quality of the public participation exercises themselves, the assessment against Moro’s criteria relates to the value of the outcomes. The assessment below of pre-Fukushima outcomes forms the basis for a comparison with the assessment of outcomes of the post-Fukushima public participation processes discussed in section 4.5.5.

1. Add value to policy making, in terms of effectiveness, efficiency, impact, pertinence
  - Official public participation exercises failed to fulfill the government's stated aims (section 3.5.3) and they also failed to influence policy (section 3.5.2), so they could not be said to have added value to policy-making in terms of the effectiveness, efficiency, impact and pertinence of the policy itself.
  - It might be argued that the Round Table Conference was 'effective' from the government's perspective, because it fulfilled the unstated aim of deflecting pressure from the governors of Fukushima, Fukui and Niigata (section 3.5.3). However, this was a very negative achievement and not one that most would call 'efficient'.
  
2. Empower citizens
  - Given that citizens' input had no impact on policy, it cannot be said that they were empowered. Oyama (1999, pp. 171-172) observed of the Round Table Conference that it was not about 'empowering citizens, redistributing power, or allowing citizens to participate directly in discussions for policy decision making'. No doubt the anti-nuclear activists who with Aileen Smith observed the summary treatment of public opinions during the 2000 policy review felt decidedly disempowered (section 3.4.3).
  
3. Improve social trust and social capital;
  - Recovering lost trust was a major aim of the public participation exercises, but this was not achieved (section 3.5.3). Continued lack of trust, reinforced by a series of accidents and scandals, caused major delays in Japan's nuclear

energy program. Public participation might have had some damage control benefits, but not such as could be measured.

4. Involve a sufficient number of citizens;

- In the absence of an accepted standard against which to measure this criterion it is difficult to make categorical judgments, but in terms of the number of people who spoke at the Round Table Conference, the Conference for Public Participation, and the hearings associated with the 2004/5 policy review, it is hard to avoid the conclusion that the number of ordinary citizens who actively participated was insufficient. Excluding experts, stakeholders and opinion leaders, only 21 ordinary citizens presented during the whole of the three Round Table Conference series (section 3.3.3). Questions were taken from the audience at the Conference for Public Participation: the number of people who put up their hands ranged from 0 to about 15, with an average of about 8. In addition to those who spoke during the meetings, many members of the audiences filled out questionnaires. Besides these opportunities, many people responded to calls for public comments during official policy reviews, but a few thousand out of a population of over a hundred million cannot be said to be a large number. Furthermore, given the desultory way in which public comments were treated, simply counting numbers does not say anything about the quality of the opportunity to participate.

5. Change the public administration's way of managing public affairs

- This is the one criterion to which a positive response is in order. After 40 years in which the public had no opportunity to contribute to the policy-forming process and in which very little information was provided, the nuclear administration changed its approach to actively solicit comments and

make policy meetings open to the public. Yoshioka referred to the 1996 Round Table Conference as ‘the beginning of moves by the nuclear administration to reform itself’ (Yoshioka 1997, p. 11). Despite the limitations and the deficit of good faith, compared to past practice this was a significant step.

The above discussion suggests that the only real positive benefits to emerge from the pre-Fukushima public participation processes were the fact that citizens were involved at all and the fact that the introduction of public participation processes represented something of a change in the administration’s way of managing public affairs.

### ***3.5.5 Legitimacy***

The main problems of pre-Fukushima public participation in nuclear energy policy stemmed from the fact that the nuclear administration was not willing to take on board public opinions if that meant making substantial policy changes. Section 3.5.2 pointed out that a lack of good faith had a negative effect on the performance of the public participation exercises against various evaluation criteria. This section looks in more detail at the impact of this lack of good faith and argues that the technical flaws it gave rise to undermined the legitimacy of the public participation processes as a whole.

A fundamental problem was lack of trust in the sponsoring organisation and in the coordination and facilitation of the process. In the Round Table Conference, JAEC attempted to address the lack of trust in itself as the sponsoring organisation by changing tack in the FY1998–9 series, giving the moderators freedom to determine the agenda and subcontracting out the secretariat role. However the selection process for the moderators was not transparent (section 3.3.2). As a consequence, the membership was perceived to be unbalanced. The same problem applied to the core members of the

Conference for Public Participation, while the membership of the New Nuclear Policy-Planning Council was overwhelmingly biased in favour of the nuclear village. This bias and lack of transparency can be considered technical flaws of execution, but they arose from the abovementioned fundamental unwillingness of the nuclear administration to open itself up to outside influence.

Suggestions were made that could have rectified the problems and promoted confidence in the process, but they were not accepted. For example, Tetsunari Iida proposed that nuclear proponents and critics each nominate moderators for the Round Table Conference:

So that participants in the dialogue can discuss on equal terms, the moderator role should be reconsidered. It is desirable that the composition should be moderators nominated by nuclear proponents, moderators nominated by opponents and moderators on which both sides agree.<sup>214</sup>

Aileen Smith suggested calling for expressions of interest for membership of the New Nuclear Policy Planning Council and selecting equal numbers of critics, proponents and neutral members (section 3.4.2). Had the International Association for Public Participation's fifth core value (section 1.2.2) been followed and nuclear critics consulted at the process design stage, no doubt similar suggestions could have been made earlier. As it was, the biased nature of the committees' membership telegraphed in advance the fact that the government did not intend to share power with the public.

Another suggestion was made by Tadashi Kobayashi of Nanzan University during a briefing for JAEC about consensus conferences (section 2.3.1) in the lead up to the 2004/5 policy review.<sup>215</sup> His suggestion was intended to address the polarised nature of

---

<sup>214</sup> Tetsunari Iida's handout at meeting 5 of the FY1998 series (23 January 1999)  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

<sup>215</sup> Transcript of 18 March 2004 JAEC hearing:

the nuclear energy debate. He said it was like people ‘on opposite banks of the river throwing rocks at each other’.<sup>216</sup> He suggested establishing two parallel processes, one organised by the nuclear administration and one by nuclear energy opponents, both following the same rules. It was not clear how serious he was about this suggestion, but the proposal had the merit that the overall results would have been seen to be balanced.

These suggestions were in stark contrast to a proposal published in 2005 in the journal of the Atomic Energy Society of Japan. Takahashi and Nakagome’s (2005) notion of public participation was to employ ‘communicators’, who should be expert, neutral, independent, and hold the public’s trust (p. 8). Their role would be to promote dialogue between the government and the public, but the first role mentioned is to explain the government’s policy in terms understandable to the general public. Although they would also communicate the public’s views to the government, they were supposed to ‘gain acceptance for the government’s intentions’ (p. 7). The authors’ position on nuclear energy was clear from the article’s opening clause: ‘nuclear energy, indispensable as a base load source of electricity’ (p. 1). This was followed by a classic ‘deficit model’ line of argument that members of the public, from their ‘micro’ perspective, did not understand the government’s ‘macro’ perspective (p. 5). Coming from such a philosophical standpoint, it is not surprising that Takahashi and Nakagome were sceptical of the applicability of deliberative democracy to nuclear energy policy and of the public’s ability to make wise judgments:

Considering not only the lack of information and the absence of the necessary ability to make judgments to form a consensus [about energy policy], but also considering concerns about the dangers inherent in public opinion, in the case of nuclear energy we should postpone swift moves to deliberative forms at this stage....The results of dialogue with the public should be reflected in policy, but,

---

<http://www.aec.go.jp/jicst/NC/tyoki/chokei2004/chokei09/09gijiroku.pdf>

<sup>216</sup> See the transcript of the 18 March 2004 meeting of the Japan Atomic Energy Commission’s ‘Chōkei ni tsuite goiken o kiku kai’ (p. 28):

<http://www.aec.go.jp/jicst/NC/tyoki/chokei2004/chokei09/09gijiroku.pdf>



in order to assure legitimacy, that is on the presumption that the public's judgment has reached a suitable level (p. 6).

Takahashi and Nakagome's proposal shared the same assumption as the nuclear administration that the basics of nuclear energy policy were not up for grabs. As such, overcoming bias was not their aim. Their aim, like the government's aim, was to gain the public's understanding to enable the smooth implementation of government policy.

Takahashi and Nakagome presented their proposal as an advance on the government's traditional approach to forming consensus on energy policy (p. 3). Tatsuhiro Kamisato of Osaka University's Center for the Study of Communication-Design identifies this traditional approach as falling under the labels of 'public acceptance' and 'risk communication'.<sup>217</sup> He describes the public acceptance approach as being like telling people, 'Nuclear energy is good technology. Please understand.' Of risk communication in Japan he says, 'Risk communication is generally just education. "I will teach you about risk." ... It's one-way.' But with trust in the nuclear administration and nuclear scientists eroded by years of accidents and scandals, these one-sided approaches were not capable of producing the 'national consensus' that the government sought.

The interpretation of the term 'national consensus' or 'public consensus' (*kokuminteki gōi*) was problematic during the pre-Fukushima public participation processes (section 3.3.3), but I suggest that the underlying message that nuclear energy officials wished to convey with this term was a sense of legitimacy that went beyond the legitimacy afforded by virtue of the fact that nuclear energy policy was formally adopted by a duly elected government. The *Monju* accident and the ensuing series of accidents and scandals called into question the legitimacy of nuclear energy policy and public

---

<sup>217</sup> Interview with Tatsuhiro Kamisato, 19 March 2013. Kamisato was employed for four years at Tokyo University in a role which he described as being like an interface between nuclear engineers and society.



2010, p. 15). But when JAEC finally took up Yoshioka's suggestion the analysis was not rigorous. Committee members did not even achieve a meta-consensus about the validity of the scenarios (section 3.4.3).

Perhaps it is cynical to conclude that the government preferred inconclusive outcomes from public participation exercises, but inconclusiveness was definitely advantageous to the government, when clear outcomes were likely to be unfavourable to its goals. By keeping the outcomes vague, JAEC was able to cherry pick views that suited its preferred outcome and ignore views that did not. However, again this undermined the legitimacy of the public participation exercises, because the policy decisions were perceived to be arbitrary.

In conclusion, due to its unwillingness to reflect public opinions if they meant substantially changing policy, the nuclear administration missed the opportunity to enhance public acceptance of the legitimacy of nuclear energy policy (*perceived legitimacy*). It also failed to achieve *procedural legitimacy* through representative unbiased processes, or *substantive legitimacy* through clear and rational outcomes. (Refer section 1.3 for a discussion of these aspects of legitimacy.) The only legitimacy afforded by pre-Fukushima public participation exercises was that they gave the government an excuse to state that public opinions were reflected in policy, even if public opinions were not allowed to influence the substance of policy. Thus, legitimacy was reduced to bureaucratic rhetoric (Koga 2013).

## Chapter 4 : Post-Fukushima Public Participation

### 4.1 Introduction

Public participation began before the *Monju* accident, but *Monju* was the catalyst for the institutionalisation of public participation in Japan's nuclear energy policy-forming process. If the *Monju* accident could lead to such a change in the public administration's way of managing public affairs, it might be expected that the incomparably more serious Fukushima nuclear accident would lead to a revolution in public affairs. One might expect Beck's 'new political culture in participation' (section 1.2.1) to take root, power to be shared between the governed and the government, and the nuclear complex to lose its capacity to subvert the political public sphere. This chapter investigates what changes in public participation in fact occurred as a result of the Fukushima nuclear accident.

The chapter begins in section 4.2 by addressing the post-Fukushima official energy review process, looking at both the committee stage and the national debate that followed. It finds that while there were some significant improvements in the committee stage compared to pre-Fukushima processes, bureaucratic control continued. The national debate is the pivotal event around which this thesis revolves and is therefore covered in considerable detail. Although it included more radical innovations than the committee process, this chapter explains how deficiencies in execution left it open to accusations that it was not representative and that the outcome was not legitimate.

Section 4.3 turns to unofficial processes and investigates the impact of actions taken by citizens' movements, including a mass protest movement that coincided with the official national debate. It finds that synergies between the unofficial and official processes enhanced the messages of both and that, unlike past governments, the DPJ

government was open not only to the results of its own official process, but also to inputs from the wider public sphere.

Section 4.4 presents the outcome of the post-Fukushima energy policy review and describes how this was affected by a change of government. It shows how the communicative power of the national debate and the citizens' movement exerted influence for a while under the pro-participation DPJ government, but how it was eventually overwhelmed by Japanese and foreign pro-nuclear forces.

Finally, section 4.5 uses the criteria identified in section 1.2.3 to offer an overall assessment of the pre-election stage of the process under the Democratic Party of Japan government, a comparison with pre-Fukushima processes, and observations about the meaning of the post-election reversal. It confirms that representative democracy trumped public participation on this occasion, but shows that the political landscape was nevertheless changed by the combination of official and unofficial public participation.

## **4.2 Official process**

### ***4.2.1 Review from scratch***

After the Fukushima nuclear accident a thorough review of the existing nuclear energy policy and energy policy was unavoidable. Under the June 2010 Basic Energy Plan<sup>219</sup> (Ministry of Economy Trade and Industry 2010a) the percentage of nuclear energy in the electricity mix was to increase from around 26 percent in the 2007 fiscal year to 53 percent by 2030 (Agency for Natural Resources and Energy 2013a, p. 3). Nine new

---

<sup>219</sup> The official English title of the 2010 Basic Energy Plan is 'The Strategic Energy Plan of Japan'. 'Basic Energy Plan' is a direct translation used in the Japanese Law Translation Website's translation of the Basic Act on Energy Policy:  
<http://www.japaneselawtranslation.go.jp/law/>

nuclear power plants were to be built by 2020 and 14 new plants by 2030 (METI 2010b). But with the loss of at least the four Fukushima Daichi nuclear power plants destroyed by the tsunami and possibly many more plants around the country, plus the greatly increased difficulty of obtaining local agreement for additional plants, these targets were clearly unattainable. Indeed, they were regarded as challenging even before the disaster (Aldrich 2008, p. 141; Duffield & Woodall 2011). Under these circumstances it should not have surprised anyone when on 18 April 2011, during debate in the House of Councillors' Budget Committee, Prime Minister Naoto Kan stated that it was necessary to review Japan's energy policy 'from scratch' (*'hakushi kara no kentō'*).

The post-Fukushima policy review process officially began with the establishment of the Energy and Environment Council (EEC 2011–2012) within the National Policy Unit. EEC, whose secretariat was provided by the Cabinet Secretariat, held its first meeting on 22 June 2011. A month later, at its second meeting it approved a document which stated that Japan's energy policy should be reviewed from a 'zero base', the implication being that there would be no sacred cows (EEC 2011a, p. 10). The document stated that the government wanted to 'stimulate national discussions overcoming the confrontation between the opposition to nuclear power generation and its promotion' and to 'formulate innovative energy and environmental strategies while maintaining dialogue with a broad range of national people' (EEC 2011a, p. 13). This amounted to a commitment on the part of the DPJ government to engage the public in the policy-forming process. The question was, was this a commitment to engage the public in good faith, or another example of the type of bureaucratic rhetoric that characterised the pre-Fukushima era? Long and bitter experience led civil society representatives to be suspicious.

As required by law, the government sought input on energy policy from METI's Advisory Committee for Natural Resources and Energy (ACNRE).<sup>220</sup> Given that traditionally ACNRE's draft was simply rubber-stamped by Cabinet and Diet approval was not required, it could be argued that this was an example of a process where, in Habermas' words, the 'legitimation basis of traditional administrative structures no longer suffices' (Habermas 1996, p. 193) (section 1.2.1).<sup>221</sup> This time, however, EEC was established to give politicians a stronger role in the policy-making process. Also Prime Minister Kan and Minister for National Policy Koichiro Gamba wanted to coordinate policy somewhere other than the Ministry for Economy, Trade and Industry (METI), which they perceived to be uncooperative.<sup>222</sup>

A new committee called the Fundamental Issues Subcommittee<sup>223</sup> (FIS) (Agency for Natural Resources and Energy 2011–2012) was established within ACNRE to provide advice to EEC. FIS included an unprecedentedly large number of nuclear critics—eight outspoken critics in all, along with a few other sympathisers in a committee of 25. Most of the committee's members were either academics, from NGOs, or from private research institutes. There were also a few people from industry, but no one directly representing the electric power industry.

At the same time a review of nuclear energy policy was to be carried out by the Japan Atomic Energy Commission (JAEC). This also would be fed into EEC's policy review process. JAEC's Council for a New Framework for Nuclear Energy Policy (Framework

---

<sup>220</sup> Under Article 12 (3) of the Basic Act on Energy Policy, the Basic Energy Plan must be drafted by the Minister for Economy, Trade and Industry on the advice of ACNRE.

<sup>221</sup> In a handout prepared for meeting 5 of the FY1998 series of the Round Table Conference (21 January 1999), Tetsunari Iida questioned the legitimacy of advisory committees, in view of the fact that despite their very unrepresentative membership they make decisions about extremely political matters:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

<sup>222</sup> Interview with Naoto Kan, 12 March 2013.

<sup>223</sup> The Japanese title, *Kihon Mondai Iinkai*, is in some places translated as 'Basic Problems Committee'.

Council) (JAEC 2011–2012a) had already begun a review of nuclear energy policy in December 2010, but that process was suspended after the Fukushima nuclear accident. Meetings of the Framework Council were resumed on 27 September 2011 with virtually the same membership. The most notable changes were the inclusion of nuclear critic and Keio University economist Kaneko Masaru and the resignation of Masataka Shimizu, President of Tokyo Electric Power Company, but the Framework Council remained overwhelmingly dominated by proponents of nuclear energy.

Besides FIS and the Framework Council, the Ministry of the Environment’s Central Environment Council was requested to provide input on the CO<sub>2</sub> emission impacts of various energy policy scenarios. Also a Cost Estimation and Review Committee (Cost Committee) (EEC 2011–2012) was established within EEC to draw up a comparison of the costs of various energy sources. These committees were by no means the only committees where deliberations relevant to nuclear energy and energy policy were carried out,<sup>224</sup> but they were the main committees that had direct input into the discussions leading to a ‘national’ debate in July–August 2012 (section 4.2.4).

Shortly after the announcement of the policy review, then Prime Minister Naoto Kan declared that it was his personal view that Japan should ‘aim for a society that does not depend on nuclear energy’.<sup>225</sup> At the time Kan was already seen as a lame duck Prime Minister, having promised just two weeks earlier to resign once his disaster mission was complete (McCurry 2011), but his comments suggested that, unlike past policy review

---

<sup>224</sup> A list of the major committees considering issues related to energy policy was presented to FIS meeting 8 (18 January 2012) (Sankō shiryō 3: ‘Energy seisaku kanren no seifu-nai ni okeru omona kentō no ba’):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/008/pdf/8sankou3.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/008/pdf/8sankou3.pdf)

<sup>225</sup> My translation of a statement made by former Prime Minister Kan Naoto during a press conference held on 13 July 2011:

<http://nettv.gov-online.go.jp/prg/prg5095.html?t=57&a=1>



processes, this time there might be real change. It was an epoch making statement from a Japanese Prime Minister. In Kan's own words,

Before 3.11 there was not much discussion in the Diet about the possibility of phasing out nuclear energy. Most DPJ politicians, including myself, supported nuclear energy ... as a response to global warming and as an economic plus ... After 3.11 I recognised how great the risk was and changed my position to one of promoting a nuclear phase out. However, many DPJ politicians were unable to immediately change their views.<sup>226</sup>

About the same time, Prime Minister Kan took the unprecedented step of participating in two internet events aimed at reaching out to the general public. At the suggestion of his advisor Hiroshi Tasaka,<sup>227</sup> Kan participated in open dialogues with opinion leaders and the general public on 12 June 2011 and again on 19 June.<sup>228</sup> These dialogues were broadcast live over the internet. The second dialogue included a link up and discussion with members of the public in regional centres. According to Kan, the reason why he participated in these dialogues was that he felt his views about nuclear energy were not getting across to the public.<sup>229</sup> But even if his main purpose in participating in these events was to communicate his own views, the events nevertheless reflected his recognition of the importance of involving the public in the debate about Japan's energy policy. At the time he had in mind that a referendum was the best approach, although he did not formally articulate this view. He realised, however, that referendums were not established practice in Japan.<sup>230</sup>

---

<sup>226</sup> Interview with Naoto Kan, 12 March 2013.

<sup>227</sup> Interview with Naoto Kan, 12 March 2013. Interview with Kenichi Shimomura (Deputy Director General, Office of Cabinet Secretary for Public Relations during the Kan and Noda Administrations), 26 March 2013. See also Tasaka, 2012 (pp. 237-240).

<sup>228</sup> 'The Prime Minister and the Five Intellectuals Open Discussion Session', 12 June 2011: <http://nettv.gov-online.go.jp/prg/prg4972.html>  
'Open Dialogue between the PM and the Public on Natural Energies) 19 June 2011 (Japanese): <http://nettv.gov-online.go.jp/prg/prg5013.html>  
19 June 2011 (English): <http://nettv.gov-online.go.jp/eng/prg/prg2220.html>

<sup>229</sup> Interview with Naoto Kan, 12 March 2013.

<sup>230</sup> *ibid.*

If the initial direction of the energy policy review was established under a Prime Minister committed to reform and public participation, the review itself was carried out under a Prime Minister who was more ambivalent. Naoto Kan was replaced by Prime Minister Yoshihiko Noda on 2 September 2011. In his first policy speech, delivered on 13 September, he stated:

Concerning nuclear power generation, it is unproductive to grasp nuclear power as a dichotomy between "zero nuclear power" and "promotion." In the mid- to long-term, we must aim to move in the direction of reducing our dependence on nuclear power generation as much as possible. At the same time, however, we will restart operations at nuclear power stations following regular inspections, for which safety has been thoroughly verified and confirmed, under the premise that a relationship of trust is developed with the local government (Noda 2011).

Although this statement did not directly contradict the official position of the Kan Administration, there was a distinct change in both tone and action under Noda. Whereas Kan had requested the suspension of operations at the Hamaoka Nuclear Power Plant (Tabuchi 2011) and blocked the restart of Genkai Units 2 and 3 (Ito 2011). Noda pushed strongly for the restart of Kansai Electric Power Company's Ohi Units 3 and 4 (Obe & Dawson 2012). He also revived the push for nuclear exports, which Kan had let languish (Harlan 2011) after championing them before 3.11. Nevertheless, at least two of the key ministers in the Noda Ministry supported a nuclear phase out,<sup>231</sup> so the impetus for reform established under the Kan Administration continued under Noda.

---

<sup>231</sup> For example, Yukio Edano, who was Minister of Economy, Trade and Industry in the Noda Ministry and Chief Cabinet Secretary in the Kan Ministry, stated in the Diet's Economy and Industry Committee on 13 April 2013, 'I personally want to break away from dependency on nuclear energy and reduce nuclear dependency to zero as soon as possible.' See also his 2012 book (Edano 2012).

Motohisa Furukawa, who was Minister for National Policy in the Noda Ministry, stated in a You Tube video on his web site (my translation):

The problems of spent nuclear fuel and its final disposal have not been solved. Under these circumstances, as a result of the final disposal problem we will become unable to operate nuclear power plants. In that sense, considering this reality, nuclear power must be reduced to zero one day. I believe we have to face this reality. ... I believe we now must develop alternative energy so that we can get by without nuclear energy.

<http://www.furukawa.cc>

[https://youtube.googleapis.com/v/8CseplSZWz8?autoplay=1&rel=0&showinfo=0&ytsession=TQqS0G\\_Iah3krEMTFiSCXquLOC3G19NHo\\_uKvFIbtxjqKWgMoFTMmPyWWocvhBWUnM](https://youtube.googleapis.com/v/8CseplSZWz8?autoplay=1&rel=0&showinfo=0&ytsession=TQqS0G_Iah3krEMTFiSCXquLOC3G19NHo_uKvFIbtxjqKWgMoFTMmPyWWocvhBWUnM)

The main debate about the overall direction of energy policy took place in the Fundamental Issues Subcommittee (FIS). A separate debate occurred within the Framework Council, but this was secondary to the debate in the FIS and focused primarily on the nuclear fuel cycle. The Framework Council is dealt with in section 4.2.3 after discussing the FIS in section 4.2.2. These committee processes did not involve the general public directly, except that they accepted public comments throughout, but they can be seen as a form of public participation by virtue of their inclusion of representatives of citizens' groups and a more diverse range of discourses than in the past.

#### ***4.2.2 Fundamentalism in METI's Fundamental Issues Subcommittee***

The Fundamental Issues Subcommittee's (FIS)<sup>232</sup> *mandate* was to provide advice for the review of the 2010 Basic Energy Plan.<sup>233</sup> The aim was for a new Basic Energy Plan to be finalised by the summer of 2012. FIS was to produce multiple 'energy mix' scenarios for reducing Japan's dependence on nuclear power to be considered by a national debate involving the general public (section 4.2.4).<sup>234</sup> This represented a revolutionary development for public participation in Japan's nuclear energy and energy policy-forming processes, because the public would be given choices to consider, rather than a *fait accompli*, as had been the case pre-Fukushima. Originally the national debate was scheduled to start in spring 2012, but due to the inordinate amount of time spent on preliminary discussions in the FIS the national debate was delayed until summer. As it

---

SxHOzDZhG8gU\_7jsznM\_Afhi\_Jqu0VKVUbgxpDIIjmApGPVMWOTTpqEUEhZn\_6QSSrd  
xKE5vvA6phNILz2Ag

<sup>232</sup> Fundamental Issues Subcommittee web site:

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/)

<sup>233</sup> This was the first item of a five-point mandate given to FIS by the Minister of Economy, Trade and Industry, Yukio Edano at its first meeting on 3 October 2011 (transcript pp. 1-3):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/001/pdf/gijiroku1th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/001/pdf/gijiroku1th.pdf)

<sup>234</sup> Energy and Environment Council statement, 21 December 2011 (EEC 2011b, p. 16)

turned out, FIS did not even begin discussing scenarios until spring.<sup>235</sup> Since the government was unwilling to significantly delay its policy deadline, this caused the national debate to be very rushed (section 4.2.4).

As discussed in section 4.2.1, FIS membership was more diverse than any previous energy policy advisory committee. There were more nuclear critics and more representatives of citizens' organisations on the committee. The inclusion of these people meant that the range of discourses was wider than in the past. Nevertheless the committee's *representativeness* was questioned on the grounds that there was a lack of women and young people were totally absent.<sup>236</sup>

#### Proposals for public involvement

Although there was an expectation of some form of public participation at the decision-making stage, nuclear critics expressed concern about the lack of public participation at the agenda-setting stage of the review process.<sup>237</sup> They believed that if the role of FIS was to produce scenarios, *early public involvement* was essential.<sup>238</sup> Kenichi Oshima of Ritsumeikan University suggested holding FIS meetings around the country, beginning in Fukushima,<sup>239</sup> but that never happened. Instead, several of the nuclear critics on the committee formed an informal subcommittee of their own and visited Minami Soma in Fukushima Prefecture in mid-February 2012.<sup>240</sup> Also some members made a point of

---

<sup>235</sup> It began these discussions in meeting 15 on 14 March 2012.

<sup>236</sup> For example, Junko Edahiro at meeting 3 on 9 November 2011. Refer transcript p. 23:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/003/pdf/gijiroku3rd.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/003/pdf/gijiroku3rd.pdf)

<sup>237</sup> For example, Junko Edahiro and Hideyuki Ban at meeting 6 on 6 December 2011. Refer transcript pp. 6 & 15:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/006/pdf/gijiroku6th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/006/pdf/gijiroku6th.pdf)

<sup>238</sup> See for example Tetsunari Iida's submission to meeting 15 on 14 March 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/015/pdf/15-1.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/015/pdf/15-1.pdf)

<sup>239</sup> Meeting 7 on 12 December 2011 (transcript p. 8):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/007/pdf/gijiroku7th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/007/pdf/gijiroku7th.pdf)

<sup>240</sup> See comments by Hisa Anan during meeting 13 on 22 February 2012. Refer transcript p. 21:

reporting on their personal efforts to promote public discussion about energy policy.<sup>241</sup> But the only formal involvement of the general public before the national debate began was through public comments, which were accepted for the duration of the FIS process. Public comments were tabled at FIS meetings and published on the FIS web site and occasionally reference was made to them during meetings.<sup>242</sup> Accepting public comments throughout the process and tabling them at meetings represented progress of sorts, but there was cynicism about the way formal public comment processes had been used in the past to provide an alibi for the government to do what it wanted to do anyway (section 3.4.3).<sup>243</sup>

It became increasingly clear that the government had no intention of involving the general public in the agenda-setting stage of the policy-making process, but nor did it give any clear indication of the type of national debate it had in mind for the decision-making stage. Despite the call from nuclear critics for early public involvement, there was a dearth of concrete ideas from committee members until 11 April, when Junko Edahiro made a submission outlining international approaches to public participation,

---

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/013/pdf/gijiroku13th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/013/pdf/gijiroku13th.pdf)

<sup>241</sup> For example:

Junko Edahiro at meeting 11 on 9 February 2012 (p. 36) and meeting 16 on 19 March (p. 13):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/011/pdf/gijiroku11th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/011/pdf/gijiroku11th.pdf)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/016/pdf/gijiroku16th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/016/pdf/gijiroku16th.pdf)

Yuko Sakita at meeting 26 on 5 June 2012 (transcript p. 13):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/026/pdf/gijiroku26th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/026/pdf/gijiroku26th.pdf)

<sup>242</sup> For example, Hiroshi Takahashi and Tetsunari Iida drew attention to public comments in meeting 18 on 11 April 2012 and Iida referred to them in meeting 20 on 26 April 2012.

(Transcript of meeting 18, pp. 17 & 47):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/018/pdf/gijiroku18th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/018/pdf/gijiroku18th.pdf)

(Transcript of meeting 20, p. 27):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/020/pdf/gijiroku20th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/020/pdf/gijiroku20th.pdf)

<sup>243</sup> For example, Tetsunari Iida's comment at meeting 5 on 30 November 2011 (transcript p. 50):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/005/pdf/gijiroku5th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/005/pdf/gijiroku5th.pdf)

including deliberative polls and consensus conferences (sections 1.2.2, 2.3.1, and 2.3.2).<sup>244</sup> Two meetings later Yuko Sakita gave a presentation in which she recommended that deliberative polls be conducted in major centres around Japan.<sup>245</sup> In the same meeting Hiroshi Takahashi of Fujitsu Research Institute supported the concept of quantitatively measuring public opinion, be that through some form of opinion poll, or through a national referendum.<sup>246</sup> Tetsunari Iida had raised the idea of a national referendum on a couple of previous occasions<sup>247</sup> (refer section 4.3.3 for a discussion of the campaign for referendums on the future of nuclear energy), but the civil society representatives did not have a coordinated public participation strategy (refer discussion of limited anti-nuclear movement interest in process issues in section 3.4.2).

Behind the push within FIS for a deliberative poll was lobbying by *public participation experts* Professor Masaharu Yagishita of Sophia University and Professor Yasunori Sone of The Center for Deliberative Poll at Keio University (Yanase 2013, p. 69). Yagishita began speaking to people in the National Policy Unit of the Cabinet Secretariat and the Ministry of the Environment from about August or September 2011, suggesting that they consider deliberative approaches.<sup>248</sup> On 21 March 2012 he gave a presentation to JAEC<sup>249</sup> and about that time he also approached members of FIS<sup>250</sup> and

---

<sup>244</sup> Junko Edahiro's submission about international public participation methods presented to meeting 18 on 11 April 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/018/pdf/gijiroku18th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/018/pdf/gijiroku18th.pdf)

<sup>245</sup> Yuko Sakita's submission recommending a deliberative poll presented to meeting 20 on 26 April 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/020/pdf/gijiroku20th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/020/pdf/gijiroku20th.pdf)

<sup>246</sup> Meeting 20 on 26 April 2012 (transcript p. 40):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/020/pdf/gijiroku20th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/020/pdf/gijiroku20th.pdf)

<sup>247</sup> For example in meeting 2 on 26 October 2011 (transcript p. 13):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/002/pdf/gijiroku2nd.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/002/pdf/gijiroku2nd.pdf)

<sup>248</sup> Interview with Masaharu Yagishita, 8 January 2013.

<sup>249</sup> Masaharu Yagishita's power point presentation to JAEC's 21 March 2012 meeting:  
<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryoy2012/siryoy10/siryoy2.pdf>  
Transcript (from p. 11):

staff of the Agency for Natural Resources and Energy (ANRE), an agency within METI which provided the secretariat for FIS. Meanwhile, Sone ‘input information [about deliberative polls] to the Democratic Party and many ministerial members’.<sup>251</sup> Evidence of his input appeared in a Mainichi Shimbun article (Sengoku & Sone 2012), which took the form of a discussion about deliberative polls between Sone and Yoshito Sengoku, a powerful DPJ politician and acting chairman of DPJ’s Policy Research Committee. The outcome of the input from Yagishita and Sone is discussed in section 4.2.4, where the national debate is addressed in detail, but it is worth noting at this point that deliberative democracy scholars were very influential in shaping the public participation component of the DPJ government’s post-Fukushima energy policy-making process (refer section 2.3).

Throughout the course of the FIS meetings, expressions of interest in public participation came almost exclusively from nuclear critics, with the notable exception of Yuko Sakita, who from before the Fukushima accident had been involved in promoting dialogue on disposal of high-level radioactive waste.<sup>252</sup> Nuclear critics supported public participation in principal, even though there was little coordination amongst them about the form it should take. The remarkably few concrete suggestions concerning public participation and disclosure of information were summarised in a handout presented by the secretariat to meeting 20.<sup>253</sup> All the comments came from nuclear critics or Sakita. Kenji Yamaji, a veteran of many energy and nuclear energy policy committees,

---

<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryo2012/siryo15/siryo3.pdf>

<sup>250</sup> FIS meeting 20 on 26 April 2012 (transcript p. 39):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/020/pdf/gijiroku20th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/020/pdf/gijiroku20th.pdf)

<sup>251</sup> Interview in English with Yasunori Sone, 15 March 2013.

<sup>252</sup> Interview with Yuko Sakita, 21 December 2012. Also see the web site of NPO Genki Net for Creating a Sustainable Society of which Sakita is Director (NPO Genki Net):

<http://www.genki-net.jp/sub4.htm>

<sup>253</sup> Handout 7-2, meeting 20, 26 April 2012.

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/020/pdf/20-7-2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/020/pdf/20-7-2.pdf)

expressed his lack of support for public participation (other than voting in elections) as follows:

This time there was a major disaster. I believe it is unwise to seek the public will at a time of great anxiety, then to directly reflect that in decisions about very long-term policies such as energy policy. Are not the fact that we are here and the indirect democracy system known as representative democracy the wisdom born of such experience?<sup>254</sup>

Yamaji had made similar comments in the FY1998 series of the Round Table Conference (section 3.3.3). Due to their silence on the matter it is not possible to say definitively what other pro-nuclear members thought, but subsequent developments (section 4.4.2) suggest that their silence reflected a lack of enthusiasm for public participation. Masaharu Kitamura<sup>255</sup> of Tohoku University was exceptional as a member of the nuclear village who believed strongly in public participation for its own sake (section 2.3.1).

#### *Quantitative or qualitative scenarios?*

The principle role of FIS was to produce scenarios for the public to consider during the national debate, but soon after the discussion turned to defining these scenarios a fierce dispute arose between nuclear critics and the chair about the nature of the scenarios and the process by which they should be produced. The secretariat contacted members requesting them to provide percentage figures for the energy mix in 2030, but the eight members who explicitly argued for a phase out of nuclear energy submitted a joint response<sup>256</sup> expressing the view that this was an inappropriate framework for considering energy policy. Rather than ‘quantitative energy mix’ they argued that

---

<sup>254</sup> Meeting 17 on 27 March 2012 (transcript p. 48)  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/017/pdf/gijiroku17th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/017/pdf/gijiroku17th.pdf)

<sup>255</sup> Kitamura was not a member of FIS, but he played a role in the post-Fukushima review process as a member of an independent committee that monitored the deliberative poll (section 4.2.4).

<sup>256</sup> Last page of handout 1 submitted to meeting 15, 14 March 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/015/pdf/15-1.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/015/pdf/15-1.pdf)



‘qualitative strategic energy policy’ options should be the focus of future debate. The final numbers should rather, they believed, be seen as the outcome of consumer choices under policies aimed at achieving the society to which its citizens aspire.

Although the manner of the debate was by no means deliberative, in Dryzek’s terms it could be seen as an example of meta-deliberation about how the deliberative system should be organised (section 1.2.2). However no meta-consensus was achieved. The policy review was supposed to involve ‘national discussions overcoming the confrontation between the opposition to nuclear power generation and its promotion’ (EEC 2011a) (section 4.2.1), but the debate within FIS was *polarised* from the start, with many of the nuclear proponents arguing for minimalist adjustments to existing policy, while some of the nuclear critics challenged the right of nuclear villagers to be on the committee at all after the Fukushima Daiichi accident. When it became clear that differences could not be easily reconciled, nuclear critics proposed that they form a subcommittee to devise their own scenarios.<sup>257</sup>

The root of this dispute lay not only in the disagreement about the nature of the scenarios that should be produced, but also in the historical role of METI and bureaucratic control over advisory committees.<sup>258</sup> (Compare Aileen Smith’s 2004 proposal that the ‘policy-planning committee should give specific directions to the bureaucrats as to how the policy should be drawn up’ – section 3.4.2.) The role of the chair, Akio Mimura of Nippon Steel Corporation, exacerbated the polarisation. Mimura appeared to take the view that it was the chair’s prerogative to dictate how the meetings

---

<sup>257</sup> For example, Tetsunari Iida at meeting 16, 19 March 2012 (transcript p. 25):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/016/pdf/gijiroku16th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/016/pdf/gijiroku16th.pdf)

<sup>258</sup> For example Tetsunari Iida at meeting 23, 21 May 2012 (transcript p. 66)  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/gijiroku23th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/gijiroku23th.pdf)

would be run and to adjudicate on issues of dispute.<sup>259</sup> Indeed, his role was a bone of contention from the beginning. During the first meeting Tetsunari Iida challenged his suitability,<sup>260</sup> asking Minister of Economy, Trade and Industry Yukio Edano whether he thought Mimura was an appropriate choice as chairman in view of his of his association with Nippon Keidanren<sup>261</sup> and the fact that he was chairman of the Advisory Committee for Natural Resources and Energy when it produced the 2010 Basic Energy Plan. Besides questioning Mimura's appointment, Iida also questioned the appropriateness of METI's role in drafting a new Basic Energy Plan. He requested that the process not be managed in the forcible ('*gōin*') manner of the past. Edano expressed some sympathy with Iida's view but said that given time constraints the energy policy review would have to take place under the existing administrative arrangements. As a consequence, trust in the *independence* of the process was compromised.

The tension between Mimura and Iida became more pronounced when the discussion of scenarios began. Iida was left with the choice of either continuing to confront Mimura at the risk of breaking the whole process, or pulling back and letting the process run its course. In the end he chose the latter option.<sup>262</sup> In regard to the scenarios themselves, the nuclear critics largely relented, shifting their focus to the question of the percentage of nuclear energy in electricity generation. However three committee members, who were not explicitly anti-nuclear but approached the debate from an economic rationalist

---

<sup>259</sup> For example meeting 18, 11 April 2012 (transcript p. 47-49):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/018/pdf/gijiroku18th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/018/pdf/gijiroku18th.pdf)

<sup>260</sup> Refer Tetsunari Iida's comment and comment and Yukio Edano's response meeting 1, 3 October 2011 (transcript pp. 9 & 33):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/001/pdf/gijiroku1th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/001/pdf/gijiroku1th.pdf)

Refer also Iida's submission to the same meeting:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/001/pdf/iida.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/001/pdf/iida.pdf)

<sup>261</sup> Mimura was a former Vice Chairman of the staunchly pro-nuclear peak business body.

<sup>262</sup> Interview in English with Tetsunari Iida, 3 September 2012: 'It was very difficult to judge whether I should break it or continue.'

perspective, refused to endorse percentages and instead promoted a market-based scenario in which the energy mix was the outcome of consumer choices.

FIS eventually finalised the scenarios on 5 June 2012 and submitted an Interim Report (FIS 2012)<sup>263</sup> to the Energy and Environment Council (EEC). (EEC's response is discussed in section 4.2.4.) The Interim Report included four scenarios and one reference scenario: 0 percent nuclear, 15 percent nuclear, 20-25 percent nuclear, a market-based scenario and a reference scenario of 35 percent nuclear. The 35 percent scenario was relegated to the status of reference scenario at the last minute as a result of strong disagreement to its inclusion from many of the committee members. Details of the percentage-based scenarios (excluding scenario 4, the market based scenario) are shown in Appendix 7. The percentages related only to electricity not energy as a whole, so the Interim Report did not represent a basis for a comprehensive energy plan, but the existence of a clear nuclear phaseout scenario among the options for discussion was a major breakthrough compared to pre-Fukushima policy-forming processes (section 3.3.4).

The 15 percent scenario was the subject of much debate. Nuclear critics pointed out that it was unclear whether it represented a staging post on the road to a complete nuclear phase out, or a level at which nuclear energy would stabilise.<sup>264</sup> Some sought to limit it to the former interpretation, stating that the 15 percent scenario should be interpreted to mean natural attrition, with no new reactors built and the life of nuclear power plants

---

<sup>263</sup> Draft Interim Report, 'Energy mix no sentakushi no gen'an ni tsuite', presented to meeting 26, 5 June 2012:

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/026/pdf/26-1-2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/026/pdf/26-1-2.pdf)

<sup>264</sup> For example, refer Junko Edahiro's presentation to meeting 23 on 21 May 2012 (transcript, p. 57):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/gijiroku23th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/gijiroku23th.pdf)

Edahiro's diagram 'Vector to shite no sentakushi' illustrating three possible variations of the 15% scenario:

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/23-13.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/23-13.pdf)

limited to 40 years.<sup>265</sup> In the end the interpretation was left open. This became an important issue in the interpretation of the outcome of the national debate (section 4.2.4).

The clearest and most succinct expression of an alternative, non-percentage-based set of scenarios was submitted by Tetsunari Iida of the Institute for Sustainable Energy Policies.<sup>266</sup> He proposed the following three ‘easy for the public to understand’ scenarios based on the discussions about numerical targets:

1. No numeral targets: ‘Leave it to the market.’
2. Aim for zero nuclear, although the time of achieving it varies.
3. Reduce nuclear dependence, but retain a certain amount of nuclear energy.

The philosophy behind each scenario was as follows:

1. Abandon the ‘national policy / private management’ approach, incorporate social costs and leave it to the market.
2. Shake off the nuclear safety myth and make a political decision to phase out nuclear energy.
3. From the perspective of energy security maintain a minimum level of nuclear power plants.

He argued that energy economic evaluations should be ‘no more than supplementary material for the three scenarios’. Iida’s scenarios effectively combined under scenario 2

---

<sup>265</sup> For example, Hideyuki Ban at meeting 23, 21 May 2012 (transcript p. 55):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/gijiroku23th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/gijiroku23th.pdf)

<sup>266</sup> Submission by Tetsunari Iida to meeting 24 on 24 May 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/024/pdf/24-7.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/024/pdf/24-7.pdf)

the zero scenario and the 15 percent scenario tending to zero from the above table, while the 20-25 percent scenario and the 15 percent scenario continuing into the future were combined in scenario 3, except that the numbers and timing were left flexible. However, in the face of forcible opposition from the chair and support for percentage-based scenarios from the pro-nuclear members, Iida and the other nuclear critics grudgingly relented. As a result, the national debate revolved around the percentage of nuclear energy in the energy mix (section 4.2.4).

### Antithesis of deliberation

The above discussion illustrates the *polarised* nature of the discussions within FIS and the lack of *meta-consensus* on the aims, but was there any other sense in which meta-consensus was achieved? The mandate articulated by Minister of Economy, Trade and Energy, Yukio Edano, at FIS's first meeting included the following point: 'Rather than looking for points of compromise, conduct down to earth discussion, while confirming the facts and their basis.'<sup>267</sup> This could be interpreted as a less sophisticated version Dryzek's (2010) notion of meta-consensus:

Meta-consensus can refer to agreement on the legitimacy of contested values, on the validity of disputed judgments, on the acceptability and structure of competing preferences, and on the applicability of contested discourses (p. 15).

In the course of the FIS meetings, points of agreement and disagreement between members were identified in a superficial way,<sup>268</sup> but the basis of the disputes was not analysed in the depth necessary to generate any sort of meta-consensus. This was partly

---

<sup>267</sup> This was the third item of a five-point mandate given to FIS by the Minister of Economy, Trade and Industry, Yukio Edano at its first meeting on 3 October 2011 (transcript p. 2): [http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/001/pdf/gijiroku1th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/001/pdf/gijiroku1th.pdf)

<sup>268</sup> 'Major discussion points toward the establishment of a new "Basic Energy Plan for Japan"' (20 December 2011)  
English version  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/pdf/ronen\\_eng.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/pdf/ronen_eng.pdf)  
Japanese version  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/pdf/rontenseiri.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/pdf/rontenseiri.pdf)

due to the chair's facilitation style and to the large number of committee members. Mostly committee members took turns to speak, going around the table in order rather than engaging in free interchange. This approach allowed little room for asking follow up questions, or pursuing specific points in order to get to the bottom of disputes. FIT's report to EEC reflected this situation, simply grouping the main positions expressed.<sup>269</sup> Other than an econometric analysis (see below), the type of criteria-based analysis that had been demanded by nuclear critics in the pre-Fukushima era (sections 3.3.3, 3.3.4, 3.4.2, and 3.4.3) was not carried out.

When I interviewed Professor Masaharu Yagishita of Sophia University, he expressed the problem as follows:

Did real debate take place?... Clearly committee members had different opinions and their values were different. There was no process of thorough debate about that in the advisory committee ('*shingikai*'). They all just stated their own opinions, then the secretariat's bureaucrats arranged them by the next meeting, negotiating behind the scenes in some cases. In advisory committee processes like that you can't clarify the opinion structure among stakeholders in the true sense.... Whatever you say, in advisory committee processes the debate runs within the rails of the chair.<sup>270</sup>

It must be concluded, therefore, that despite the scale of the crisis to which it was responding and the ministerial level awareness that the status quo was no longer viable, the Fundamental Issues Subcommittee operated (with some notable but not fundamental differences) in the standard fashion of Japanese government advisory committees. It was the antithesis of deliberation.

---

<sup>269</sup> Draft report 'Energy mix no sentakushi no gen'an ni tsuite', tabled at Fundamental Issues Subcommittee meeting 26, 5 June 2012, pp. 3-20:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/026/pdf/26-1-2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/026/pdf/26-1-2.pdf)  
See also Minister for Economy, Trade and Industry's report, "'Energy mix no sentakushi no gen'an" ni kan suru Sōgō Shigen Energy Chōsakai ni okeru kentō jōkyō' (The status of the Advisory Council for Natural Resources and Energy's consideration of 'Draft energy mix options')", tabled at Energy and Environment Council meeting 9, 8 June 2012:  
<http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120613/shiryō1.pdf>

<sup>270</sup> Interview with Masaharu Yagishita, 8 January 2013

By comparison, Tetsunari Iida said of the FIS process, 'the discussion never went beyond exchanges of one-sided arguments by supporters and critics' (Iida 2012).

### Objective data?

In regard to the Minister's concern for 'confirming the facts and their basis', during the course of the FIS process four organisations/individuals<sup>271</sup> were contracted to produce estimates of the economic impact of the proposed energy mix scenarios using econometric models. A fifth organisation<sup>272</sup> also produced estimates that were used as a reference. These econometric models were intended to fulfill the 'verify objective data' principle of the Energy and Environment Council (EEC)'s July 2011 interim discussion points (EEC 2011a, p. 13), but the objectivity, or at least the validity of the data they represented was questioned by nuclear critics and market economists on various grounds, including the fact that the models were actually not used in the manner for which they were designed. Normally the electric power supply mix is the output of such models, but in this case it was the input.<sup>273</sup> Furthermore, econometric models can only be as good as the parameters that are used and the figures that are input. Tetsunari Iida pointed out the distorting effect of assuming that energy saving is the same across all scenarios,<sup>274</sup> while Junko Edahiro pointed to factors that are not picked up in such models, such as human suffering from nuclear accidents.<sup>275</sup>

Another attempt to 'verify objective data' which, while not directly related to FIS fed into the FIS process, was the EEC's Cost Estimation and Review Committee (Cost

---

<sup>271</sup> Research Institute of Innovative Technology for the Earth, National Institute for Environmental Studies, Kanemi Ban of Osaka University, Koji Nomura of Keio University.

<sup>272</sup> Japan Center for Economic Research

<sup>273</sup> Meeting 21, 9 May 2012 (Handout 1 p. 16)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/021/pdf/21-1-1.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/021/pdf/21-1-1.pdf)

Refer comment by Ryutaro Kono at meeting 21, 9 May 2012 (transcript pp. 39-40)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/021/pdf/gijiroku21th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/021/pdf/gijiroku21th.pdf)

<sup>274</sup> Meeting 23, 21 May 2012 (transcript pp. 29-30):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/gijiroku23th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/gijiroku23th.pdf)

<sup>275</sup> Meeting 23, 21 May 2012 (transcript p. 37):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/gijiroku23th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/gijiroku23th.pdf)

Committee). A critique of this committee is presented in Appendix 8. Like the econometric models, it did not yield a meta-consensus in the sense of agreement that it succeeded in ‘confirming the facts and their basis’.

#### Areas of progress

Although the traditional way in which the FIS was run prevented the achievement of meta-consensus on aims or content, it is nevertheless important to acknowledge that in a number of ways it represented considerable progress on pre-Fukushima processes. Perhaps the most fundamental improvement was the fact that *multiple options*, including a nuclear phaseout, were seriously considered.

Another area of progress was the *wider range of discourses* represented by the increased number of nuclear critics and NGO representatives on the committee. It is important not to lose sight of the *influence* these people had on the outcome of the FIS debate. While they did not succeed in persuading the other FIS members to opt for qualitative rather than quantitative scenarios, they nevertheless influenced the scenarios that were finally chosen. For example, if it were not for their strenuous objections the 35 percent nuclear scenario would not have been relegated to reference status. As for the zero nuclear scenario, even if the post-Fukushima environment demanded consideration of a nuclear phaseout, it is unlikely that it would have been treated as a credible option without the nuclear critics and civil society representatives.

A further area of improvement was *transparency*. Meetings of the FIS were open to the public, broadcast live and uploaded on Ustream and YouTube. Meeting documents were available within a day on METI’s web site and transcripts were published within about a month. Furthermore, no evidence has surfaced to date of secret meetings such as those held during the Japan Atomic Energy Commission’s policy review process



(section 4.2.3). On the other hand, as in the past, the process by which committee members were selected was opaque.

From the perspective of public participation, however, although voices from the general public were communicated via public comments and in the presentations of some FIS members, the *general public* had no discernible impact on the content or outcome of the debate within FIS. They would have to wait for the national debate to have their say (section 4.2.4), but they were not given an opportunity to influence the agenda of that debate.

#### ***4.2.3 Atomic Energy Commission exposed***

In parallel with METI's Fundamental Issues Subcommittee (FIS), after the Fukushima accident the Japan Atomic Energy Commission's (JAEC) Council for a New Framework for Nuclear Energy Policy (Framework Council)<sup>276</sup> held meetings as one of the three committees contributing to the Energy and Environment Council's policy review (section 4.2.1). Five meetings of the Framework Council had been held before the accident, but the process was suspended after the accident. It resumed on 27 September 2011 with much the same membership as before the Fukushima nuclear accident, dominated as before by nuclear proponents. Just four members were unequivocal nuclear critics, three representing citizens' organisations and one academic. In that respect it very much remained in the pre-Fukushima mold, with a far less diverse range of discourses represented than FIS.

As with FIS (section 4.2.2), the only opportunity for the public to contribute to the *agenda-setting stage* was through public comments. Comments were accepted throughout the process and tabled at meetings, although there was very little discussion

---

<sup>276</sup> Framework Council's web site: [http://www.aec.go.jp/jicst/NC/tyoki/tyoki\\_sakutei.htm](http://www.aec.go.jp/jicst/NC/tyoki/tyoki_sakutei.htm)



Council began its deliberations, METI had already pre-empted JAEC by setting a target of 53 percent nuclear energy in the electricity mix by 2030, based on the construction of 14 new nuclear power plants, in the 2010 Basic Energy Plan (ANRE 2013a, p. 3; METI 2010b). After 3.11 these targets could no longer be used as a basis for discussion, but the task of considering the future contribution of nuclear energy was assigned to the Fundamental Issues Subcommittee (FIS) (section 4.2.2), not to JAEC. With its *raison d'être* called into question more than ever before, JAEC established a Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc (Technical Subcommittee) (JAEC 2011–2012b) to ‘put together the data necessary to carry out a comprehensive assessment of nuclear power and the nuclear fuel cycle’.<sup>282</sup> After outlining the work of this subcommittee, I will describe how the revelation of secret meetings associated with the subcommittee led to one of the biggest crises in JAEC’s history.

#### *Technical Subcommittee’s tasks*

The Technical Subcommittee carried out two tasks between 11 October 2011 and 16 May 2012:

- 1) It compared the cost of nuclear fuel cycle options, including reprocessing and direct disposal of spent nuclear fuel, and estimated the accident risk cost of nuclear power plants.
- 2) It assessed nuclear fuel cycle policy options based on energy mix scenarios being considered by METI’s Fundamental Issues Subcommittee.

The Energy and Environment Council’s (EEC) Cost Estimation and Review Committee (Cost Committee) commissioned JAEC’s Technical Subcommittee to calculate nuclear

---

<sup>282</sup> JAEC decision establishing the Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc., ‘Genshiryoku Hatsuden Kaku Nenryō Cycle Gijutsu Tō Kentō Shō-iinkai no secchi ni tsuite’ 27 September 2011: <http://www.aec.go.jp/jicst/NC/about/kettei/kettei110927.pdf>

fuel cycle and accident risk costs.<sup>283</sup> On 10 November 2011 the Technical Subcommittee published a range of cost estimates based on different assumptions.<sup>284</sup> In an effort to improve the level of *transparency* it also published raw data in the form of excel charts with the figures on which the fuel cycle cost calculations were based.<sup>285</sup> This went some way towards addressing criticisms leveled by nuclear critics in the past (section 3.3.4), but increased transparency in this area could not compensate for other transparency problems revealed during the course of the Technical Committee's deliberations.

After publishing the cost estimates, the Technical Subcommittee began working on a *criteria-based assessment* of nuclear fuel cycle policy options. The assessment was by no means objective,<sup>286</sup> but it was less arbitrary than the fuel cycle assessment for the 2005 *Framework* (section 3.4.3). (An outline of the format of these deliberations is included in Appendix 9.) This assessment was meant to form the basis of JAEC's contribution to EEC's energy and environment policy review, complementing FIS's contribution on the energy mix and MoE's Central Environment Council's contribution on CO<sub>2</sub> emissions (section 4.2.1). Therefore, even if there was minimal public participation at the agenda-setting stage, in theory there should have been an opportunity for the public to contribute during the national debate. However, as discussed below, the fuel cycle was effectively excluded from the national debate, so in

---

<sup>283</sup> Letter ('Cost tō shisan e no kyōryoku no onegai (an)') from the chairman of EEC's Cost Committee to the chairman of JAEC (7 October 2011)

<http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryosiryoy1/ssiryoy2-1.pdf>

<sup>284</sup> English translations of cost estimates released on 10 November 2011 (JAEC 2011):

[http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_e.pdf)

[http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110\\_1\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_1_e.pdf)

[http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110\\_2\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_2_e.pdf)

<sup>285</sup> The following link contains all the Technical Subcommittee's documents:

[http://www.aec.go.jp/jicst/NC/tyoki/tyoki\\_hatsukaku.htm](http://www.aec.go.jp/jicst/NC/tyoki/tyoki_hatsukaku.htm)

<sup>286</sup> Several members of the Framework Council and the Technical Subcommittee expressed their dissatisfaction in some form or other, but perhaps the plainest statement came during the second last meeting of the Technical Subcommittee. Toshihiro Matsumura of Tokyo University said, 'I can't understand why the wording is so biased.' See the transcript of meeting 14, 8 May 2012, page 42: <http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryosiryoy14/gijishidai.pdf>

the end JAEC's contribution was not subjected to any meaningful public participation process.

### Secret meetings scandal

The Technical Subcommittee's assessment was completed on 16 May and submitted to the Framework Council<sup>287</sup> and to JAEC (Suzuki, Tatsujiro 2012), but neither ever formally endorsed the assessment. On 24 May the Mainichi Shimbun carried explosive articles about a secret meeting between JAEC and nuclear industry representatives during which the Technical Subcommittee's draft report was distributed and discussed (Mainichi Japan 2012e, 2012j). This followed earlier Mainichi articles (8 May) claiming that a draft for the Framework Council's 24 April meeting was distributed to industry representatives and METI officials and that it was withdrawn as a result (Kobayashi, S, Ota & Tanaka 2012; Shimizu & Matsuya 2012). Evidently Mainichi had a mole, because in the days and weeks that followed, it published more and more revelations in ever more explicit detail about secret meetings that had continued throughout the period of the Technical Subcommittee's assessment. These revelations destroyed any credibility the process might have had in regard to *transparency* and *independence*.

Nuclear critics Mie Asaoka, Hideyuki Ban and Masaru Kaneko drew attention to the initial Mainichi articles in their submissions to the Framework Council's 9 May meeting.<sup>288</sup> They linked the issue to *conflict of interest*, in particular of the JAEC secretariat. The fact that the secretariat included people seconded from industry had

---

<sup>287</sup> Step 3 reports from the Technical Subcommittee were tabled at meeting 19 of the Framework Council on 23 May 2012:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei/siryosakutei19/index.htm>

<sup>288</sup> Refer submissions by members to Framework Council meeting 18, 9 May 2012:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei/siryosakutei18/siryos3.pdf>

See also the meeting transcript:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei/siryosakutei18/siryos4.pdf>

long been a bone of contention (section 3.4.3). Ban demanded that the process be recommenced and a new secretariat established made up of members selected from within the Framework Council. This demand reflected the consistent concern of nuclear critics about *bureaucratic control* of the policy-making process. (Compare the demand by nuclear critics on METI's Fundamental Issues Subcommittee for members to draft scenarios (section 4.2.2) and Aileen Smith's process proposal during the pre-Fukushima Conference for Public Participation (section 3.4.2).) Nevertheless, despite their rhetoric, at that stage none of the nuclear critics on the Council seemed willing to obstruct the process. However they approached the 29 May meeting in a different frame of mind. More revelations had come to light, and in the face of their dogged persistence the chairman ended up aborting the meeting before debate on the set agenda began.<sup>289</sup> That was the last meeting of the Framework Council. JAEC officially suspended it on 21 June 2012,<sup>290</sup> although it was not finally terminated until 2 October 2012.<sup>291</sup> (Refer Appendix 10 for a summary of subsequent reviews of JAEC's status.)

As the scandal played out, investigative reporters uncovered JAEC practices of holding off-record meetings that went back long before the Technical Subcommittee. Mainichi Shimbun discovered that secret meetings were held in 2004 during the process that produced the 2005 *Framework for Nuclear Energy Policy* (Mainichi Japan 2012g) and a report by Kyodo said,

According to...former [JAEC] commissioners, the closed-door meetings were held even before the 2001 government reorganization when Japan Atomic

---

<sup>289</sup> Transcript of Framework Council meeting 20, 29 May 2013:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei/siryosakutei20/siryos6.pdf>

<sup>290</sup> JAEC decision suspending the Framework Council, 'Shin Taikō Sakutei Kaigi ni okeru shingi no chūdan ni tsuite' (21 June 2012):

[http://www.aec.go.jp/jicst/NC/about/kettei/kettei120621\\_1.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/kettei120621_1.pdf)

<sup>291</sup> JAEC decision abolishing the Framework Council, 'Shin Taikō Sakutei Kaigi no haishi tō ni tsuite' (2 October 2012): [http://www.aec.go.jp/jicst/NC/about/kettei/kettei121002\\_1.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/kettei121002_1.pdf)

JAEC decision abolishing the Technical Subcommittee, 'Genshiryoku Hatsuden Kaku Nenryō Cycle Gijutsu Tō Kentō Shō-iinkai no haishi ni tsuite' (2 October 2012):

[http://www.aec.go.jp/jicst/NC/about/kettei/kettei121002\\_2.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/kettei121002_2.pdf)

Energy Commission was placed under the Cabinet Office, and discussed the agenda for coming regular meetings....[A]n official at the Ministry of Economy, Trade and Industry said the meetings "played a role in framing ideas within the nuclear power village (the nuclear power industry) and to fill voids that opponents (of nuclear power) could take advantage of."

Yukiko Miki, administrative director of nonprofit organization Information Clearinghouse Japan, called the preparatory meetings disturbing, saying if things are prepared beforehand, "regular meetings will not be substantial" (Kyodo 2012a).

When I interviewed her, Miki told me that she was not of the view that such prior meetings should absolutely not be held. Rather, she saw the problem as follows:

[JAEC] had been listening to the opinions of companies in advance, receiving data from them, and coordinating with them as if it were completely natural, so it hadn't occurred to it that such forums were a very big issue for the transparency and openness of their decision-making and their meeting management.<sup>292</sup>

JAEC's long-standing lack of awareness of the transparency implications of its secret meetings suggests that to a significant degree the closed culture of the days before the *Monju* accident remained intact. Although it does not excuse the practice, there was also an administrative rationale for the secret meetings. By itself JAEC did not have the staff, expertise or resources to prepare the materials required for meetings. This was especially true since the 2001 reorganisation of central government agencies, when the Science and Technology Agency was broken up and JAEC was placed under the Cabinet Office (Appendix 2.6). It relied on staff seconded from industry and other government agencies, input via secret 'study meetings', and data provided by industry. At the time the scandal broke the JAEC secretariat included four staff seconded from electric power companies, three from plant manufacturers, one from the Central Research Institute of Electric Power Industry (CRIEPI), and two trainees from the Japan

---

<sup>292</sup> Interview with Yukiko Miki, Executive Director of Information Clearinghouse Japan, 5 February 2013

Atomic Energy Agency (JAEA).<sup>293</sup> Symbolic of how thoroughly the independence of the process was compromised, an employee seconded from Japan Atomic Power Company actually chaired the secret meetings and deleted related emails when he left (Mainichi Japan 2012b).

A panel established to investigate the scandal released a report on 6 August 2012. It judged that the participants from the electric power industry had expressed their views during the ‘study meetings’ with the intention of influencing the deliberations (Technical Subcommittee Investigation Team 2012a, 2012b). It also judged that on 8 March 2012, before a draft document was distributed to Technical Subcommittee members for meeting 10 (28 March), electric power industry representatives had one of four potential fuel cycle policy options deleted as disadvantageous to their interests.<sup>294</sup> The three policy options assessed by the Technical Subcommittee (Appendix 9) might therefore have been four as follows:

- 1) all spent fuel reprocessed with continuation of fast breeder reactors (FBRs)
- 2) continuation of spent fuel reprocessing with excess spent fuel stored while a decision on commercialisation of FBRs is postponed
- 3) continuation of spent fuel reprocessing with excess spent fuel directly disposed of and FBRs discontinued
- 4) all spent fuel directly disposed of and FBRs discontinued (Technical Subcommittee Investigation Team 2012a, p. 29)

---

<sup>293</sup> This information was provided by the secretariat on 29 May 2012 during meeting 20 of the Framework Council (transcript page 19):

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei/siryosakutei20/siryos6.pdf>

<sup>294</sup> The document was revised in the absence of the chair of the Technical Subcommittee, JAEC Vice-Chairman Tatsujiro Suzuki, who was absent due to ill health, hospitalised from 4–13 March. Meeting 10 of the Subcommittee was postponed from 16 March to 28 March (Technical Subcommittee Investigation Team 2012a, p. 30).





JAEC's submission to ECC about the nuclear fuel cycle, endorsed at an extraordinary session (*'rinji kaigi'*) on 21 June 2012 (JAEC 2012), represented a breakdown of due process and was a return to the *arbitrariness* of the pre-Fukushima era (sections 3.3.4 and 3.4.3). JAEC approved the submission when the status of the Technical Subcommittee's report was still in limbo and before the investigation panel into the scandal commenced. Its recommendations went beyond the Technical Subcommittee's report by tying each of the three nuclear fuel cycle policy options to one of the three energy mix scenarios proposed by METI's Fundamental Issues Subcommittee (FIS). The Technical Subcommittee had not restricted the policy options in this way (Suzuki, Tatsujiro 2012, Betten 1, p. 11), but JAEC chose to pre-empt public discussion of some plausible options.

JAEC's submission to ECC, summarised in Appendix 11, recommended continuation of reprocessing of spent fuel and plutonium use for both the 15 percent and 20~25 percent nuclear energy electricity mix scenarios. In regard to FBRs, although there was a slight difference in the level of commitment for the two scenarios, in both cases *Monju* would be operated. The option of directly disposing of all spent fuel was eliminated except in the case where a policy of phasing out nuclear energy was adopted. This went against the spirit of the debate in the subcommittee, which was to propose a range of options presenting the advantages and disadvantages of each. The Technical Subcommittee's report did not eliminate direct disposal of all spent fuel for any of the energy mix scenarios.

Relating JAEC's recommendation to ECC back to the findings of the investigation panel into the secret meetings scandal, one finds that the 8 March 2012 secret study meeting's decision to eliminate the third of four nuclear fuel cycle policy options from

further consideration had more significance for the decision-making process than might have been imagined. The elimination of the option of continuing some reprocessing while discontinuing FBRs meant that a decision to continue reprocessing automatically became a decision to continue FBRs. Hence JAEC's decision to recommend the continuation of reprocessing except in the case of a nuclear phaseout meant recommending that FBRs be continued except in the case of a nuclear phaseout. Barring a policy decision to phase out nuclear energy altogether, this was as near to maintaining the status quo as the nuclear complex could have hoped for after the massive setback of 3.11. Had the secret study meeting not eliminated the third nuclear fuel cycle policy option, it is conceivable that JAEC might have included discontinuing FBRs amongst the policy options for the 15 percent scenario and even for the 20~25 percent scenario. It therefore seems fair to conclude that the investigation panel's judgment that 'the possibility that the conclusion was influenced cannot be completely refuted' was an understatement.

According to a report by Kyodo News (Kyodo 2012c), JAEC commissioners originally planned to drop the full reprocessing option altogether, but were pressured by METI officials to retain it. Consideration for a local government in Aomori Prefecture (presumably Rokkasho Village, which hosts the Rokkasho Reprocessing Plant and various other fuel cycle facilities) was said to be the reason. Kyodo said that the Commissioners could not agree on the matter, but the submission, with the full reprocessing option retained for the 20–25 percent scenario, was sent to EEC anyway. No dissent was recorded. Dissenting opinions are routinely recorded in decisions by the US Nuclear Regulatory Commission, but no such tradition exists in Japan's nuclear energy administration.

Parallels can be drawn between the 2012 JAEC fuel cycle recommendation and the 2004/5 policy review process. In both cases the public process was not where policy recommendations were actually formed. *The real decisions were the result of machinations that took place behind closed doors* (section 3.4.3).

#### Comparison of Framework Council and Fundamental Issues Subcommittee

Comparing the JAEC policy review process in the Framework Council with METI's process in the Fundamental Issues Subcommittee (FIS), the latter was clearly superior from the perspective of *transparency*, given that FIS has not been accused of any equivalent to the secret meetings scandal. For the same reason it might be argued that its *independence* was less compromised, but neither process could be called independent, given that they were chaired by renowned nuclear proponents and the secretariats were situated within the nuclear bureaucracy. It can clearly be said, however, that FIS represented a greater *range of discourses* and that there were more civil society representatives who had greater influence over the committee's report. However there was one way in which nuclear critics had more *influence* in the Framework Council than in the FIS. Due to the secret meetings scandal, the four nuclear critics on the Framework Council were able to play a significant obstructionist role, effectively causing the process to be aborted. This represented considerable influence on process, but given the way JAEC chose to arbitrarily distort the work of the Technical Subcommittee, it is questionable whether this turned out to be a positive influence.

From the perspective of public participation, neither process offered much scope for the *involvement* of ordinary citizens at the *agenda-setting stage*—only receiving and tabling public comments—but the METI process fed into the national debate in a much more meaningful way than the JAEC process. The scenarios produced by METI's Fundamental Issues Subcommittee formed the basis for the national debate, where

ordinary citizens' views were actively sought, but the nuclear fuel cycle, which was the focus of JAEC's input to the process, was effectively removed from the scope of the national debate (section 4.2.4).

*JAEC Vice-Chairman Tatsujiro Suzuki*

To conclude this section, it is appropriate to give some attention to the man at the center of the Technical Subcommittee controversy. Before becoming JAEC Vice Chairman Tatsujiro Suzuki was known as a critic of Japan's nuclear fuel and plutonium program (Suzuki 2010). The decision to eliminate the third fuel cycle option, which was the starting point for the scandal, was actually made in his absence while he was on sick leave (Technical Subcommittee Investigation Team 2012a, p. 30). I had the opportunity to interview him on a few occasions. His comments reveal something of the difficulty of working within the entrenched and closed culture of Japan's nuclear bureaucracy.

When asked to comment on his involvement in policy committees before and after joining JAEC, he related his experience as a member of the committee which drafted the 2006 Nuclear Energy National Plan (Nuclear Energy Subcommittee of the Advisory Committee for Natural Resources and Energy 2006). This was not a JAEC process, but a METI process.<sup>296</sup> He described the process as follows:

They were carefully crafted typical government advisory committee meetings ...  
I felt that the whole meeting was controlled. There was no substantial debate ...  
At each meeting each member spoke only 3 minutes and that's it. At the next meeting already the report was done.<sup>297</sup>

It was then that he found out how these nuclear energy policy-making committees operated:

---

<sup>296</sup> This was a clear example of METI rather than JAEC taking the lead in nuclear energy policy making.

<sup>297</sup> Interview in English with Tatsujiro Suzuki, 3 September 2012

I was aware that the secretariat was organizing separate breakfast meetings inviting some of the key members to prepare for the public meetings. I was invited to one of them – only one of them. I didn't realize that. I was invited to make comments on international issues. So I realised that this is how they operated. This was exactly the secretariat controlling the debate. The breakfast meeting was totally confidential. If you read the transcript you can't see why the conclusion came from the public debate. There's no sense of substantial discussion. The draft was made basically on these confidential meetings.<sup>298</sup>

When he became a JAEC Commissioner Suzuki tried to operate in a more transparent fashion:

This time I was responsible for the nuclear fuel cycle subcommittee. I was responsible for not doing that. We shouldn't have any confidential meetings with the members. The whole substantial debate should take place at the public meetings. All the drafts should be based on the comments made by the committee members ... Unfortunately the secretariat preparation meetings became a political problem. At least I tried very hard that those confidential meetings would not decide the report.<sup>299</sup>

Having known and worked with Suzuki before he became JAEC Vice-Chairman and listening to his comments during our interviews I have no doubt that he sincerely tried to maximise transparency and minimise the influence of the secret meetings. The publication of raw data on which the Technical Subcommittee's calculations were based was in keeping with the policy of the DPJ government, but it was also an example of the type of greater transparency that Suzuki had been advocating. However, in the end, the *weight of tradition* was too great. Secret meetings of a type that had been taken for granted as long as the nuclear complex had been required to uphold a *façade of transparency* were exposed to public view in the first nuclear policy review exercise after the Fukushima Daiichi nuclear accident.

---

<sup>298</sup> *Ibid.*

<sup>299</sup> *Ibid.*

#### 4.2.4 National debate

The processes in the Ministry of Economy, Trade and Industry's (METI) Fundamental Issues Subcommittee (FIS) and Japan Atomic Energy Commission's (JAEC) Framework Council discussed in sections 4.2.2 and 4.2.3 were essentially preparation for a national debate involving the general public. If FIS and the Framework Council took place at the agenda-setting stage of the process, the national debate took place at the decision-making stage. Comparing it to pre-Fukushima processes, the national debate corresponded to the public comments and public hearings called to consider draft policy documents, but whereas the pre-Fukushima processes offered a near final policy draft as a *fait-accompli*, the post-Fukushima national debate offered options from which the public could choose, on the presumption that their choices would influence the policy outcome.

The form of the national debate was not decided until the last minute. The government referred in its 29 July 2011 'Interim Compilation of Discussion Points' (EEC 2011a, p. 13) to 'national discussions' (*'kokuminteki giron'* generally translated in this thesis as 'national debate'<sup>300</sup>). On 21 December 2011 it issued 'Basic Principles' which stated that it aimed to hold a national debate in spring 2012 and to present an overall strategy in summer (EEC 2011b, p. 2). But as of 8 June 2012, when the Energy and Environment Council (EEC) considered the energy mix scenarios,<sup>301</sup> the form of the national debate still had not been decided. The rushed nature of the process, which resulted from this delay and the late submission of the preparatory committees' reports,

---

<sup>300</sup> I chose the translation 'national debate' as more natural than 'national discussions' used in government documents. Some have translated *kokuminteki giron* as 'national dialogue'. This resonates with the 'dialogue and deliberation' tradition, but in that case the Japanese expression would be *kokuminteki taiwa*. Furthermore, except perhaps for the deliberative poll, I judged that the process did not have enough of the characteristics of a dialogue (See, for example, the comparison of debate and dialogue in Diaz & Gilchrist 2010, pp. 2-3).

<sup>301</sup> Draft interim arrangement of the energy mix scenarios tabled at EEC's 8 June 2012 meeting, 'Sentakushi ni kan suru chūkanteki seiri (an)':

<http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120608/shiryo4.pdf>

had significant consequences for the national debate. Whether or not the consequences were fatal for the process is a matter of opinion (section 4.5.6).

The government finally released the national debate program on 29 June 2012 (EEC 2012b). The document included three of the four scenarios proposed by FIS (section 4.2.2). The three scenarios were based on (1) zero percent, (2) 15 percent and (3) 20–25 percent nuclear energy in the electric power mix in 2030. FIS's market-based scenario was not included and the reference scenario (35 percent) was also deleted. Very little was said about the nuclear fuel cycle, except that the zero scenario was linked to a policy of direct disposal of spent nuclear fuel, while the other two scenarios left open the possibility of either direct disposal or continuing with reprocessing. Given that the government effectively removed nuclear fuel cycle policy from the scope of the national debate, the following statement could be interpreted as meaning that the government intended to decide this key element of policy without reference to the public:

The government will also decide on the nuclear fuel cycle policy, based on the options proposed by the Japan Atomic Energy Commission and in line with the energy mix outline (EEC 2012b, p. 19).

The main components of the national debate were as follows:

- i. Development of the information database relating to the energy and environmental options
- ii. Holding of public hearing sessions relating to the energy and environmental options
- iii. Solicitation of public comments relating to the energy and environmental strategy
- iv. Conducting of a Deliberative Polling relating to the energy and environmental options (EEC 2012b, p. 18)



In addition to these, the government said it would ‘cooperate with local authorities and private organizations in holding explanatory meetings for citizens and closely examine the opinion polls arranged by the mass media, thereby grasping citizens’ thoughts comprehensively’ (EEC 2012b, p. 18). A considerable amount of information was uploaded onto a new special purpose website (National Policy Unit 2012).<sup>302</sup> Public hearings were held in eleven centres around Japan from 14 July to 4 August, public comments were accepted from 2 July to 12 August, and a deliberative poll was held on 4–5 August.

This section first describes these processes. The national debate was unprecedented in many ways and, along with informal post-Fukushima civil society participation (section 4.3), it is the pivot around which this thesis is constructed, so it is necessary to provide considerable detail. The description of the components of the national debate is followed by an account of the process by which the government assessed the national debate. This also was unprecedented in the history of Japan’s nuclear energy and energy policy-forming process and considerably enhanced the legitimacy of the whole process. The way the national debate was reflected in policy is discussed in section 4.4, followed by an overall assessment of the post-Fukushima policy-making process in section 4.5.

### *Public hearings*

Through the web site, members of the public were able to apply to present their views on the three scenarios, or to attend the hearings as members of the audience. For the first three meetings, nine people were selected to give presentations, three for each scenario. At the beginning of each hearing a government minister explained the purpose of the hearings, which was principally to listen to the public.<sup>303</sup> Then a senior

---

<sup>302</sup> National Policy Unit’s national debate web site ‘Hanasō, “Energy to kankyō no mirai!”’: <http://www.cas.go.jp/jp/seisaku/npu/policy09/sentakushi/index.html>

<sup>303</sup> ‘mimi o katamuke ...’ See the transcripts on the following web site:

bureaucrat explained the issues using a standard power point presentation based on EEC's 29 June 'Options for Energy and the Environment' document (EEC 2012b). After the government's presentations the nine selected members of the public presented their views in turn. When each speaker had presented they were given an opportunity to make follow up comments and ask questions of each other. The government did not take questions about the topic of discussion and there were no experts to provide technical advice. Nor were members of the audience given an opportunity to comment or ask questions, despite their frequent interjections and howls of protest. They were, however, able to express their views by responding to a questionnaire at the end of each hearing. The proceedings were broadcast live on the internet and transcripts (with the speakers' names deleted) were later published on the web site.

The hearings got off to a very bad start. It looked like they would degenerate into farce when in the second meeting (Sendai, 15 July 2012) an employee of Tohoku Electric Power Company spoke in favour of the 20–25 percent scenario. He didn't specifically say whether or not his company had told him to apply to participate, but he made it clear that he was presenting Tohoku Electric's views and spoke as if he was representing the company. Members of the audience were so outraged that they almost prevented the meeting from continuing after his presentation. Clearly embarrassed, Environment Minister Goshi Hosono tried to calm the audience and said that the participants had been selected by lot. One participant wryly noted that he believed that the selection by lot was fair, because they couldn't find anyone else in Tohoku who supported the 15 percent or 20–25 percent scenarios.<sup>304</sup> The following day, at the fourth hearing (Nagoya, 16 July) a Chubu Electric Power Company employee spoke on behalf

---

<http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/index.html>

Tomohito Ihara, a bureaucrat in the National Policy Unit, said the purpose was to give the public an opportunity to express their views in their own words, rather than for the government to explain or to get them to understand the scenarios (interview 10 January 2013).

<sup>304</sup> Transcript of hearing 2, Sendai 15 July 2012, pp. 14, 17, 30:

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/giji/2\\_full.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/giji/2_full.pdf)

of the 20–25 percent scenario. Unlike the speaker the day before in Sendai, he specifically stated that he was speaking in a personal capacity. The other speakers on behalf of the 20–25 percent scenario did not divulge their place of employment, but one of them was an employee of Japan Atomic Energy Agency’s Tono Geoscience Center, a government research centre looking into geological disposal of high-level radioactive waste.<sup>305</sup> In response to the public outcry, on 18 July the METI issued a request to electric power companies not to encourage their staff to apply to participate in the hearings.<sup>306</sup> Some people believed it was inappropriate to exclude electric power company employees from the hearings,<sup>307</sup> but a political decision was made to do so.

Other changes besides excluding power company employees were made beginning from the fourth hearing (Sapporo, 22 July). Due to the fact that far more applicants supported the zero scenario than the other two scenarios,<sup>308</sup> the number of people selected to speak in support of the zero scenario was increased to six, while the speakers selected on the basis of their support for the other two scenarios remained at three each. In practice participants did not always speak in favour of the scenario that they were selected for. Furthermore, many applicants did not support any of the scenarios. From the sixth hearing (Toyama, 28 July) two people were given a chance to speak in favour of ‘other’. Speakers for the 15 percent and 20–25 percent scenarios were reduced from three to two

---

<sup>305</sup> Reported on the anti-nuclear blog, Renga Tsūshin (2012), ‘Genshiryoku Kikō ni Iken Chōshukai, pub-come jishuku yōsei: Monbu Kagaku Shō 7 gatsu 19 nichi yoru “jimu renraku” de’: [http://rengetushin.at.webry.info/201207/article\\_9.html](http://rengetushin.at.webry.info/201207/article_9.html)

<sup>306</sup> Request drafted by METI for the minister’s signature, ‘Energy kankyō sentakushi ni kan suru Iken Chōshukai tō ni kakaru yōsei’ (18 July 2012): <http://www.meti.go.jp/press/2012/07/20120718006/20120718006.html>  
<http://www.meti.go.jp/press/2012/07/20120718006/20120718006-2.pdf>

<sup>307</sup> For example Kenichi Shimomura (at the time Deputy Director General, Office of Cabinet Secretary for Public Relations and facilitator of some of the hearings) took this view. Interview 26 March 2013.

<sup>308</sup> Of 1,447 people who applied to express their opinions at the hearings (excluding the Fukushima hearing for which figures are not available), 983 supported the zero scenario, 158 supported the 15% scenario and 237 supported the 20-25% scenario. From the sixth meeting, when a category ‘other’ was included, 69 people expressed an interest in speaking to this. These figures were derived from the summaries of the hearings on the following web site: <http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/index.html>

each to limit the numbers to twelve. Minister for National Policy Motohisa Furukawa said that this move was in response to questionnaires received from the audience in previous meetings.<sup>309</sup> In regard to the decisions to change the rules of the hearings midway through, Tomohito Ihara, a bureaucrat from the National Policy Unit who was involved in the whole process, made the following comment:

We changed the rules midway through. In the past government officials wouldn't change midstream. From an administrative perspective they didn't like to do so because it meant admitting they were wrong. The basic stance at the time was that since this was a national debate it should reflect public opinion and to the greatest extent possible the public should be able to agree with the results. On this principle, at that particular moment we thought it best to change the rules.<sup>310</sup>

Generally the 'others' believed that all nuclear power plants should immediately be permanently shut down. This could be regarded as a variant of the zero percent nuclear in 2030 scenario, but many people did not interpret it as such. In the hearings held in Naha (29 July) and Fukushima (1 August) the organisers were unable to find anyone to clearly endorse continuing with nuclear power. Given the special status of Fukushima as the direct victim of the nuclear accident, the hearing there was somewhat different from the hearings in other centres. A total of 30 people presented in two sessions. Most of the speakers gave impassioned pleas for a phase out of nuclear power.

The hearings were not deliberative. There were very few exchanges between the participants and even when participants were invited to make follow up comments or ask questions of other participants, many passed. The facilitation of the early sessions was poor. Evidently the facilitators were provided by a contractor and they had neither the authority nor the flexibility to respond to the often tense atmosphere and the heckling from the audience, which was sceptical of the independence and good faith of

---

<sup>309</sup> Transcript of hearing 7 (29 July 2012), Hiroshima, p. 4:

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/giji/7\\_full.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/giji/7_full.pdf)

<sup>310</sup> Interview with Tomohito Ihara, a bureaucrat in the National Policy Unit, 10 January 2013

the process. Facilitation was better when it was done by bureaucrats from the National Policy Unit. In the latter half of the series Kenichi Shimomura, Deputy Director General of the Office of Cabinet Secretary for Public Relations, facilitated several meetings. He took the liberty of departing from the script (Shimomura 2013, pp. 289-291), and in so doing succeeded in drawing out speakers more and minimising interjections from the audience.

Although the hearings did not go according to plan, they served a useful purpose. They showed that the real debate was not about the government's three percentage scenarios.<sup>311</sup> Rather it was about two alternatives: whether or not Japan should phase out nuclear power. A second dividing line fell between those who rejected the restart of nuclear power plants altogether and those who were willing to accept restart as an unavoidable risk. Either way, the overwhelming majority supported a phaseout, especially if one takes into account the fact that some of the people who supported the 15 percent scenario saw it as a staging post on the way to zero. Nuclear critics' fears that a majority would be lured into choosing the 15 percent scenario as a middle path proved to be unwarranted.<sup>312</sup> But interpretation of the meaning of this result was not as straightforward as it might seem. Participants were self-selecting, meaning that only people with a strong interest and strong views would have applied. For this reason it was questionable whether the participants' views could be seen as representative of the general population.

---

<sup>311</sup> Former Minister for National Policy Motohisa Furukawa informed me that the government didn't start from the premise of choosing one of the three scenarios. They were just a basis for discussion (interview 19 January 2013).

<sup>312</sup> This was a fear frequently expressed by nuclear critics and a significant factor in their criticism of the 3-scenario parameters of the debate. The issue was formally expressed in statement released by e-shift immediately after the 3 scenarios were officially announced (e-shift 2012c).

### Public Comments

The government originally intended to accept public comments from 2–31 July, but the deadline was later extended to 12 August. It is likely that part of the reason for the extension was demands from the anti-nuclear movement. (The influence of the anti-nuclear movement on the national debate is discussed in sections 4.3.1 and 4.3.2.) The response was unprecedented in at least two respects. First, a total of 89,124 comments were submitted. This far exceeded the number received in previous public comment exercises. Second, the responses were not standardised, meaning the people who responded cared enough to go to the trouble of composing their own comments, rather than copying a standard text provided by a lobby group. A third point, which, though not unprecedented for smaller public comment exercises, sent a powerful message to the government, was the fact that nearly 90 percent of comments favoured a nuclear phase out. Of the comments submitted by men 84.2 percent supported the zero scenario, while 90.5 percent of comments submitted by women supported that scenario (Minister for National Policy 2012a, p. 10). This did not include the 4.9 percent of men and 2.1 percent of women who chose ‘other’. Many of these favoured an immediate phase out rather than waiting until 2030. In fact, about 80 percent of comments received called for an immediate phase out (Minister for National Policy 2012b, p. 5).

The unprecedentedly large number of public comments presented logistic challenges for the bureaucrats who had to sort through them, but in response to demands from civil society and the media, and in order to maximise the credibility of the exercise, all comments, including those received by post and by fax, were published on the internet (with personal details deleted). Tomohito Ihara, a bureaucrat in the National Policy Unit, made the following comment:

In the situation where there was distrust of policy making processes, making the process as open as possible was one major method of restoring trust ... The

criterion for judging whether or not to extend the period for accepting public comments or whether or not to publish the public comments was that we would do whatever we could to gain acceptance for the results of the national debate.<sup>313</sup>

Ihara noted that, as a result of this openness, there were no criticisms of the way the public comments were categorised.

The large numbers and the overwhelming support for a nuclear phaseout lent considerable weight to the phaseout case, but, for the same reason as the public hearings, the representativeness of the public comments was questionable. They were not by themselves proof that the public as a whole favoured a nuclear phaseout. Since only highly motivated people would have responded, it remained unclear what the silent majority thought.

### *Deliberative Poll*

One of the main reasons the government chose to conduct a deliberative poll (DP) was that it was seen as a way of gauging precisely what the public hearings and the public comments could not provide, namely the opinions of the silent majority.<sup>314</sup> Even before the Fukushima nuclear accident, the government was concerned about the potential bias of public hearings and public comment exercises and was interested in methods of finding out what the silent majority thought. In relation to the public comment process initiated for the nuclear energy policy review that began in December 2010 (section 4.2.3), Tatsujiro Suzuki, Vice-Chairman of the Japan Atomic Energy Commission, made the following remark:

---

<sup>313</sup> Interview with Tomohito Ihara, a bureaucrat in the National Policy Unit, 10 January 2013

<sup>314</sup> ‘As has already been reported by the media, a deliberative poll (DP) will be conducted for the first time. The purpose is to gauge the opinions of the people who represent society, including the silent majority.’

Chief Cabinet Secretary Osamu Fujimura, Press Conference 3 August 2012  
[http://www.kantei.go.jp/foreign/tyoukanpress/201208/03\\_a.html](http://www.kantei.go.jp/foreign/tyoukanpress/201208/03_a.html)

It turned out that 90% of public comments were anti-nuclear, even before March 11. It shows two things. One is that pro-nuclear people already have a chance to express their opinions in public meetings and regular meetings so they don't need to make comments, so the NGOs or people who have a strong opinion on nuclear power come to this process to express their opinions. The second message is that the so-called silent majority shows no interest in sending public comments.<sup>315</sup>

JAEC took the issue seriously enough to go to the trouble of 'listen[ing] to so-called public consensus or public communication experts about methodologies to get a sense of the opinions of the general public.'<sup>316</sup> Nevertheless, it was not until the last moment that the government actually decided to conduct 'the first Deliberative Poll (DP) anywhere in the world that was commissioned by a government to get input on a subject of national importance before a national decision' (Fishkin 2012, p. 2 (Japanese), p. 1 (English)).

At such a late stage a key question was whether it was even possible to conduct a DP with little over one month's preparation. To answer this question bureaucrats sought the advice of Yasunori Sone of Keio University's Center for Deliberative Poll. Sone consulted James Fishkin, the inventor of the DP method and Director of Stanford University's Center for Deliberative Democracy, who said that the shortest preparation time had been four weeks for a DP held in Italy.<sup>317</sup> He said it was possible if the Random Digit Dialling (RDD) method was used for the initial questionnaire, instead of the standard approach of sending letters. RDD is commonly used in media opinion polls, but it has the disadvantage that people who do not have a landline telephone (particularly young singles who often only have a mobile phone) are left out.

---

<sup>315</sup> Interview in English with Tatsujiro Suzuki, 3 September 2012

<sup>316</sup> *Ibid.*

<sup>317</sup> Interview in English with Yasunori Sone, 15 March 2013



Evidently the decision to conduct a deliberative poll as part of the national debate was made at a political level sometime in mid June 2012<sup>318</sup> and on 22 June METI's Agency for Natural Resources and Energy issued a request for proposals (RFP)<sup>319</sup> to run a process in early August. Several public participation experts noticed the RFP and, concerned at the severe lack of preparation time among other things, they issued a statement critiquing the RFP details.<sup>320</sup> Their statement identified the following problems:

Problem 1: No apparent measure was taken to circumvent manipulation ...

Problem 2: No fair measure is promised for the legitimate selection of participants ...

Problem 3: Too tight schedule

The extent to which these concerns were prophetic is addressed later in this section.

The contract to run the DP was won by Hakuhodo, Japan's second biggest advertising agency. Hakuhodo created an executive committee comprising Yasunori Sone of Keio University, Masaharu Yagishita of Sophia University and Noboru Yanase of Komazawa University. Sone and Yagishita had been independently promoting the idea of holding a DP (section 4.2.2). Thinking that the government might not accept his proposal, Yagishita looked for funding and collaborators for an independent DP covering just one

---

<sup>318</sup> Interviews with Tomohito Ihara (10 January 2013), Masaharu Yagishita (8 January 2013) and Yasunori Sone (15 March 2013)

<sup>319</sup> The national debate as a whole was managed by the National Policy Unit of the Cabinet Secretariat, but it didn't have funding to run a deliberative poll, so METI, a much bigger organisation, funded the exercise. The request for proposal URL is as follows:

[http://www.enecho.meti.go.jp/appli/advertisement/120622a/pdf/aplad\\_120622a\\_1784.pdf](http://www.enecho.meti.go.jp/appli/advertisement/120622a/pdf/aplad_120622a_1784.pdf)

<sup>320</sup> 29 June 2012 statement by 26 public participation experts addressed to the Agency for Natural Resources and Energy:

Japanese: “Kakushinteki Energy Kankyō Senryaku no sakutei ni muketa kokuminteki giron no suishin jigyo no mondaiten ni tsuite”:

<http://matsuura-lab.org/dp-opinion-archive/contents-1.html>

English: ‘Issue Statement regarding the “Project for Promoting National Dialogue toward the Formulation of Innovative Strategy for Energy and the Environment”’:

<http://matsuura-lab.org/dp-opinion-archive/en/index.html>

locality.<sup>321</sup> He was successful in winning funding from the Japan Fund for Global Environment, and Naoyuki Mikami of Hokkaido University (who had extensive experience in public participation processes including a DP) and Noboru Yanase of Komazawa University (who was also a member of Keio University's Center for Deliberative Poll) agreed to collaborate with him. As a result, a small-scale event based on the DP method was held at Sophia University with participants from Kawasaki City on 12 August. This was recognised within the framework of the national debate under the 'explanatory meetings' category. Yagishita was not involved in the discussions with Hakuodo when it first won the contract for the official DP, but due to his experience in public participation related to climate and energy issues, Sone and Yanase asked him to join the official DP. He agreed to do so and brought with him not only his expertise, but also fairly advanced preparations for an independent DP-like event. Without that, Yagishita believes that it would not have been possible to organise the official DP in just over one month.<sup>322</sup>

The organisers responded to the abovementioned public participation experts' critical statement by taking the extraordinary step of establishing a Third Party DP Verification Committee, which included three of the statement's signatories, to observe the process and report their findings. This step was only agreed to as an exceptional measure by James Fishkin (Yanase 2013, p. 78), the inventor of the DP method who played a supervisory role in the energy and environment DP, but it was indicative of the determination of all involved to ensure the credibility of the process. The need to establish such a committee in the first place reflected the low level of trust in the government.

---

<sup>321</sup> Interview with Masaharu Yagishita, 8 January 2013

<sup>322</sup> *Ibid.*

Of the three principal problems identified in the experts' statement, the Third Party DP Verification Committee cleared the DP of suspicion of manipulation. It largely cleared the DP of bias in the selection of participants, except in regard to the bias built into the RDD method. However it identified a number of problems arising from the lack of preparation time. Indeed, even the need to resort to the RDD method was due to time constraints. Significant negative consequences of the lack of preparation time included the inadequate opportunity for members of the specialists committee to have input into the preparation of the briefing material<sup>323</sup> and the questionnaire and the lack of time to select a panel of experts<sup>324</sup> with the required range of expertise to answer participants' questions during the DP's plenary sessions (Third Party DP Verification Committee 2012, pp. 11, 14, 17, 23-27). Junko Edahiro and Yuko Sakita, both members of the specialists committee, confirmed that insufficient time was spent discussing the contents of the briefing material and that ideally more time should have been taken to consider the range of experts required.<sup>325</sup>

The public participation experts' statement also pointed out that 'independence of the management is not guaranteed'<sup>326</sup> because the request for proposal contained no reference to creation of an independent management organisation. However a three-person executive committee was established after Hakuho won the tender. The way the executive committee carried out its role ensured that the DP process was seen to be *independent*.

---

<sup>323</sup> Briefing material is sent to participants before DPs are held to give them an opportunity to learn about the issues in advance. This material must be balanced, giving fair coverage to the various positions on the issues under consideration. A specialists committee, comprising experts spanning the range of views, has input and vets the material.

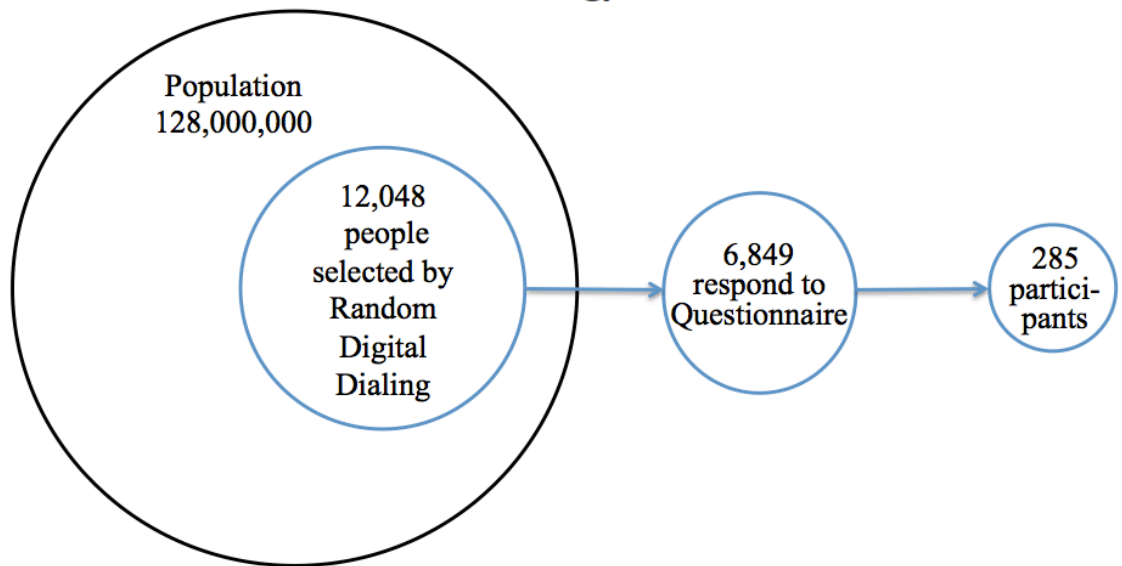
<sup>324</sup> Separate from the specialists committee, though with overlapping membership, expert panelists representing a range of views were chosen to answer questions posed by participants. In DPs participants are broken up into small groups. For each session, each group discusses the issues and formulates a question to ask the expert panelists during the plenary sessions.

<sup>325</sup> Interviews with Junko Edahiro (8 September 2012) and Yuko Sakita (21 December 2012)

<sup>326</sup> English version of 29 June 2012 statement by 26 public participation experts addressed to the Agency for Natural Resources and Energy, 'Issue Statement regarding the "Project for Promoting National Dialogue toward the Formulation of Innovative Strategy for Energy and the Environment"': <http://matsuura-lab.org/dp-opinion-archive/en/index.html>

The official DP was held at Keio University on 4~5 August 2012. A total of 285 people participated from 41 prefectures (Center for Deliberative Democracy 2012, pp. 2-3). Participants were selected from 6,849 respondents to the initial telephone survey. In fact, about 34,000 phone calls were made. Excluding business numbers, calls that were not answered and people who hung up immediately, 12,048 people received phone calls, but only 56.8 percent of those answered the questionnaire (Third Party DP Verification Committee 2012, p. 12) (see diagram below).

### **Deliberative Poll on Energy and the Environment**



The gender balance among respondents to the telephone survey was fairly even, with just a slight majority of women, but 67 percent of participants in the DP event itself were men. In terms of age distribution, 47 percent were over 60 and 37.6 percent were between 40 and 59, much the same age distribution as in the telephone survey (Minister for National Policy 2012a, p. 5) (see tables below).

<b>Gender Balance</b>		
	Men	Women
Telephone survey	47%	53%
DP event	67%	33%

<b>Age Distribution</b>			
	~ 39	40 ~ 59	60 ~
Telephone survey	16.8%	35.4%	47.6%
DP event	15.4%	37.6%	47%

So although the DP verification committee cleared the selection process of bias, given these imbalances, the final sample of participants *could not be said to have been a descriptively representative mini public.*

Besides asking the participants' their attitudes towards the three scenarios under consideration, the questionnaires included questions designed to establish attitudes to issues related to the overall theme, attitudes to general value-related issues, degree of trust towards various information sources, how well informed the participants were, how they evaluated the overall DP process, and how descriptively representative they were of the wider population.<sup>327</sup>

Participants were not asked to choose one of the three scenarios. Rather, they were asked to rate on a scale of 0 to 10 their attitude to each scenario, where 0 meant that they strongly disagreed and 10 meant that they strongly agreed with the scenario. In order to gain a sense of the reasons for their preferences, participants were also asked to rate the importance they placed on safety, stability of supply, prevention of global warming, and cost in choosing energy sources. This approach gave a richer picture of the attitudes of the participants than would have been obtained from a questionnaire that just asked them which of the three scenarios they preferred. It also revealed that the participants' views were not necessarily stable or consistent. For example, some of them gave relatively high scores to more than one scenario.

---

<sup>327</sup> Official documents related to the deliberative poll, including the three questionnaires, are available on the 'Energy kankyō no sentakushi ni kan suru tōron-gata yoron chōsa' page of the Cabinet Secretariat's web site:  
<http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/index.html>

Of the three scenarios, support was strongest for zero percent nuclear in 2030 and support for this scenario increased as a result of the deliberative process. For the 285 who actually took part in the DP event, the pattern of changing support is shown in the table below.<sup>328</sup>

<b>Deliberative Poll Results</b>			
	T1	T2	T3
0% (score 10)	46.0%	40.4%	49.8%
0% (score 6-10)	59.6%	60.4%	67.4%
15% (score 10)	31.2%	15.4%	16.8%
15% (score 6-10)	47.4%	41.4%	40.4%
20-25% (score 10)	17.5%	9.8%	9.8%
20-25% (score 6-10)	29.8%	24.2%	23.9%

T1 = initial phone survey<sup>329</sup>

T2 = questionnaire at beginning of DP event<sup>330</sup>

T3 = questionnaire at end of DP event<sup>331</sup>

These shifts were substantial and lent considerable credibility to calls for a nuclear phase out. When individual participants' responses are investigated it turns out that there was much more *changing of preference in all directions* than is recognisable by just looking at the above overall trends. In all, about half the participants changed their preference throughout the course of the DP (Minister for National Policy 2012b, p. 5). This suggests that the objective of hearing the voices of the *silent majority* was achieved to a significant extent, because the silent majority is thought to have less clearly formed opinions than people who respond to calls for public comments or who apply to express their opinions at public hearings. Dryzek (2010) observes:

---

<sup>328</sup> Due to the different basis used, there is some variation between the figures in the official tables of results and the official DP report. All figures quoted are taken from the questionnaire results tables published on the deliberative poll web site, 'Energy kankyō no sentakushi ni kan suru tōron-gata yoron chōsa':

<http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/index.html>

<sup>329</sup> Results of T1 survey:

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_06.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_06.pdf)

<sup>330</sup> Results of T2 survey:

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_07.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_07.pdf)

<sup>331</sup> Results of T3 survey:

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_08.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_08.pdf)

[E]vidence shows that ordinary citizens may make better deliberators than partisan political actors on at least one dimension: the capacity to reflect and change their minds as a result of their participation in deliberation (p. 158).

However, even if the DP participants could be classified as ‘ordinary citizens’, due to the lopsided age and gender distribution, questions remain about how descriptively representative of the wider population the voices heard in the DP were.

The Third Party DP Verification Committee and the participation experts’ statement raised a number of issues related to *legitimacy*. According to the Third Party DP Verification Committee’s report,

It is undesirable for the opinion (result) alone, formed through the public participation process, to take on a life of its own and in that form be used in political decision making. When using the results it is necessary always to also bear in mind the limiting conditions under which this survey was carried out and whether there are any consequential reservations about its legitimacy (p. 23).

The limiting conditions included doubts about the representativeness of the participants and the problems caused by lack of preparation time.

A legitimacy issue raised by the public participation experts’ statement was that ‘Before organizing this sort of public dialogue, the organizer is required to elucidate in advance how the outcome will be used in policy making,’<sup>332</sup> but this was not done. The Third Party DP Verification Committee’s report made much the same point. It noted that although the DP was only one of several inputs into the policy-making process and as such should not directly determine policy, the procedure by which the DP results would

---

<sup>332</sup> 29 June 2012 statement by 26 public participation experts addressed to the Agency for Natural Resources and Energy:

Japanese: “‘Kakushinteki Energy Kankyō Senryaku no sakutei ni muketa kokuminteki giron no suishin jigyo no mondaiten ni tsuite’:

<http://matsuura-lab.org/dp-opinion-archive/contents-1.html>

English: ‘Issue Statement regarding the “Project for Promoting National Dialogue toward the Formulation of Innovative Strategy for Energy and the Environment”’:

<http://matsuura-lab.org/dp-opinion-archive/en/index.html>

be considered should have been specified in advance (Third Party DP Verification Committee 2012, p. 28).

Other issues that did not relate to the legitimacy of the DP per se, but rather to the appropriate place of the DP in the overall decision-making process, were also raised.

The public participation experts state:

We argue that the authentic “national dialogue” is the process in which people find their own interests in the national energy policy, deliberate about it, and report and share the outcomes of such dialogues in various forms. The Dialogue Forum proposed by the Agency for Natural Resources and Energy alone is insufficient to qualify as an authentic national dialogue on energy policy of the future, even if the problems pointed out above are addressed and the forum is convened in fair and meaningful manners. The Dialogue Forum is just the beginning of the “national dialogue.”<sup>333</sup>

The public participation experts’ point that the DP should be seen as a *beginning rather than an end* of national dialogue is addressed in section 4.5.6 and is also taken up in Chapter 5.

#### National Debate Verification Panel

Separate from the Third Party DP Verification Committee, a panel was established to analyse the results of the national debate as a whole (hereafter referred to as the National Debate Verification panel). Like the Third Party DP Verification Committee, the National Debate Verification Panel was established as an afterthought, but it greatly enhanced the legitimacy of the whole process (section 4.5.6). According to Tomohito Ihara of the National Policy Unit, the decision to establish the panel was not made until

---

<sup>333</sup> English version of 29 June 2012 statement by 26 public participation experts addressed to the Agency for Natural Resources and Energy, ‘Issue Statement regarding the “Project for Promoting National Dialogue toward the Formulation of Innovative Strategy for Energy and the Environment”’: <http://matsuura-lab.org/dp-opinion-archive/en/index.html>



early August 2012.<sup>334</sup> It can be deduced from the following comment by Ihara that one of the government's goals in establishing the panel was to gain legitimacy:

If the question of how to interpret and reflect [the national debate] was assessed by the government, people would probably have said it was influenced by the government's stance.<sup>335</sup>

The National Debate Verification Panel comprised experts in communication, public participation and opinion polls, and included Yasunori Sone (head of the DP executive committee) and Tadashi Kobayashi (head of the Third Party DP Verification Committee). Its first meeting was held on 22 August 2012 and its third and final meeting was held less than a week later on 28 August. Like the Fundamental Issues Subcommittee, the proceedings were broadcast live on Ustream. The panel was officially chaired by Motohisa Furukawa, Minister for National Policy, and included two other key ministers with primary responsibility for nuclear energy policy, Yukio Edano, Minister of Economy, Trade and Energy and Goshi Hosono, Minister of the Environment and Minister for the Restoration from and Prevention of Nuclear Accident and Minister of State for the Nuclear Power Policy and Administration. In practice, however, the panel was facilitated not by Furukawa but by Kenji Shimomura, a former TBS journalist who was drafted by Naoto Kan to work in the Office of Cabinet Secretary for Public Relations, and most of the discussion was between the eight expert members. The report was compiled by the secretariat and published in the name of the Minister for National Policy. In these respects the panel operated like a typical advisory committee (*shingikai*), but in practice it functioned more independently. Unlike traditional advisory committees the secretariat was very responsive to the panelists' comments.<sup>336</sup> Shimomura summed up in his closing remarks as follows:

---

<sup>334</sup> Interview with Tomohito Ihara, a bureaucrat in the National Policy Unit, 10 January 2013

<sup>335</sup> *ibid.*

<sup>336</sup> Interview with panel member Tadashi Kobayashi, 17 January 2013

We dared to gather you experts in opinion poll research, rather than experts in nuclear energy, for a process that was not about discussing what conclusion to bring, but about how to sincerely face the opinions of the people.<sup>337</sup>

The panel's report concluded that the opinions expressed at the public hearings and in the public comments were the opinions of people with strong views and could not therefore be seen as representative of the whole population. However it did not dismiss them as irrelevant:

Major factors behind the 77,000 comments saying nuclear energy should be reduced to zero and behind the demonstrations each week opposing restart of nuclear power plants were mistrust of the government and anxiety about nuclear power plants. It can be said that the highest priority is to dispel this mistrust and anxiety (Minister for National Policy 2012b, pp. 5-6).

The fact that an official report acknowledged the mass demonstrations that were occurring at the same time is significant. This is discussed in section 4.3.2.

The DP was designed to be more descriptively representative, but the report was non-committal about how well it succeeded. Like the Third Party DP Verification Committee, it pointed out that relatively few women and young people participated (Minister for National Policy 2012b, pp. 1-2).

A feature of the panel's report is that it analysed the reasoning behind people's preferences. Analysis of the DP provided insight into the thinking of people who supported the 15 percent scenario. Answers to questions other than those specifically addressing the three scenarios revealed that about half of those who supported the 15 percent scenario thought nuclear energy should be phased out in the long term, while about a quarter believed that nuclear energy should be retained. The other quarter were non-committal. In other words, about half of those who supported the 15 percent

---

<sup>337</sup> Kenji Shimomura comment, meeting 3, 28 August 2012 (transcript, p 27)  
[http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120907/giron\\_gijiyoshi03.pdf](http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120907/giron_gijiyoshi03.pdf)

scenario could be grouped with those who supported the zero nuclear scenario as supporters of a nuclear phase out. Applying this principle to the results of the other components of the national debate, the panel concluded:

According to the national debate on this occasion, at least half of the citizens, despite differences depending on age and gender, share a wish for a society that does not depend on nuclear energy (Minister for National Policy 2012b, pp. 4-5).

The panel qualified this conclusion by noting that there were differences of opinion about the speed with which nuclear energy should be phased out and about the feasibility of this option. However, it is significant that the National Debate Verification Panel's conclusion that at least half the population supported a nuclear phase out was so heavily dependent on the results of the DP.

The panel concluded by identifying eleven underlying discussion points, based on analysis of participants' reasoning (Minister for National Policy 2012b, pp. 7, 10):

- Can strengthening safety prevent a recurrence of accidents?
- Considering the cost of damage to health and decontamination, is not nuclear energy more expensive?
- What should be done about spent nuclear fuel? What practical methods are there for dealing with it? What responsibility should the government take?
- On the other hand, with no sign of dealing with [spent nuclear fuel] in sight, is it not wrong to increase the quantity?
- When decreasing dependence on nuclear power, how can we secure the technology and human resources for maintaining safety, including for decommissioning?
- How is it possible to rapidly develop renewable energy and energy conservation? If these stagnate, how can we assure security of supply?

- Will renewable energy and energy conservation be cheaper than fossil fuels and nuclear energy? When will this be realised?
- Won't industry be hollowed out and employment lost as a result of rising costs and unstable electricity supply?
- Should we not turn development of renewable energy and new energy [sources] into a good opportunity for creation of new industries and employment?
- What should we do beyond 2030?
- What sort of public participation forums should be provided and how should public trust in government and the public sector be restored?

It took the view that answers to these questions should be provided, that they should be considered in a participatory fashion, and that national discussions about these questions should continue (p. 7). As mentioned above, the need for some ongoing participative process was also raised in the public participation experts' statement.<sup>338</sup> These views are consistent with Parkinson's comment:

[R]epresentation's legitimacy depends in part on seeing deliberative forums as being embedded in a wider deliberative system in which legitimacy is created in the openness of the linkages between moments, rather than relying on ideal legitimacy of each moment taken separately (Parkinson 2003, p. 193).

The expression 'linkages between moments' brings in the time element. If the national debate is seen as the starting point, the question is how it should be viewed in the context of an *ongoing process* and what form that ongoing process should take. This question is considered in Chapter 5.

---

<sup>338</sup> 29 June 2012 statement by 26 public participation experts addressed to the Agency for Natural Resources and Energy:  
 Japanese: “Kakushinteki Energy Kankyō Senryaku no sakutei ni muketa kokuminteki giron no suishin jigyo no mondaiten ni tsuite”:  
<http://matsuura-lab.org/dp-opinion-archive/contents-1.html>  
 English: ‘Issue Statement regarding the “Project for Promoting National Dialogue toward the Formulation of Innovative Strategy for Energy and the Environment”’:  
<http://matsuura-lab.org/dp-opinion-archive/en/index.html>

### Reactions to the national debate

The anti-nuclear movement, pleasantly surprised by the clear support for a nuclear phase out, hailed the national debate as epoch making (*'kakkiteki'*) and demanded that the government honour the result by adopting a zero nuclear energy policy (e-shift 2012d, 2013b). Their principle focus had been on the public comments (section 4.3), so they emphasised the overwhelming support from the public comments for a swift nuclear phase out.

The essentially (if not formally) independent assessment of the National Debate Verification Panel neutralised much of the criticism that had been levelled at the national debate process in the early stages. After the National Debate Verification Panel concluded its deliberations an Asahi Shimbun editorial made the following observation:

In summing up the overall [process], a third party assessment was received from experts in opinion polls and communications. Confusion and immaturity could be seen in the process, but there is probably no example where politics has gone to such lengths to search out and make visible the public will about a single issue. That is how weighty and difficult a theme energy policy is. That is all the more reason why, beyond changes of government or party leader, the results obtained on this occasion should be respected (The Asahi Shimbun 2012f).

The Mainichi Shimbun, concluded that the government should respect the 'public's readiness for zero dependence on nuclear power' (Mainichi Japan 2012d). While acknowledging the limitations of the process, it praised the government's intent in holding the national debate:

The results don't necessarily accurately reflect the views of the entire Japanese public. Those who attended hearings and submitted public comments wanted to make their opinions known, and although participants eligible for deliberative polls were chosen randomly, those who actually attended the deliberations were there because they wanted to be there. We must keep in mind that the results of these surveys are skewed.

Still, the fact that the government has opened itself to a range of input from the public is worthy of praise.

Mainichi was ambivalent towards the deliberative poll:

The deliberative poll was not without its shortcomings; reference materials for the discussions were wanting, and the experts were ill-prepared. The age brackets and sex of the participants were also skewed. Still, it is significant that through deliberation, the number of "zero dependence" supporters rose.

The increase in support for the zero option was very influential (section 4.4), although Onai (2014, p. 121) was disappointed by the lack of media coverage of the nuances of this increase, namely the fact that a much larger percentage of participants changed their opinions than is revealed by the simple increase in overall percentage supporting the zero scenario.

In contrast to Asahi and Mainichi, the fiercely pro-nuclear Yomiuri Shimbun<sup>339</sup> refuted the National Debate Verification Panel's conclusions as follows:

From three options for the percentage of nuclear power generation out of all energy generation in 2030—zero percent, 15 percent or 20 percent to 25 percent—70 percent to 80 percent chose either zero percent or 15 percent in the deliberative poll and surveys conducted by media organizations.

This led the panel to conclude a majority of the public wants to abandon nuclear power ...

At the same time, however, 50 percent to 70 percent chose options other than zero percent. This suggests that quite a few people believe Japan should rely on nuclear power to some extent.

It is reasonable that some members of the panel said the poll results indicate the public wants to reduce the nation's dependency on nuclear power rather than abandon it. It cannot be concluded that a majority of the public wants to move away from nuclear power (The Yomiuri Shimbun 2012a).

While the extent to which the results of the national debate could be generalised to the whole population is questionable, clearly Yomiuri misrepresented the panel's reasoning,

---

<sup>339</sup> The Yomiuri Shimbun has always been a strong supporter of nuclear energy. As mentioned in Appendix 2.1, Matsutarō Shōriki, a former owner of the newspaper, was one of the driving forces in the establishment of Japan's nuclear program. Post Fukushima it has continued to be stridently pro-nuclear.

because it failed to acknowledge the panel's analysis of the bifurcation in the long-term preferences of supporters of the 15 percent scenario. The Yomiuri Shimbun also criticised the overall process on the grounds that 'the deliberative poll and other surveys were often dominated by people outspoken on nuclear energy.' This was true of the public hearings and the public comments, but, based on the responses of DP participants, this phenomenon appears not to have been prevalent in the DP.<sup>340</sup>

The Yomiuri Shimbun was on stronger grounds when it said the government was in danger of falling into populism:

It is important for politicians to listen to the voices of the people. However, there is a risk that politicians may slip into populism, depending on how much they rely on public opinion (The Yomiuri Shimbun 2012b).

While Yomiuri did not provide profound arguments in support of this claim, Tadashi Kobayashi of Osaka University's Center for the Study of Communication-Design identified a real dilemma for the government. Kobayashi was a member of both the Third Party DP Verification Committee and the National Debate Verification Panel. He identified the 'damned if you do damned if you don't' bind between populism and tokenism:

If they decide policy precisely in accordance with the outcome of the so-called national debate they will be accused of populism, but if they do something completely different from the so-called public voice of the national debate they will be said to have engaged in tokenism, or releasing hot air.<sup>341</sup>

---

<sup>340</sup> Only 13.7 percent of participants thought that someone dominated the small group discussion (Questionnaire T3, Q 13g, p. 18):

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_08.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_08.pdf)

<sup>341</sup> Interview with Tadashi Kobayashi, 17 January 2013. The issues that Kobayashi identified as having been excluded from the national debate were the same as those identified by pro-nuclear Masanori Aritomi, former Director of the Tokyo Institute of Technology's Research Laboratory for Nuclear Reactors. He called for an 'open political debate' about these issues (Aritomi 2013).

The dilemma was particularly serious because the national debate failed to cover some key issues.

Issues that definitely should have been discussed but weren't were the fuel cycle—Rokkasho Village, Monju—and Japan-US relations. There are limitations with conducting a debate with these issues excluded from the outset, so whatever conclusion is drawn they should take the stance that it is a reference opinion. But in that case, the most difficult thing is that when they take it as a reference the conclusion will be completely different from that voiced by the public, so they need to think very seriously about their explanation and how they will steer a path between populism and tokenism.<sup>342</sup>

From this perspective, the greatest challenge, even greater than the challenge of implementing and interpreting the national debate, was the political judgment of how to reflect the outcome in policy. How this was tackled is addressed in section 4.4. Nevertheless, despite these shortcomings, Kobayashi concluded that it was better that the DP was held than not (Kobayashi, T 2012, p. 194).

Reactions to the national debate are considered again in more detail in the context of a discussion of the legitimacy of the process in section 4.5.6.

### **4.3 Unofficial public participation**

At the same time as the official energy policy review was taking place, citizens were taking unofficial initiatives intended to influence the outcome of the official review. This section considers the relationship between these unofficial processes and the official public participation process.

---

<sup>342</sup> Interview with Tadashi Kobayashi, 17 January 2013



Unofficial processes included such things as lobbying by civil society and protest movements. The main focus of this section is the e-shift network<sup>343</sup> formed soon after the 3.11 disaster (section 4.3.1), and the interaction between the work of e-shift, the massive demonstrations (section 4.3.2) outside the Prime Minister's office in mid-2012 and the national debate. The movement to hold local referendums and a national referendum on nuclear energy is also considered (section 4.3.3).

#### ***4.3.1 E-shift network***

E-shift grew out of discussions between a handful of activists involved in four well-known NGOs: the Citizens' Nuclear Information Center (CNIC), Friends of the Earth Japan (FoE Japan), the Institute for Sustainable Energy Policies (ISEP) and Green Action. All except FoE Japan had a long history of opposition to nuclear energy. FoE Japan, unlike many FoE groups overseas, had not taken up the nuclear energy issue in a big way. However in recent years, under its finance campaign, which focused on Japan's overseas aid program, it had actively campaigned on nuclear exports. As International Liaison Officer for CNIC, I had worked closely with FoE campaigners on this topic since about 2007. When the Fukushima Daichi nuclear accident occurred they sought my advice about how they could become more involved in nuclear issues. One suggestion I made was that FoE Japan's finance campaigners could use their high level organisational skills in a coordinating role, bringing together groups and facilitating the networking process. A Skype meeting with about half a dozen people from the abovementioned groups was held in late March 2011 and as a result of that a meeting with a much wider range of groups was called for 31 March. That meeting was the beginning of what became e-shift, the hub of the post Fukushima nuclear phaseout

---

<sup>343</sup> E-shift web site (e-shift): <http://e-shift.org>

campaign.<sup>344</sup> As at August 2014 the network had 55 participating groups listed on its web site.<sup>345</sup> FoE campaigners have been central to its success.

This section focuses on e-shift's activities in relation to energy policy and the interaction between these activities and the official policy review process, but e-shift has also taken up many other issues, including supporting the cause of the residents of Fukushima Prefecture who became victims of the nuclear accident, lobbying for tougher radiation standards, and critiquing the new nuclear safety standards. According to its mission statement,

Activities of e-shift are organized around the following goals:

- (1) clarify responsibility for the nuclear disaster and minimize its damages to people;
- (2) recommend energy policies promoting a nuclear power phase-out and sustainability as well as facilitate their implementation; and
- (3) disseminate information to citizens and help them organize social movements.<sup>346</sup>

On 8 December 2011 e-shift issued a statement which articulated ten principles and seven pillars for a 'Nuclear phase out / energy shift basic policy' (e-shift 2011) (Appendix 12). This statement played an important role in the development of e-shift's platform, forming the basis of a 'Citizens' Energy Basic Plan' proposal released on 29 August 2012 (e-shift 2012a). However it had no discernible direct impact on the official policy review process. The statement had a point of connection with the official process, because it was tabled in METI's Fundamental Issues Subcommittee (FIS) by FIS member Hideyuki Ban, Co-director of e-shift member group Citizens' Nuclear

---

<sup>344</sup> Hideaki Takemura of Energy Green referred to e-shift's role as 'producing alternative proposals' (20 February 2013 interview).

<sup>345</sup> List of e-shift member groups: [http://e-shift.org/?page\\_id=19](http://e-shift.org/?page_id=19)

<sup>346</sup> From the following page of e-shift's English web site ('What is "e-shift"? (A society to fulfill denuclearization and new energy policy)'): [http://e-shift.org/?page\\_id=34](http://e-shift.org/?page_id=34)

Information Center (CNIC),<sup>347</sup> but Ban referred only briefly to the statement and the contents were not discussed.

As the debate in FIS progressed, e-shift members became concerned about the direction it was taking. They were critical of the role played by the chair and the secretariat and dismayed that a scenario in which 35 percent of electric power came from nuclear power plants was still on the agenda (section 4.2.2), despite the fact that the direction of the policy review was supposed to be towards a reduction in dependence on nuclear power. These and other concerns were addressed in a 24 May 2012 statement (e-shift 2012f), which was tabled by Hideyuki Ban at FIS's meeting of the same day.<sup>348</sup> However, as with the abovementioned December 2011 statement, the contents were not specifically addressed. E-shift's two statements reinforced the criticisms expressed by nuclear critic committee members, but at this stage it cannot be said that there was a strong interaction between e-shift's unofficial lobbying and the official process.

As a network of citizens' groups, it might be expected that e-shift would take a strong interest in public participation, but it did not make concrete suggestions about this issue in its early statements. Its lack of attention to process parallels the lack of attention to process by the anti-nuclear movement in the pre-Fukushima era (section 3.4.2), but e-shift began to give serious thought to the form of the national debate after the METI, JAEC and MoE subcommittees submitted their reports to the Energy and Environment Council (EEC) and the national debate became imminent. On 13 June 2012 it issued a statement (e-shift 2012b) which, after criticising a secretariat-controlled process that

---

<sup>347</sup> Handout for Fundamental Issues Subcommittee meeting 7 (12 December 2011):  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/007/pdf/7tsuika3.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/007/pdf/7tsuika3.pdf)

<sup>348</sup> Document tabled at FIS's 24 May 2012 meeting 24:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/024/pdf/24-8-2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/024/pdf/24-8-2.pdf)

had not sufficiently reflected voices from civil society, made the following seven process-related proposals:

- 1) public participation from the planning stage of the national debate forums
- 2) reflect the results of autonomous meetings (i.e. non-government meetings)
- 3) national referendum and questionnaires
- 4) reflect the results of autonomous discussions in the Diet<sup>349</sup>
- 5) seek the views of local governments
- 6) conduct hearings to understand the true damage from the Fukushima accident
- 7) allow sufficient time for the national debate.

Some of the above proposals were partially addressed, although it is not possible to definitively attribute this outcome to e-shift's lobbying. The clearest area where e-shift's statement could be said to have influenced the national debate process was item (2) in relation to autonomous meetings. This was taken up in the form of 'explanatory meetings' held during the national debate (section 4.2.4). E-shift's unofficial lobbying became directly connected with the official process through the participation of bureaucrats in explanatory meetings organised by anti-nuclear groups, including e-

---

<sup>349</sup> This was a reference to the No Nukes Committee (Gempatsu Zero no Kai), a cross-party group of Diet members: <http://genpatsuzero.sblo.jp>. It hosts the Preparatory Diet Committee on Energy (Kokkai Energy Chōsakai (Jumbikai)), in preparation for the day when such a committee is officially recognised by the Diet.

The lack of a comprehensive and effective forum in the Diet for deliberation on energy issues was a focus of discussion during the Round Table Conference (FY1998 Round Table Conference meetings 4 (17 December 1998) and 5 (21 January 1999)). Very little progress was made thereafter and Hideki Morihara, secretary to Diet Member Tomoko Abe who provides the No Nukes Committee's secretariat, said, 'There is no formal forum in the Diet to comprehensively debate a review of energy or nuclear energy policy' (22 March 2013 interview).

The Preparatory Diet Committee on Energy's deliberations were not formally reflected in the national debate, but some members of the No Nukes Committee influenced the policy debate through their input into the policy processes of their political parties.

shift,<sup>350</sup> and the inclusion of these meetings in the analysis of the National Debate Verification Panel.

Although not directly related to the above proposals, other examples of e-shift's influence included the government's decisions to extend the time for public comments and to publish all public comments on the internet (section 4.2.4).<sup>351</sup> On the other hand, a demand that was not taken up was the demand for more publicity about the national debate. Nuclear critics were concerned that many people were unaware that the national debate was happening. E-shift proposed TV and newspaper advertisements, but this suggestion was not acted upon.<sup>352</sup>

The degree to which e-shift's lobbying influenced the official policy-forming process is difficult to assess, but at least e-shift should be seen as one significant voice in a fluid environment where the government modified the national debate format on several occasions (section 4.2.4). E-shift's legitimacy as a representative of nuclear critics was recognised when e-shift representatives were granted a meeting with the responsible minister, Motohisa Furukawa, Minister for National Policy.<sup>353</sup> It is very rare in Japan for critical citizens' movements to gain direct access to ministers, so this was indicative

---

<sup>350</sup> Meetings hosted by e-shift and/or e-shift member groups were held in the Diet Offices (19 July 2012), Fukushima (20 July 2012), Shibuya (24 July 2012) and Koriyama (25 July 2012) See handout 5-4 for meeting 1 (22 August 2012) of the National Debate Verification Panel (pp. 3-4): <http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120822/shiryo5-4.pdf>

<sup>351</sup> Tomohito Ihara of the National Policy Unit neither confirmed nor denied the influence of e-shift's petitions. He referred to demands by the anti-nuclear movement, comments in the media, and public opinion in general and stated that the government wanted to do whatever it could to gain acceptance for the results of the national debate (interview, 10 January 2013). However, e-shift members believed their lobbying was a significant factor (interviews with Eri Watanabe (4 September 2012) and Akiko Yoshida (7 January 2013) of FoE Japan).

In the end Minister for National Policy Motohisa Furukawa made the decision to extend the period of the public comments (interview with Motohisa Furukawa, 19 January 2013).

<sup>352</sup> The points of possible influence and lack of influence listed in this paragraph were raised by Akiko Yoshida of FoE Japan in an interview on 7 January 2013. She said that the National Policy Unit informed them that it would reflect e-shift's suggestions as much as possible.

<sup>353</sup> The meeting took place on 8 August 2012 (interview with Akiko Yoshida of FoE Japan, 7 January 2013).

that the government was serious about taking into consideration the views of civil society.

The above examples of possible e-shift influence related to process. E-shift's earlier statements about the content of policy were tabled at FIS meetings, but had no discernible influence. A powerful example of how e-shift and other members of the anti-nuclear movement exerted influence on the content of the national debate is discussed in section 4.3.2. Section 4.4 discusses how this was reflected in policy.

#### ***4.3.2 Protests and the national debate***

At the same time as e-shift was lobbying the government on matters of policy and process, massive demonstrations were being held in Tokyo's political district of Nagatacho. The Metropolitan Coalition Against Nukes<sup>354</sup> began staging weekly Friday evening protests from 29 March 2012. At first a few hundred people turned up, but the numbers grew rapidly from June as the government pushed for the restart of Units 3 and 4 of Kansai Electric Power Company's Ohi Nuclear Power Plant in Fukui Prefecture. Based on organisers' estimates, numbers peaked at about 200,000 on 29 June and stayed around the 100,000 mark till mid-August (Metropolitan Coalition Against Nukes 2012; Oguma 2013, p. 17). That makes them the biggest demonstrations since the Ampo era,<sup>355</sup> but one major difference between the post-Fukushima demonstrations and the Ampo demonstrations was that the former were completely non-violent. Another was their political independence (Kawasaki 2013, pp. 598-600). The commitment of the organisers to safety through non-violence and to independence from political and union

---

<sup>354</sup> Web site (Metropolitan Coalition Against Nukes (Shutoken Hangempatsu Rengō)): <http://coalitionagainstnukes.jp>

<sup>355</sup> Ampo refers to the US-Japan Security Treaty first signed in 1951 and amended in 1960. The term is also often used to refer to the demonstrations leading up to the signing of the amended agreement in 1960 and again before its renewal in 1970.

On 15 June 1960 'a few hundred thousand' demonstrators surrounded the Diet and 'a few thousand' forced their way into the Diet Building (Takakusagi 2011, p. 4).

'From May 1959 to June 1960, roughly 16 million people engaged in protest against the renewal of a revised version of the US-Japan security treaty (Ampo)' (Kelman 2001, p. 79).

affiliations made the demonstrations accessible to ordinary people who would not wish to be associated with factions.

“The protesters are regular people. That's why, more than anything else, our goal is safe operation,” Misao Redwolf, one of the main organizers, said ... The Metropolitan Coalition Against Nukes sets some basic rules for the protests, such as: no message other than abolishing nuclear power; no affiliations with political parties or other organizations; and a maximum one minute of talking time at the microphone (Matsumoto 2012).

Although it is not possible to directly measure the political impact of these demonstrations, it is clear that they had a profound impact on the political mood at the time. One commentator with special insight into the impact of the demonstrations was Kenichi Shimomura, a former TBS journalist who was drafted by former Prime Minister Naoto Kan to work in the Office of Cabinet Secretary for Public Relations. He describes the atmosphere of the demonstrations as follows:

On several occasions when I had to go to the Prime Minister's residence I had no choice but to walk through the crowd gathered on the footpath. On those occasions the difference in atmosphere from the participants of ordinary demonstrations (mobilised organisation people, or professional protesters) was very apparent. For a start, everyone was cheerful. They were not uniform. They were colourful in all sorts of ways (Shimomura 2013, p. 277).

Regarding the impact of the demonstrations on the political climate, he makes the following observation:

Clearly the force of these weekly demonstrations outside the Prime Minister's residence was felt like a body blow by the politicians in the Prime Minister's residence and the government and opposition politicians in the Diet members' offices next door ... A mood of ‘We really do have to seriously consider adopting a policy of zero nuclear’ gradually spread among politicians from all kinds of parties.

Then on 6 August, Hiroshima A-Bomb Day, Prime Minister Noda stated at a press conference in Hiroshima City that he was requesting responsible ministers to consider what issues would arise ‘if in future dependence on nuclear energy is reduced to zero’. Clearly, at a time when there was no election, the voices of people in the streets exerted influence on national politics. Over about 30 years I have seen and participated in all sorts of citizens' movements, but this was the

first time I had witnessed a scene where such real force was exerted on politics (Shimomura 2013, pp. 279-280).

Shimomura believes the demonstrations played an important role in establishing a political frame in which ‘zero nuclear’ was seen as a genuine option and sees Noda’s Hiroshima Day statement as the climax of the protests’ political influence.<sup>356</sup>

The protests achieved another symbolic climax when representatives of the demonstrators won agreement for a face-to-face meeting with Prime Minister Noda. The protest organisers had received assistance from the cross party Diet Members group No Nukes Committee (section 4.3.1, footnote 349),<sup>357</sup> but their requests for a meeting were rejected until the numbers attending the demonstrations grew so large that they could no longer be ignored. In the end, a meeting was brokered by Noda’s predecessor Naoto Kan, who became an unequivocal advocate of a nuclear phaseout after he resigned as Prime Minister. Kan is reported to have told members of the Metropolitan Coalition Against Nukes that he had observed that the demonstrations were having an impact on Noda (Nagata 2012). Previously Noda had been accused of dismissing the protests as ‘noise’, but in agreeing to meet the protesters he was recognising the sound from the people in the street outside his residence as ‘voices’ (Ito, M 2012; The Asahi Shimbun 2012a). Diet Member Shoichi Kondo noted that many DPJ politicians felt that they needed to be sensitive to the voices of the protesters and that, although he didn’t say it, Noda probably felt that way too. Kondo believed this feature of the DPJ was a reason why the demonstrations had a big impact.<sup>358</sup>

---

<sup>356</sup> Interview with Kenichi Shimomura, 26 March 2013.

<sup>357</sup> Interview with Hideki Morihara (22 March 2013), secretary to Diet Member Tomoko Abe, who provides the secretariat for the No Nukes Committee.

<sup>358</sup> Interview with Shoichi Kondo (Democratic Party of Japan, member of the cross part No Nukes Committee) 4 February 2013.



The activists who met the Prime Minister were realistic about what could be achieved.<sup>359</sup> They did not expect to change policy with one meeting, but they saw it as an effective way to appeal to the public. However they were not interested in accepting a meeting unconditionally. They rejected the conditions originally offered, in which the media would only be allowed to witness the first five minutes. Instead, they demanded a meeting that was open to freelance journalists and/or broadcast live on the internet. As testimony to their hard-nosed negotiating skills, the video of the full meeting is still available on the Cabinet Office's web site.<sup>360</sup>

The impact of the protests was also felt within the bureaucracy. Kenichi Shimomura observes:

The influence of the demonstrations did not just extend to politicians. Among the bureaucrats who silently wove their way past the demonstrations there were those who thought, 'It's not good to continue with the existing nuclear policy' and who took courage from the demonstrations. Although this effect could not be seen with the naked eye, I think it was quite significant (Shimomura 2013, p. 280).

Akira Kawasaki of Peace Boat, who has often played the role of a conduit between the bureaucracy and the peace movement, expressed the impact as follows:

For me, personally establishing a human relationship with government officials and government related scholars was ironically so important, because I could hear from many of them that it is having an impact, at least psychologically or mentally. That personal relationship became more deep and frequent ... Maybe they also wanted to approach me to hear those protesters' views and so on. In the past month, in the process of those private communications with those who are in the establishment ... they say they are really feeling threat from the continued demonstrations. One remark that I heard ... is that the continuation of the demonstrations is the biggest impact. One big symbolic event can happen on many issues, but in this case it continues every Friday, every Friday, and a significant number of people. So that is having a big impact.<sup>361</sup>

---

<sup>359</sup> The comments in this paragraph are based on a 29 March 2013 interview with Misao Redwolf of the Metropolitan Coalition Against Nukes.

<sup>360</sup> Video on Cabinet Office's web site of 22 August 2012 meeting between Prime Minister Noda and anti-nuclear protesters: <http://nettv.gov-online.go.jp/prg/prg6729.html>

<sup>361</sup> Interview with Akira Kawasaki, 5 September 2012

The key question is, how did all this feed into the official policy review process? One small but tangible way was the fact that the National Debate Verification Panel's report mentioned the demonstrations in the same breath as the public comments (section 4.2.4):

Major factors behind the 77,000 comments saying nuclear energy should be reduced to zero and behind the demonstrations each week opposing restart of nuclear power plants were mistrust of the government and anxiety about nuclear power plants. It can be said that the highest priority is to dispel this mistrust and anxiety (Minister for National Policy 2012b, pp. 5-6).

This was effectively an acknowledgment that the demonstrations were part of the national debate, if not at an official level, at least as part of the opinion-forming process in the wider public sphere. It was an acknowledgment that the wider public sphere is relevant to policy making. In Mendonça and Ercan's terms, the demonstrations contributed to deliberation in the public sphere by being part of a 'collective meaning-making and reflection process' (Mendonça & Ercan forthcoming, p. 7) (section 1.3).

Besides this official acknowledgment of their relevance, the demonstrations interacted with the official process in a very concrete way. They provided a forum for groups, in particular e-shift, to promote participation in the official process. It is fair to say that the reason so many people submitted public comments was e-shift's public comments campaign.<sup>362</sup> The campaign used the demonstrations, the internet and social media to encourage citizens to submit comments in their own words. It was an example of a citizens' movement transmitting democratic values by promoting participation in the official policy forming process (section 1.2.1), even though it was sceptical of the sincerity of that process.

---

<sup>362</sup> The assessments in this and the next paragraph are based on interviews with Eri Watanabe (4 September 2012), Akiko Yoshida (7 January 2013) and Kanna Mitsuta (10 January 2013), all staff of FoE Japan and core activists in e-shift.

The URL for the "Kokuminteki giron" de kimeru gempatsu energy seisaku! Pub kome o dasou' campaign web site is as follows: <http://e-shift.org/?p=2131#more-2131>

E-shift's scepticism is illustrated in a guidebook enumerating the flaws in the process and in the options from which the public were asked to choose (e-shift 2012e). It viewed the three scenarios as biased against the zero nuclear scenario and designed to channel the public to select the middle scenario (15 percent nuclear). However, in the extraordinary circumstances where massive demonstrations were occurring at the same time as the national debate was taking place, e-shift's public comments campaign generated synergies between unofficial forms of public participation and the official participation process. The result was an unprecedented response to the government's call for public comments. While the percentage of public comments in favour of a nuclear phaseout was not thought to reflect the distribution within the overall population, the sheer numbers carried considerable weight.

It is difficult to draw conclusions about which had more impact, participation through the official national debate, or unofficial participation in the form of protests. Shoichi Kondo expressed it as follows:

It is very difficult to say which had greater impact. The national debate was a process directly organised by the government with statistical outcomes, so it had a very big direct impact. On the other hand the situation where the Prime Minister's residence was surrounded had a big psychological impact.<sup>363</sup>

Although the nature of the impact was different, important synergies between official and unofficial forms of participation enhanced the impact of both. How this was reflected in policy is discussed in section 4.4.

---

<sup>363</sup> Interview with Shoichi Kondo, 4 February 2013

### *4.3.3 Referendum campaign*

A quite different campaign with a very different support base that unfolded after the Fukushima Daiichi nuclear accident called for referendums on nuclear energy. Referendums had played an important role in campaigns to block nuclear projects pre-Fukushima (section 3.2.4), but the post-Fukushima campaigns were different in that they were not conducted in municipalities with plans for specific nuclear projects.

Signatures were gathered on petitions calling for referendums on nuclear energy in two metropolises, Tokyo and Osaka, and two nuclear power plant host prefectures, Shizuoka and Niigata. At the same time as calling for local referendums in these two energy consumer and two energy producer regions, the campaign also called for a national referendum. It was, therefore, not so much a single campaign as five campaigns. The national campaign and the Tokyo and Osaka campaigns were run by Let's Decide Together / Citizen-initiated National Referendum on Nuclear Power,<sup>364</sup> while separate but linked campaigns were initiated in Shizuoka and Niigata Prefectures.<sup>365</sup> The local campaigns had legal standing because they were carried out under the terms of article 74 of the Local Autonomy Act.<sup>366</sup> As public participation exercises they could be seen as a hybrid between official and unofficial. They were unofficial in the sense that they were citizen initiated, but they were official in the sense that they followed formally established procedures for calling for the legislation of a referendum ordinance. The national referendum had no such legal standing.

---

<sup>364</sup> Let's Decide Together / Citizen-initiated National Referendum on Nuclear Power web site (Let's Decide Together ): <http://kokumintohyo.com/english>

<sup>365</sup> Gempatsu Kenmin Tōhyō Shizuoka web site: <http://kenmintocho.com>

Minna de Kimeru Kai (Niigata) web site: <http://ng311.info>

<sup>366</sup> Article 74 of the Local Autonomy Act provides that if two percent of eligible voters petition the governor of a prefecture, or the mayor of a municipality for the establishment, amendment, or repeal of an ordinance, s/he must submit the petition along with his/her opinion on the matter to the assembly for its consideration.

The referendum campaigns were initiated predominately by people who had not been active in the anti-nuclear movement in the past. Their platform was neither pro- nor anti-nuclear. A central figure was Hajime Imai who runs the secretariat of the Let's Decide Together / Citizen-initiated National Referendum on Nuclear Power. Imai had been lobbying for the concept of citizen-initiated referendums for many years before the Fukushima Daiichi nuclear accident. He believed that the nuclear issue was the most suitable topic for a referendum in Japan, but his primary interest was in the contribution citizen-initiated referendums could make to democracy.<sup>367</sup> However the referendum campaign was not universally welcomed within the anti-nuclear movement. For example, there were concerns amongst people trying to prevent revision of the war-renouncing Article 9 of the Constitution of the implications of holding a national referendum, even if it was not Constitution-related.<sup>368</sup> Some traditional anti-nuclear activists were also opposed to the local referendum campaign, although some of those who were opposed decided to cooperate once it started because they thought it would be undesirable to let it fail.<sup>369</sup> There was concern about the potential negative impact of having the petition rejected.<sup>370</sup>

Nevertheless, some well known long-term nuclear critics lent their names to the campaigns: for example, Baku Nishio of the Citizens' Nuclear Information Center and Tetsunari Iida of the Institute for Sustainable Energy Policies.<sup>371</sup> Iida had long been a supporter of referendums. During the Round Table Conference (section 3.3) he said, 'As a political subsystem local referendums are a wonderful chance for people, both

---

<sup>367</sup> Interview with Hajime Imai, 28 February 2013

<sup>368</sup> Email correspondence with Hideyuki Ban, Co-Director of Citizens' Nuclear Information Center.

<sup>369</sup> Interview with Rei Azumai, 17 February 2013

<sup>370</sup> Email correspondence with Hideyuki Ban, Co-Director of Citizens' Nuclear Information Center.

<sup>371</sup> List of endorsers of the national referendum campaign:  
<http://kokumintohyo.com/kokumintohyo/sandouninlist>

proponents and opponents, to learn<sup>372</sup> and in a submission to the Fundamental Issues Subcommittee (section 4.2.2) he referred to national referendums as a form of deliberative democracy that could be used alongside market forces to determine the future of nuclear power.<sup>373</sup> The educational and deliberative aspects of referendums emphasised by Iida invite comparisons with deliberative polls and other forms of public participation that use the concept of mini publics (sections 1.2.2 and 2.3). With a much higher participation rate there is a strong case that referendums would address the *representativeness* questions associated with mini publics and therefore be more legitimate. The *deliberative* qualities are more ambiguous (section 3.2.4).

Despite the very demanding rules governing petitions submitted under the Local Autonomy Act, the campaigns in the cities of Osaka and Tokyo, and in Shizuoka and Niigata Prefectures all succeeded in gathering more than the required number of signatures. However the leaders of the two cities did not support the petitions. Osaka's Mayor Toru Hashimoto argued that the people of Osaka had already expressed their support for reducing dependence on nuclear power when they voted for him in the mayoral election the previous November,<sup>374</sup> while Tokyo's Governor Shintaro Ishihara argued that it was the national government's responsibility to judge whether or not nuclear power plants could be operated.<sup>375</sup> The mayor of Osaka and the Governor of Tokyo submitted their opinions to their respective councils, which duly rejected the petitions.<sup>376</sup>

---

<sup>372</sup> Round Table Conference FY1998 meeting 5, 21 January 1999 (transcript):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/minute5.html>

<sup>373</sup> Fundamental Issues Subcommittee meeting 15, 14 March 2012 (handout 1 p. 5)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/015/pdf/15-1.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/015/pdf/15-1.pdf)

<sup>374</sup> Mayor Hashimoto's 20 February 2012 opinion (*ikensho*) is on the following web site:

<http://kokumintohyo.com/osaka/wp-content/uploads/2012/02/20120220osakaikensho.pdf>

<sup>375</sup> Governor Ishihara's 29 May 2012 opinion 'Tokyo Denryoku kannai no genshiryoku hatsudensho no kadō ni kan suru Tokyo tomin tōhyō jōrei an ni tai suru iken' is on the following web site:

<http://www.metro.tokyo.jp/INET/OSHIRASE/2012/05/DATA/20m5t601.pdf>

<sup>376</sup> Details on the history page of Let's Decide Together's web site:

[http://kokumintohyo.com/activity\\_history](http://kokumintohyo.com/activity_history)

The implications of the petitions submitted to the prefectures were different from the petitions submitted to the two cities, because the proposed prefectural ordinances related to the restart of nuclear power plants within the jurisdiction of those prefectures: Chubu Electric Power Company's Hamaoka Nuclear Power Station in Shizuoka Prefecture and Tokyo Electric Power Company's Kashiwazaki-Kariwa Nuclear Power Station in Niigata Prefecture. In the case of the two cities, the proposed ordinances related to nuclear power plants that supplied electricity to those cities. Both governors recommended that the respective prefectural assemblies support the general thrust of the petitions, but despite their support the assemblies voted against adopting referendum ordinances. Reasons given included that nuclear energy was an issue of national importance that should not be decided by a referendum of citizens of individual prefectures, and that permission to restart nuclear power plants was a political judgment that should be made by the governor and the prefectural assembly (Let's Decide Together Committee 2013, p. 19; The Asahi Shimbun 2012c).

These referendum campaigns were examples of citizens' movements transmitting democratic values and involving people not previously politically active on nuclear energy issues (section 1.2.1). The democratic values they transmitted corresponded to a 'thick' definition of democracy, including direct democracy, but the majority of the local politicians preferred a 'thin' definition and explicitly prioritised representative democracy. Elected representatives expressed their lack of faith in the ability of citizens to make judgments about nuclear energy policy.

Meanwhile, the national referendum campaign submitted a letter on 18 June 2012 to the President of the House of Councillors, the Speaker of the House of Representatives, the Prime Minister and the leaders of each party demanding that they quickly institute a

national referendum.<sup>377</sup> They were not without supporters in the Diet. As mentioned in section 4.2.1, when the energy policy review process started then Prime Minister Naoto Kan had in mind that a referendum was the best approach. Other politicians stated their support publicly. For example, during a plenary session of the House of Councillors on 18 July 2012 Mitsuru Sakurai (DPJ) expressed his support for a referendum and asked Prime Minister Noda his opinion. Noda was non-committal, but said that it was ‘one idea’.<sup>378</sup> The previous year, during the House of Councillors 29 September 2011 Budget Committee meeting, Jiro Ono of Your Party<sup>379</sup> asked the Minister for Economy Trade and Industry, Yukio Edano, his view about the idea of a referendum on nuclear energy. Edano expressed support for referendums in principle, but questioned whether nuclear energy was a suitable topic, saying,

It should not be taken as an either/or issue of nuclear phase out or promotion [of nuclear energy]. Members of the public probably have all sorts of views between these two positions, so from that perspective I suspect the issue is not suited to a national referendum.

In the end, the idea of a referendum on nuclear energy did not gain traction in the Diet. Diet Member Mitsuru Sakurai acknowledged that the hurdle for a national referendum was higher than for local referendums, citing the fact that there was no precedent in Japan.<sup>380</sup> Some Diet members also question the constitutional validity of advisory

---

<sup>377</sup> 18 June 2012 letter to the President of the House of Councillors:  
<http://kokumintohyo.com/wp-content/uploads/20120618sangiin.pdf>

<sup>378</sup> In his response Noda referred to the DPJ’s support for inclusion of referendums about non-constitutional issues during the debate leading to the 2007 Act on Procedures for Amendment of the Constitution of Japan. The Act which was passed did not cover such referendums. See the following link to a 25 May 2006 comparison of the DPJ and LDP draft laws, ‘Iwayuru “Kokumin tōhyō hōan (Kenpō kaisei tetsudzuki hōan)” no Yotō an – Minshutō an no yōkō taihi hyō’: [http://www.dpj.or.jp/news/files/BOX\\_0069\\_taihi.pdf](http://www.dpj.or.jp/news/files/BOX_0069_taihi.pdf)

<sup>379</sup> At the time, Your Party was drafting a bill for such a referendum. Member of the House of Councillors Hiroshi Ueno, who shifted allegiance from Your Party to the Japan Restoration Party, submitted two bills on 7 December 2011, one related to a national referendum and one to prefectural referendums. They were submitted just two days before the end of the Diet session and were not debated.

<sup>380</sup> Interview with Mitsuru Sakurai, 26 March 2013.



referendums, although the letter of the law only says that the Diet cannot be bound by the outcome.<sup>381</sup>

It is ironic that whereas referendums played an important role in Japan's nuclear energy debate pre-Fukushima (section 3.2.4), referendum campaigns have so far been unsuccessful post-Fukushima. The post-Fukushima referendum campaigns generated considerable publicity and succeeded in winning the support of the governors of two prefectures that host nuclear power plants. They also mobilised a large number of people with a diverse range of views who had not previously been involved in nuclear energy related campaigns. In that sense they had an impact. Shizuoka Governor Heita Kawakatsu continues to voice support for a referendum (Shizuoka Shimbun 2014) and Niigata Governor Hirohiko Izumida continues to oppose restart of the Kashiwazaki-Kariwa reactors (The Asahi Shimbun 2014a), so the campaigns may yet exert lasting political impact. But in terms of the immediate goals, the efforts of those who put time, money and energy into promoting the campaigns and the voices of those who signed the petitions were *marginalised*. Despite the upheaval caused by the Fukushima nuclear accident, *calls for direct democracy have made no inroads into Japan's representative democracy system*. Furthermore, unlike the e-shift campaign and the protests (sections 4.3.1 and 4.3.2), the referendum campaigns did not articulate with the official national debate process.

---

<sup>381</sup> Article 41 of the Constitution states, 'The Diet shall be the highest organ of state power, and shall be the sole law-making organ of the State.' Questions about the constitutionality of advisory referendums have been raised on the grounds that a referendum would 'in effect' bind the Diet (presentation by Yukinobu Tachibana of the Legislative Bureau of the House of Representatives during the 5 April 2012 House of Representatives session of the Constitution Review Committee (Kempō Shinsakai)).

#### **4.4 Outcomes: snatching defeat from the jaws of victory**

Section 4.3 discussed how unofficial participation processes interacted with the official processes described in section 4.2, and section 4.2.4 explained how the national debate delivered a fairly clear, albeit not entirely representative, verdict. This section continues the post-Fukushima narrative by discussing how this verdict was reflected in the government's decision.

##### ***4.4.1 'Innovative Strategy': nuclear phase out by 2039***

Although there was a range of views about the timing, a nuclear phase out appeared to have majority support among the general public. However, when the national debate started, many commentators, including the anti-nuclear network e-shift, suspected the government favoured the 15 percent scenario, even to the point of deliberately channelling the public to choose it as a middle option (e-shift 2012e, p. 2). This view was reinforced by a comment made on 25 May 2012 by Environment Minister Goshi Hosono, one of a handful of ministers with key portfolio responsibility for energy and nuclear energy related matters. He said, 'Fifteen percent can be one base.' This was widely interpreted to mean that he favoured the 15 percent scenario (Kyodo 2012b).<sup>382</sup> Another influential Democratic Party (DPJ) politician believed to favour continuing with nuclear energy was acting chairman of the party's Policy Research Committee and DPJ eminence grise Yoshito Sengoku. He 'sat in on minister meetings' about the restart of the Ohi Nuclear Power Plant and is reported to have compared having no nuclear power plants to 'group suicide' (Mainichi Japan 2012c). But many other DPJ politicians supported a nuclear phase out. For example, in April 2012 former Prime Minister Naoto Kan established a group of DPJ lawmakers to develop a road map for phasing out

---

<sup>382</sup> Former Deputy Director General, Office of Cabinet Secretary for Public Relations Kenichi Shimomura said that some people, both politicians and bureaucrats, clearly hoped to channel the process towards the 15 percent or 20~25 percent options, while others, including himself and Minister for Economy Trade and Industry Yukio Edano, only saw the three options as a guideline for discussion (interview 26 March 2013).

nuclear power (Kyodo 2012e). So there was no pre-determined party consensus that a target of 15 percent nuclear in the electricity mix in 2030 would be chosen.

After the national debate the DPJ set up a committee to develop an agreed party policy (Mainichi Japan 2012h; Suzuki, Takuya 2012). The committee was chaired by the chairman of the party's Policy Research Committee, Seiji Maehara, who was believed to support continuing nuclear power, while the vice chairperson, Kiyomi Tsujimoto, was a staunch nuclear critic. Other notable nuclear supporters included Yoshito Sengoku and Akihiro Ohata, a former union representative from nuclear plant maker Hitachi, while other nuclear critics included Shoichi Kondo of the cross party No Nukes Committee (Gempatsu Zero no Kai). Naoto Kan was an advisor.<sup>383</sup> The committee's report, finalised on 6 September 2012, contained the following key sentence:

The Government will mobilize all possible policy resources to such a level as to even enable zero operation of nuclear power plants in the 2030's (Energy and Environment Study Group 2012, p. 2).<sup>384</sup>

The expression 'in the 2030s' was interpreted to mean 'by 2039', so the time frame represented a retreat from the 2030 target year around which the national debate revolved. In effect it meant 15 percent by 2030, trending to 'zero' by the end of the decade. From this perspective it could be seen as a compromise between the zero and 15 percent scenarios, but the inclusion of the word 'zero' was seen as significant. Naoto Kan argued strongly for including the word 'zero'.

The 15 percent figure means that even if it falls to 15 percent the possibility of it rebounding to 20 or 30 percent is retained. That's unacceptable.<sup>385</sup>

---

<sup>383</sup> A 23 August 2012 blog post 'Gempatsu zero no michi suji o tsukeru tame, tetteitekina tōnai giron o!' by Diet Member Kiyomi Tsujimoto lists some of the members:

<http://www.kiyomi.gr.jp/blog/2012/08/23-2313.html>

<sup>384</sup> Translation taken from the official 'Provisional translation' of the 14 September 2012 *Innovative Strategy for Energy and the Environment* (Energy and Environment Council 2012a, pp. 4-5), which contained the same wording.

<sup>385</sup> Interview with Naoto Kan, 13 March 2013

He believed that if a decision could be made on a time bound phase out, nuclear plant makers would stop investing in nuclear energy.

Evidently including the ‘zero nuclear’ target was a difficult decision for the DPJ. Shoichi Kondo made the following comment about the debate within the committee and within the party as a whole:

On 6 September we produced a report which said ‘mobilize all possible policy resources to such a level as to even enable zero operation of nuclear power plants in the 2030’s’, but up until that morning there were powerful Democratic Party politicians who wanted to go for 15 percent by 2030 ... It is true that among party officials there were strong voices in favour of 15 percent by 2030. One of those was Hosono I think.<sup>386</sup>

The DPJ politicians who I interviewed acknowledged that the national debate and the demonstrations were very influential in pushing the party to recommend a nuclear phaseout. Naoto Kan said that the demonstrations ‘had a big impact on politics’.<sup>387</sup> In the brief time granted to me in their busy schedules none of the politicians explicitly stated that without these events the outcome would have been different, but former Deputy Director General of the Office of Cabinet Secretary for Public Relations Kenichi Shimomura, who was closely involved in the whole process, told me that he believed that without the national debate and the demonstrations the 15 percent option would have been chosen.<sup>388</sup> The weight of evidence supports that conclusion. So when the DPJ finalised its report the post-Fukushima public participation process was on the verge of becoming the first public participation process to have substantive influence on Japan’s energy or nuclear energy policy. It would be the first time that power was truly shared between the governed and the government.

---

<sup>386</sup> Interview with Shoichi Kondo, 4 February 2013

<sup>387</sup> Interview with Naoto Kan, 12 March 2013

<sup>388</sup> Interview with Kenichi Shimomura, 26 March 2013

But the DPJ policy committee's report was not yet government policy. The overall policy direction was articulated a week later in the Energy and Environment Council's *Innovative Strategy for Energy and the Environment (Innovative Strategy)*. This document retained the clause about a nuclear phaseout by 2039, but already the government had climbed down from some aspects of the previous week's party policy report. Whereas the DPJ policy report had proposed reconsidering the government's policies on nuclear exports and the nuclear fuel cycle (Energy and Environment Research Committee 2012, pp. 5-6), the *Innovative Strategy* dropped these proposals. Unlike the nuclear phaseout target, neither of these policy areas was a focus of the national debate, so there was no clear expression of public will imposing a moral obligation on the government.

In regard to the nuclear fuel cycle, even though nuclear energy would be phased out and new nuclear power plants would not be constructed, the *Innovative Strategy* stated that 'the Government will continue its present nuclear fuel cycle policy to engage in reprocessing projects' (Energy and Environment Council 2012a, p. 6). That meant that plans to operate the long delayed Rokkasho Reprocessing Plant in Aomori Prefecture were still on track. Also, research into fast breeder reactors would be continued for an unspecified period of time, even though the platform for this research, the *Monju* Prototype Fast Breeder Reactor, had been out of action for all but a couple of months since the December 1995 sodium leak and fire.

The *Innovative Strategy* opted for a combination that appeared to have been ruled out by the Japan Atomic Energy Commission (JAEC) in all its deliberations and in its final submission to EEC, namely the continuation of reprocessing and restart of *Monju* while phasing out nuclear energy (section 4.2.3). If the *Innovative Strategy*'s energy mix target was taken to be 15 percent in 2030 trending to zero by 2039, it might be argued

that the government chose JAEC's fuel cycle policy recommendation matching the 15 percent energy mix, but that argument trips up on the words 'the Government will continue its present nuclear fuel cycle policy'. The 'present nuclear fuel cycle policy' is 'full reprocessing', whereas JAEC's recommended policy for 15 percent electricity from nuclear was 'coexistence of reprocessing and direct disposal'. The *Innovative Strategy* stated that research into direct disposal of spent nuclear fuel would be conducted, but that was already in the 2005 *Framework for Nuclear Energy Policy* (Japan Atomic Energy Commission 2005, p. 34). It was just that it hadn't been followed up since the 2005 policy was established (section 4.2.3).

What happened between the finalisation of the DPJ's party policy and the release of the government's *Innovative Strategy*? Pressure from three directions caused the government to back down: from industry (Yanase 2013, pp. 170-171), from prefectures which host nuclear fuel cycle facilities, and from foreign governments. Aomori Prefecture was in a particularly strong bargaining position because, on the basis of past undertakings from the central government and from Japan Nuclear Fuel Ltd that it would not become a final disposal site for spent nuclear fuel and high level radioactive waste (Aomori Prefecture 2012, p. 149), it was threatening to return spent nuclear fuel currently stored at Rokkasho to nuclear power plants (Mainichi Japan 2012a). This would potentially make it impossible to operate the plants (section 3.4.3). Aomori was also threatening to refuse to accept radioactive waste returned from France and the UK. Japan was obliged to accept radioactive waste resulting from past reprocessing contracts with these countries and the storage facility was in Rokkasho. That threat drew expressions of concern from the French and UK governments (Mainichi Japan 2012f; The Asahi Shimbun 2012b).

The US government also expressed concern, but for different reasons (Jiji 2012; Mainichi Japan 2012i; Minami et al. 2012; Yamauchi & Arimitsu 2012). Its concerns were two fold. First, US nuclear power plant makers were heavily dependent on Japan's nuclear industry. If Japan withdrew from the nuclear export market that would make it difficult for US industry to produce nuclear power plants for both domestic use and for export and could allow Russia and China to become the world leaders in nuclear technology. The US also had a somewhat schizophrenic concern about Japan's nuclear fuel cycle. On the one hand US supporters of nuclear fuel cycle research and development, especially fast burner reactors designed to reduce the quantity of radioactive waste, were hoping to reap benefits from Japan's research using *Monju*. On the other hand, people who were concerned about nuclear non-proliferation and nuclear security had nightmares about Japan adding to its already huge stockpiles of plutonium without having any immediate prospect of using it.<sup>389</sup>

In the face of these pressures the DPJ government opted for a plainly contradictory strategy. Under the circumstances, perhaps the most remarkable thing was that it stuck with the 2039 nuclear phaseout target. It is testimony to the influence of the national debate and the protests that this target remained, even though it clearly contradicted the decision to continue with the existing nuclear fuel cycle policy. On this issue at least, public participation acted as a countervailing force against attempts by powerful interests to subvert the political public sphere. Had nuclear fuel cycle policy been thoroughly debated during the national debate, perhaps the government would have felt its hands were tied on that too, so the decision not to address the nuclear fuel cycle in the national debate turned out to be very significant.

---

<sup>389</sup> Daniel Poneman, deputy secretary of the U.S. Department of Energy, discussed the fuel cycle issues at the Japan National Press Club on 24 July 2012. Refer to his responses to questions from about the 23 to 29 minute mark of the following YouTube recording: <http://www.youtube.com/watch?v=Md5U5NyxKO8&feature=plcp&gl=GB>

How did the anti-nuclear movement respond to this contradictory *Innovative Strategy*? Considering the fact that most of the public comments called for all nuclear power plants to be permanently shut down immediately (section 4.2.4), it is fair to assume that most of the protesters (section 4.3.2) were dissatisfied with the *Innovative Strategy*'s nuclear phase out target date of 2039. When interviewed, Misao Redwolf of the Metropolitan Coalition Against Nukes said that their aim was an immediate end to nuclear power, but she nevertheless acknowledged the significance of the inclusion of the 'zero' word.<sup>390</sup> Having spoken to many politicians who confirmed that the protests had a big impact, she had no doubt that, together with other civil society actions,<sup>391</sup> they had shifted (*ugokashita*) the politics. She also noted that having many politicians within the governing party who supported a phase out was an important factor. E-shift likewise acknowledged the significance of the inclusion of the 'zero' word, but, in light of the public comments submitted during the national debate, it criticised the *Innovative Strategy* for the slow pace of the phase out. It also criticised the continuation of the nuclear fuel cycle, the commitment to nuclear exports, and the low targets for energy conservation and renewable energy (e-shift 2012d).

In defence of the 2039 target date, former National Policy Unit bureaucrat Tomohito Ihara said, 'The way I see it, this conclusion is consistent as a conclusion that emerged from the national debate.'<sup>392</sup> Alluding to the logic behind the National Debate Verification Panel's conclusion that at least half the population wanted a society that does not depend on nuclear energy, namely that some of those who supported the '15 percent by 2030' scenario actually supported a nuclear phase out in the longer term, he noted, 'It was not clear from the national debate that half wanted zero nuclear energy by

---

<sup>390</sup> Interview with Misao Redwolf, 29 March 2013

<sup>391</sup> For example, a petition campaign led by Nobel Prize laureate Kenzaburo Ōe et al (Citizens' Committee for the 10 Million People's Petition to say Goodbye to Nuclear Power Plants).

<sup>392</sup> Interview with Tomohito Ihara, 10 January 2013



2030. Lots of people were not confident.’ On this basis he believed that a phase out by 2039 accurately reflected the outcome of the national debate.

Both the above perspectives have some logic, but most significantly for this thesis, both recognise that input from the public, whether official or unofficial, was *influential* in the area focused on by the national debate, namely the percentage of nuclear energy in the energy mix. Fears that the outcome was pre-determined proved to be unfounded. However the public’s influence was diluted by the Cabinet Decision that followed the release of the *Innovative Strategy*. The Cabinet’s 19 September 2012 decision was expected to formally endorse the *Innovative Strategy*, but it left its status unclear. The brief and ambiguously worded decision was widely interpreted as relegating the *Innovative Strategy* to the status of a reference document:

The Government of Japan will implement future policies on energy and the environment, taking into account of “the Innovative Strategy on Energy and the Environment” (the decision of the Energy and the Environment Council on September 14th, 2012), while having discussions in a responsible manner with related local governments, the international community and others, and obtaining understanding of the Japanese public, by constantly reviewing and reexamining policies with flexibility (Government of Japan 2012).

At a press conference that day, when asked ‘why then was not the entire strategy approved by Cabinet Decision?’ Chief Cabinet Secretary Osamu Fujimura replied, ‘Today’s decision did not make any legal decisions as to the energy and environment strategy but this is not the first time this has happened.’<sup>393</sup> Had the Cabinet Decision endorsed the document in its entirety it would have had binding force, but its status was left in limbo. Some media outlets reported that pressure from the US government was behind the decision not to formally endorse the strategy (Tokyo Shimbun 2012; Yazawa 2012). Whatever the reasons for not adopting the *Innovative Strategy* in its entirety, the

---

<sup>393</sup> Chief Cabinet Secretary Osamu Fujimura’s press conference, 19 September 2012: [http://www.kantei.go.jp/foreign/tyoukanpress/201209/19\\_a.html](http://www.kantei.go.jp/foreign/tyoukanpress/201209/19_a.html)

net result was that an official policy would have to wait for the production of a new Basic Energy Plan.

According to Kenichi Shimomura, who along with two other bureaucrats and three researchers was tasked with drafting the *Innovative Strategy* (Shimomura 2013, pp. 302-303), some people in the government supported endorsing it in its entirety, while others were strongly opposed.<sup>394</sup> Under the compromise wording that was chosen, future energy and environment policies would take into account the *Innovative Strategy*. Any future decision that did not take into account the decision to phase out nuclear energy by the 2030s would therefore be in breach of the Cabinet Decision. However the second half of the Cabinet Decision allowed the government to take into account a change of circumstances. The question was whether the first half or the second half would win out. Shimomura interpreted the flexibility of the second half as ‘leaving the final decision in the hands of the citizens’. Through the protests citizens had exerted influence from outside the official process once and they could do so again. In Shimomura’s view there was no reason for nuclear critics to give up hope on the basis of this Cabinet Decision, but in fact they had given up hope. He believed they were misled by the media<sup>395</sup> into thinking that what they had won in the *Innovative Strategy* had disappeared, when in fact half of it remained. Likewise, advisor to the Institute for Sustainable Energy Policies and Deputy Director of Energy Green, Hideaki Takemura, said,

---

<sup>394</sup> This paragraph is based on a 26 March 2013 interview with former Deputy Director General, Office of Cabinet Secretary for Public Relations Kenichi Shimomura.

<sup>395</sup> Shimomura specifically referred to the Tokyo Shimbun, which was first to report on the US influence on the Cabinet Decision, as having contributed to the loss of hope of the people calling for a phase out of nuclear energy. While not having first hand knowledge about pressure from the US government, he believed that what Tokyo Shimbun wrote was probably accurate, but that it was misleading in not acknowledging the positive aspect of the Cabinet Decision.

Surprisingly there are people in the citizens' movement who say that it wasn't endorsed by the Cabinet Decision. I think [to say] that is to throw away their own achievement.<sup>396</sup>

In fact, however, after the change of government bureaucrats used the vagueness of the Cabinet Decision to justify ignoring the *Innovative Strategy*. This is discussed in the next section, which addresses the fate of the national debate and the zero nuclear target under the new government.

#### **4.4.2 Post-election December 2012**

As fate would have it, three months after the Democratic Party of Japan (DPJ) government announced its *Innovative Strategy for Energy and the Environment* the DPJ was defeated in a national election. The victorious Liberal Democratic Party (LDP) adopted an ambiguous position on nuclear power during the election campaign, but it was recognised to be more favourable towards nuclear power than the other parties. However it was clear from exit polls, which showed that a majority of voters still supported a nuclear phase out, that nuclear energy was not a decisive voting issue.<sup>397</sup>

The new government promptly announced that it would review the previous government's energy and environment strategy from scratch.<sup>398</sup> It disbanded the National Policy Unit under which the ministerial level Energy and Environment Council had been located and returned the responsibility for energy and environment policy to the Ministry for Economy and Industry (METI). It also disbanded the Fundamental Issues Subcommittee (FIS) of METI's Advisory Committee for Natural Resources and Energy (ACNRE) and returned the discussions about a new Basic

---

<sup>396</sup> Interview with Hideaki Takemura, 20 February 2013

<sup>397</sup> 'Exit polls conducted by The Asahi Shimbun on Dec. 16 found that 78 percent of respondents favored either an immediate or gradual move toward a nuclear-free society, much larger than the 15 percent who opposed such moves' (The Asahi Shimbun 2012e).

<sup>398</sup> Minister of Economy Trade and Industry Toshimitsu Motegi's first press conference, 26 December 2012: [http://www.meti.go.jp/speeches/data\\_ed/ed121226bj.html](http://www.meti.go.jp/speeches/data_ed/ed121226bj.html)  
Speech by Prime Minister Shinzo Abe on 30 January 2013 during a plenary session of the House of Representatives.

Energy Plan to FIS's parent committee, the Coordination Subcommittee (subsequently renamed the Strategic Policy Committee in a reorganisation of ACNRE) (Agency for Natural Resources and Energy 2013b). In so doing it dropped most of the nuclear critics who had served on FIS from the new review process. Clearly the government did not feel that the 19 September 2012 Cabinet Decision bound it to honour the DPJ government's *Innovative Strategy* (section 4.4). Indeed, in a classic example of 'bureaucratic rhetoric' (Koga 2013) (section 3.4.3), officers of the Ministry of Economy, Trade and Industry said in response to questions by anti-nuclear activists that the *Innovative Strategy* had not been confirmed by a Cabinet Decision.<sup>399</sup>

The *Innovative Strategy* was not even submitted as a reference document to the new energy policy review process, which commenced on 15 March 2013. Instead, the review took as its starting point the pre-Fukushima Basic Energy Plan (June 2010), which was the legally extant policy, even though there was no possibility of returning to the nuclear energy targets in that document. As for the previous summer's national debate, no documents about it were submitted to the new review. Minister of Economy Trade and Industry Toshimitsu Motegi referred obliquely to it when he said in response to a question about public participation:

I think it is very important for you to listen to a wide range of voices from the public ... My personal feeling is that rather than some type of yes/no questionnaire, we should listen more carefully to various people's opinions. I think that would be more productive.<sup>400</sup>

---

<sup>399</sup> Report by Akiko Yoshida (FoE Japan) of 8 January 2014 meeting between FoE Japan, Genshiryoku Kisei o Kanshi suru Shimin no Kai (Citizens' Committee for Monitoring Nuclear Regulations) and officers of METI's Agency for Natural Resources and Energy:  
<http://blog.canpan.info/foejapan/archive/170>

<sup>400</sup> Advisory Committee for Natural Resources and Energy, Coordination Subcommittee meeting 1, 15 March 2013 (transcript p. 36)  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/past/001/pdf/001\\_016.pdf](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/past/001/pdf/001_016.pdf)

His negative reference to a ‘yes/no questionnaire’ presumably was intended as a disparaging remark about the deliberative poll held by the previous government. From the small number of people who the committee invited to give presentations, it is clear that ‘a wide range of voices from the public’ was not meant to include nuclear critics. The LDP-Komei government was acting as if the national debate and the goal of phasing out nuclear power had never happened.

The new government’s lack of commitment to public participation became clear from the way in which a draft basic energy plan produced was released for public comment. The draft was produced by the Secretariat and distributed to committee members a very short time before the 6 December 2013 meeting. Several committee members said they had barely had time to look at it.<sup>401</sup> The Secretariat explained it during the meeting and took comments, but the draft was released for public comment that day. It was updated at the next meeting (13 December), but the period for public comments was extended just two days to 6 January 2014. ACNRE’s Strategic Policy Committee was not reconvened to review the comments received and no public hearings were held.<sup>402</sup>

The release of the new Basic Energy Plan was delayed due to the Tokyo gubernatorial election, which included prominent anti-nuclear candidates (Appendix 13), and due to

---

<sup>401</sup> Transcript of meeting 12 (6 December 2013) of the Advisory Committee for Natural Resources and Energy’s Strategic Policy Committee:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/012/pdf/012\\_008.pdf](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/012/pdf/012_008.pdf)

<sup>402</sup> 18,663 public comments were submitted, but, unlike the public comments submitted during the national debate, they were not published in full. 2,109 email comments were released in response to a Freedom of Information request by The Asahi Shimbun. Asahi’s analysis showed that 2,008 of these (95.2 percent) opposed nuclear power generation (Komori 2014). The following link includes a file with the government’s summary of and responses to comments received:

<http://search.e-gov.go.jp/servlet/Public?CLASSNAME=PCMMSTDETAIL&id=620213015&Mode=2>

concerns among some LDP politicians<sup>403</sup> and LDP's coalition partner the New Komei Party (Mainichi Japan 2014). After the defeat of the anti-nuclear candidates at the Tokyo election and some intra- and inter-party horse-trading, a slightly amended Basic Energy Plan (BEP)<sup>404</sup> was finally approved by Cabinet on 11 April 2014 (METI 2014c). The new BEP states that dependence on nuclear energy will be reduced 'to the extent possible' (p. 24),<sup>405</sup> but gives no numerical indication of how much it will be reduced. It religiously reaffirms the alleged benefits of nuclear energy that were recited ad nauseam before the Fukushima nuclear accident,<sup>406</sup> and reinstates it as 'an important base-load power source' (p. 24). It also continues the basic policy of promoting the nuclear fuel cycle (pp. 53-54), albeit with slightly different emphasis for the role of the fast breeder reactor program. Although the Japanese text makes no explicit mention of the 'breeder' component, the continuation of this component can be inferred from the Ministry of Education, Culture, Sports, Science and Technology's *Monju* research plan (Monju Research Plan Working Group 2013, p. 14).

The broader significance of the change of government for public participation in Japan's energy and nuclear energy policy is discussed in section 4.5.1 below.

---

<sup>403</sup> Blog post 'Energy Kihon Keikaku e no teigen' by Taro Kono, representative of the LDP's Jimintō Energy Seisaku Giin Renmei (LDP Energy Policy Diet Members' Alliance) (7 January 2014): <http://www.taro.org/2014/01/post-1433.php>  
Jimintō Energy Seisaku Giin Renmei 12 February 2014 proposal, 'Energy Kihon Keikaku e no teigen':

[http://e-shift.org/wp/wp-content/uploads/2014/02/140212\\_自民党エネルギー基本計画への提言 2.pdf](http://e-shift.org/wp/wp-content/uploads/2014/02/140212_自民党エネルギー基本計画への提言 2.pdf)

<sup>404</sup> 'Basic Energy Plan' is the title used in the Basic Energy Act, but the title used in the provisional translation is *Strategic Energy Plan*. The main text of this thesis uses 'Basic Energy Plan' for the sake of consistency.

<sup>405</sup> The tone of the Japanese version is somewhat stronger: 'kanō-na kagiri' (METI 2014a, p. 22).

<sup>406</sup> The Basic Energy Plan makes the following claims:

Nuclear power's energy output per amount of fuel is overwhelmingly large and it can continue producing power for several years only with domestic fuel stockpile. Nuclear power is an important base-load power source as a low carbon and quasi-domestic energy source, contributing to stability of energy supply-demand structure, on the major premise of ensuring of its safety, because of the perspectives; 1) superiority in stability of energy supply and efficiency, 2) low and stable operational cost and 3) free from GHG emissions during operation (Ministry of Economy Trade and Industry 2014c, p. 24).

## **4.5 Overall assessment: pre- and post-Fukushima comparison**

This section sums up the discussion of the post-Fukushima policy review process and assesses it against the pre-Fukushima processes. After reflecting in section 4.5.1 on the significance for public participation of the December 2012 change of government, in sections 4.5.2 to 4.5.5 assessments are carried out based on each of the sets of criteria identified in section 1.3. These assessments parallel the assessments in section 3.5 of the pre-Fukushima public participation processes. Finally, section 4.5.6 comments on the legitimacy of the post-Fukushima policy review process. It concludes that, while the legitimacy of the procedure and outcomes was ambiguous, relatively speaking the post-Fukushima process was far more legitimate than pre-Fukushima processes and it supplemented representative democracy in some significant ways.

### ***4.5.1 The difference a change of government makes***

Based on section 4.4, it seems that the greatest lesson from the post-Fukushima energy policy review process is that, when push comes to shove, representative democracy trumps public participation. A citizens' movement was able to exert influence through the DPJ government's public participation process, but it was unable to affect the outcome of the election. (See Appendix 13 for a discussion of the anti-nuclear movement's involvement in electoral politics.) On such grounds as representativeness and accountability, the primacy of representative democracy is accepted by most public participation scholars (section 1.2.2), including those who ran Japan's energy and environment DP (Yanase 2013, pp. 182-184). Furthermore, it is not unusual for governments to ignore the results of public participation exercises. As Dryzek observes,

[C]onsider the impact of deliberative citizen forums. These forums often feature high-quality and inclusive deliberation. However, the frequent fate of the recommendations of these forums is to be ignored or lost in the give-and-take of

larger political interaction. Often there is little reason for politicians and bureaucrats to take much notice of the forum and its recommendations (unless it provides them with some ammunition to be used in strategic struggles) (Dryzek 2010, pp. 73-74).

But did the public participation of Japan's national debate on energy and environment policy have any lasting relevance? Before the LDP-Komei government commenced its energy policy review I asked that question of Kazuhiro Ueta, who was a member of the Fundamental Issues Subcommittee and became a member of the Strategic Policy Committee which took over the energy policy review role. He said, 'The national debate remains and it would be politically difficult to completely ignore it.'<sup>407</sup> Certainly, the national debate remains as a historical fact. Furthermore, the anti-nuclear energy movement continues to make reference to it (Citizens' Commission on Nuclear Energy 2014, pp. 185-186; e-shift 2013a), and, given the circumstances under which it was conducted and the publicity it attracted, it will inevitably become a reference point for future public participation exercises. However the government has done its best to ignore it, despite the efforts of Ueta and the anti-nuclear energy movement. At a policy level, if it still exerts any influence it is only to the extent that it influenced the debate in the wider public sphere, which in turn prevents a more aggressively pro-nuclear policy. The possibility that the national debate had other positive spin-offs—for example of an educational nature in terms of increasing the public's energy literacy—is discussed in sections 4.5.5 and 4.5.6.

The outcome of the elections in 2012 and 2013 has, at least in the short term, drastically reduced the role of official public participation in nuclear energy and energy policy making. In establishing the new Basic Energy Policy the government wound back much of the progress in public participation that was achieved in the decade following the *Monju* accident, even if that progress was largely lip service. Only the legally required

---

<sup>407</sup> Interview with Kazuhiro Ueta of Kyoto University, 16 January 2013



public comment process remained, and that was carried out as a formality in a minimalist fashion (Edahiro 2014; White 2014) (section 4.4.2).

As a result of the new political circumstances, the avenues for civil society to exert influence on policy have dried up to a significant extent. Under the DPJ government the nuclear phaseout movement was able to exert discernible influence. Some influential DPJ politicians had close connections with citizens' movements and the DPJ as a whole prioritised public participation in its official stance. Under those conditions it could be said that to a degree power was shared between the governed and the government. However the LDP is traditionally more closely aligned with business and the Abe government has allowed the nuclear complex to reassert itself (Appendix 14). As a result, the countervailing power (power per se) generated by public participation under the DPJ government is no longer effective against the subverting influence of power (wielders of power) (section 3.1).

The prospects for public participation under the LDP-Komei government are discussed in Chapter 5, but first, the remaining sections of this chapter assess against various sets of criteria (section 1.2.3) the public participation exercises conducted by the DPJ government and draw comparisons between the pre- and post-Fukushima situation. The assessments are based on the discussion in the preceding sections of this chapter, so they do not repeat that discussion in detail where the case has already been adequately made.



was represented on both the FIS and the Framework Council, there were significant areas of under-representation, most notably women and young people. This might have skewed the outcome, given that surveys showed that women tended to be more opposed to nuclear energy than men and young people tended to be more supportive of nuclear energy than older people (Minister for National Policy 2012a, pp. 10-11).

With regard to the national debate, two aspects were somewhat representative in a descriptive sense: the deliberative poll and media opinion polls. Participants in the public comments, public hearings and explanatory meetings were self-selecting, highly motivated people, and not in any sense representative. However people recruited for the DP and media polls were randomly selected and arguably could be seen as representing the ‘silent majority’ (Sone et al. 2013, p. 100). People responding to media opinion polls probably did not consider themselves to be participating in a national debate, but I mention them here because the results of these polls carried some weight in the assessment of the National Debate Verification Panel.

A major reason why the government chose to conduct a DP was because it wanted to tap into the silent majority (section 4.2.4) and the reason why the results carried particular weight was that the participants were seen to be non-partisan. They had ‘the capacity to reflect and change their minds as a result of their participation in deliberation’ (Dryzek 2010, p. 158). In that sense the DP extended participation beyond the usual bounds of the passionate and the opinionated, but there are problems with claiming that it was descriptively representative. For a start, from the perspective of gender balance and age distribution the participants did not reflect the composition of the total population. Furthermore, even though the initial poll was based on random selection, the few percent of those polled who actually participated in the DP event were those who had the time and motivation to do so. Nevertheless, if

representativeness is considered in relative terms, the DP was more representative than the public comments and the public hearings, and the national debate as a whole was more representative than any previous public participation exercise on Japan's nuclear energy or energy policy.

### Independence

Two new initiatives in particular raised the level of independence of the national debate compared to past public participation processes: the deliberative poll (DP), which was managed by an independent executive committee, and the National Debate Verification Panel, which assessed the overall process.

The 29 June 2012 public participation experts' statement (section 4.2.4) was critical of the absence of an independent management committee from the DP request for proposal. Naoyuki Mikami (a signatory of that statement and member of the Third Party DP Verification Committee) said the government should have contracted directly with such an independent body rather than leave it to the successful tenderer Hakuodo to set it up.<sup>410</sup> Nevertheless, the belatedly established executive committee was made up of DP experts and operated in an independent fashion, although there were limits to its independence due to the rushed nature of the process (Third Party DP Verification Committee 2012, p. 23). Unlike, for example, the moderators of the post-Monju Round Table Conference, the DP executive committee was seen to be independent of the nuclear village. The performance of the executive committee, the role of the Third Party DP Verification Committee, and the conduct of the DP as a whole prevented criticisms being raised about independence.

---

<sup>410</sup> Interview with Naoyuki Mikami, 29 August 2012

The National Debate Verification Panel was an afterthought, and strictly speaking was not independent. It was basically a government advisory committee. The final report was issued in the name of the minister, but the members were independent of the nuclear village. Committee member Tadashi Kobayashi observed that the way the committee operated was exceptional for a Japanese advisory committee, the secretariat was responsive to the committee members' comments, and the final report was atypical for a report by the bureaucracy.<sup>411</sup> Although Onai (2014, p. 122) criticised the panel's deliberations as superficial (*'tsuke yaki ba no taiō'*), the panel's assessment was in stark contrast to the arbitrary nature of, for example, the recommendations of the Round Table Conference moderators, or the official responses to public comments received in past processes. For Kobayashi, the aspect of the national debate that he esteems most highly is the final report produced by the secretariat of the National Debate Verification Panel. I am inclined to agree.

In contrast with the abovementioned aspects of the national debate, the committee processes that preceded it were not independent. The advisory committees came under the same organisations that had dominated pre-Fukushima nuclear energy and energy policy making, and the chairmen of JAEC's Framework Council and ACNRE's Fundamental Issues Subcommittee were the same people who were in charge of producing the pre-Fukushima policies. There were also questions about the role of the secretariats, in particular the presence of people seconded from industry on the secretariat of the JAEC committees. However, there was one important difference from past practice. That was the coordinating and decision-making role of the National Policy Unit's Energy and Environment Council (EEC). EEC gave politicians greater oversight of the process and ameliorated the worst excesses of the nuclear energy

---

<sup>411</sup> Interview with Tadashi Kobayashi, 17 January 2013

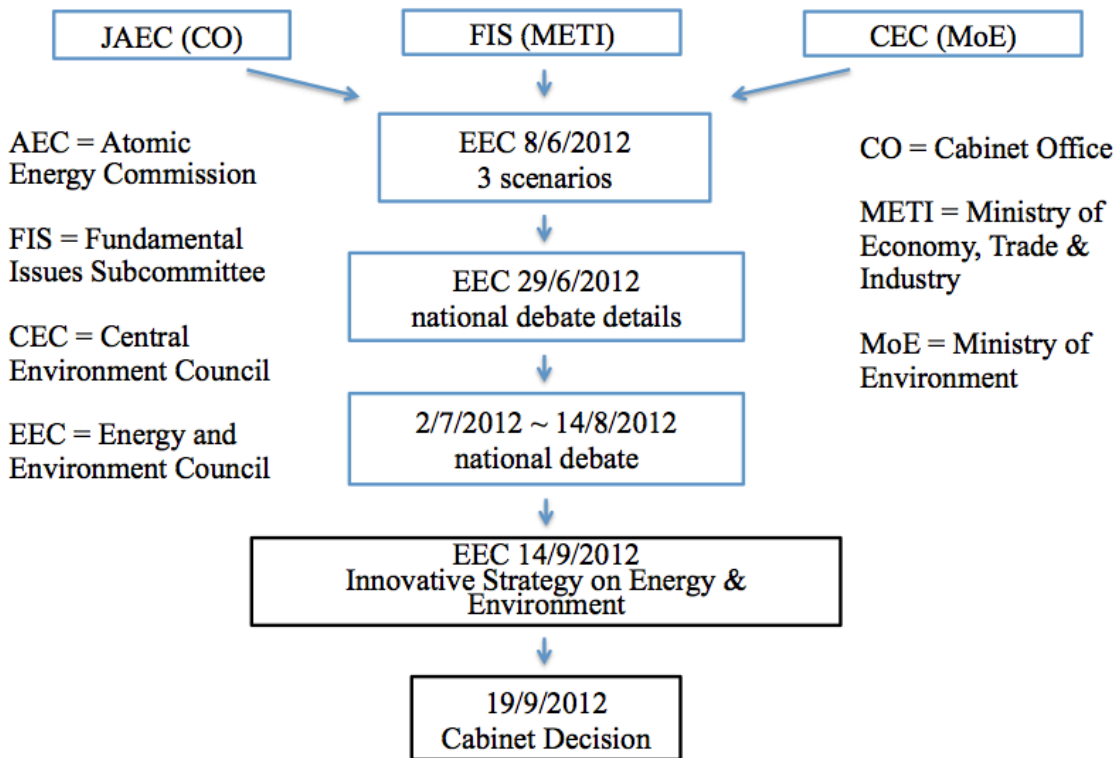
bureaucracy. It created greater independence within government, where the final decision was made.

### Early involvement

Through their membership of advisory committees, NGO representatives were involved in the agenda-setting (compilation of discussion points) and planning (development of scenarios) stages. However they did not see their participation in these committees as a substitute for involvement of the general public. They repeatedly requested that the general public be given an opportunity to participate in setting the agenda, but their requests were ignored. During the agenda-setting and planning stages the only opportunity for participation by the general public was public comments, which were tabled throughout the committee meeting stage.

The national debate did not begin until 2 July 2012, just two months before the *Innovative Strategy* (Energy and Environment Council 2012a) was released. In terms of Moro's stages of the policy-making cycle (section 1.2.2), this was the decision stage. More substantial public involvement at an earlier stage could potentially have influenced the terms of the national debate, but holding the national debate near the end of the decision making process undoubtedly enhanced its impact. The fact that the *Innovative Strategy* was drafted when the national debate was fresh in people's minds made it harder to ignore the results. In the pre-Fukushima era, public comments and public hearings occurred at the end of the policy-making process, but those were formulaic exercises. They did not take place amidst the publicity and public interest surrounding the post-Fukushima national debate. The diagram below shows how the national debate was in the direct decision-making line.

## National Debate and Policy-Making Process



Contrast this with the diagram in section 3.3.2, which shows the indirect relationship between the Round Table Conference and the official policy-making process. Whereas the indirectness of this relationship in the pre-Fukushima process allowed plenty of room for the government to obfuscate or shelve recommendations, the outcome of the post-Fukushima national debate was clear and direct, so it was obvious whether the government had accepted or rejected it.

### *Influence*

The post-Fukushima public participation process was the first public participation process to have substantive (albeit temporary) influence on Japan's energy or nuclear energy policy (section 4.4). It is impossible to say for certain which was more important, the official process or the demonstrations, but there is convincing evidence that their combined impact was decisive. Judging from my interviews with politicians and other officials directly involved with the process, the decision to aim for a nuclear phase out was very difficult and the DPJ committee did not reach agreement until the last minute.

When the national debate started many nuclear critics suspected that the government had already decided to choose the 15 percent scenario, but in fact it did not have a unified position. In a government made up of some politicians who supported a nuclear phase out and others who supported a continuation of nuclear power, the position of the former was greatly strengthened by the combined effect of the national debate and the demonstrations. Perhaps the biggest contrast with the pre-Fukushima era was that the lack of a unified stance within the government created space for public participation to exert influence. Also, the fact that politicians took the lead in decision-making meant that bureaucratic inertia and bureaucratic rhetoric did not become insurmountable barriers to change.

Although the public participation process influenced policy, it should be noted that a significant weakness was the lack of planning of how the results of the national debate would be used. The government's belated decision to establish the National Debate Verification Panel saved it from a public relations disaster, as discussed in section 4.5.6.

### Transparency

The most significant area where transparency was improved compared to past public participation exercises was the National Debate Verification Panel, in which independent public participation experts interpreted the results of the national debate. The panel's three meetings were broadcast live on Ustream,<sup>412</sup> so anyone could see how its conclusions were arrived at. This approach contrasted with the arbitrary and untransparent way in which the moderators of the post-*Monju* Round Table Conference developed their recommendations (section 3.3.4), and it was a much more sincere

---

<sup>412</sup> National Debate Verification Panel (Kokumin-teki Giron ni kan suru Kenshō Kaigō) web site: <http://www.cas.go.jp/jp/seisaku/npu/policy09/archive12.html>



response to public input than the desultory treatment of public comments in past nuclear energy policy reviews (section 3.4.3).

The national debate itself was highly transparent. All the hearings were broadcast on Ustream, the DP was also broadcast on Ustream (except the small group meetings), and all public comments and documentation were published on the National Policy Unit's web site.<sup>413</sup> The Third Party DP Verification Committee further enhanced the transparency of the process.

By contrast, the transparency of the committee process was marred by secret meetings associated with the Japan Atomic Energy Commission's (JAEC) Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle (section 4.2.3). If it were not for the secret meetings scandal, the committee process would have scored fairly well on transparency grounds, because all meetings were broadcast on the internet and all meeting documents were published on government web sites, although, as in the past, the selection of committee members was not transparent.

Despite progress in transparency in some important areas, the actual decision itself was not transparent. Meetings of the DPJ committee which produced an initial recommendation, the group that drafted the *Innovative Strategy* (Shimomura 2013, pp. 302-313), and the Energy and Environment Council (EEC) which approved the *Innovative Strategy*, as well as the Cabinet meeting which decided what status to afford the document were all held in secret. Aileen Smith criticised this situation, saying, 'The final control on what happens, what decisions are made are still in a black box.'<sup>414</sup>

---

<sup>413</sup> National Policy Unit's national debate web site 'Hanasō, "Energy to kankyō no mirai!": <http://www.cas.go.jp/jp/seisaku/npu/policy09/sentakushi/index.html>

<sup>414</sup> Interview with Aileen Smith, 15 January 2013

### Resource accessibility

Rowe and Frewer (2000, pp. 15-16) identify information resources, human resources, material resources and time resources as necessary for effective decision making. Of these, time resources were in shortest supply. Preparations for and implementation of the public participation process were squeezed into a two-month period to fit in with the government's policy timetable.

Extensive information resources were provided on a dedicated web site,<sup>415</sup> including an information booklet developed for the DP, which reflected the views of both nuclear proponents and nuclear critics. Human resources in the form of experts were provided in the context of the DP. By clearly distinguishing the roles of lay participants and experts, the DP enabled the former to play a more significant role than in the public participation exercises held in the pre-Fukushima era (section 3.5.5). The explanatory meetings could also be seen as coming under information and human resources. Material resources were not conspicuously lacking. Travel expenses, accommodation and a small honorarium were provided to DP participations.

### Task definition

There was considerable ambiguity about the tasks of the overall policy review, the advisory committees, and the national debate. The overall direction was set by the Energy and Environment Council (EEC) at its 29 July 2011 meeting (EEC 2011a) and the terms of the national debate were set at its 29 June 2012 meeting (EEC 2012b), but the way the tasks were interpreted and carried out changed during the process.

The role of the Fundamental Issues Subcommittee (FIS) was defined broadly by Minister for Economy, Trade and Industry Yukio Edano in his opening remarks at its

---

<sup>415</sup> National Policy Unit's national debate web site 'Hanasō, "Energy to kankyō no mirai!": <http://www.cas.go.jp/jp/seisaku/npu/policy09/sentakushi/index.html>

first meeting (section 4.2.2), but the chair and the secretariat interpreted FIS's task narrowly as being to produce energy 'best mix' options for consideration in a national debate.<sup>416</sup> This was an improvement on pre-Fukushima processes, where the public had been presented with a *fait accompli*, but it became a mechanical exercise in which committee members 'just stated their own opinions' and 'the opinion structure among stakeholders' was not clarified.<sup>417</sup> As a consequence, the scientific basis of the scenarios was not fully explored.

The JAEC's Framework Council's task was uncertain from the outset. It was supposed to produce a new *Framework for Nuclear Energy Policy* within about a year of resuming meetings after the Fukushima Daiichi accident (i.e. by about September 2012),<sup>418</sup> but since consideration of the energy mix was the role of FIS, that meant that it was difficult for JAEC to advance discussions towards production of a new *Framework*. Instead, it was given the tasks of estimating the cost of the nuclear fuel cycle and developing nuclear fuel cycle options. The former task was fulfilled, but the latter was disrupted in its final stages by the secret meetings scandal. JAEC submitted an arbitrary report to EEC in June 2012, but the government did not allow this to become a focus of the national debate and no new *Framework* was produced.

These two committees, along with the Environment Ministry's Central Environment Council, laid the groundwork for the national debate. The role of the national debate itself was described in various imprecise ways. The clearest task was for participants to discuss and express their opinions about three energy mix scenarios, based on zero

---

<sup>416</sup> Handout 2 at FIS's first meeting (3 October 2011), 'Kakushinteki energy kankyō senryaku no kore made no giron oyobi kongo no susumekata ni tsuite' (Concerning the discussion to date and the process from now on for advancing an innovative strategy for energy and the environment) (p. 9):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/001/pdf/2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/001/pdf/2.pdf)

<sup>417</sup> Interview with Masaharu Yagishita (Sophia University), 8 January 2013

<sup>418</sup> JAEC 30 August 2011 decision, 'Shin Taikō Sakutei Kaigi no saikai ni tsuite' (Concerning the resumption of the Council for a New Framework for Nuclear Energy Policy) (p. 2):

<http://www.aec.go.jp/jicst/NC/about/kettei/kettei110830.pdf>

percent, 15 percent and 20-25 percent of electricity generation from nuclear energy in the year 2030 (EEC 2012b), but the government also articulated other objectives. The special web site established for the national debate stated, ‘We want you to consider with your families and friends what type of choice we should make [about energy and environment] in order for Japan to continue to grow sustainably.’<sup>419</sup> In the English outline of EEC’s 29 June 2012 decision, the following explanation appears:

It is expected that all citizens will take part in the national discussions on the choice of energy and environmental options. The government will make the best choice based on the voices expressed in the national discussions (EEC 2012b, p. 20).

At the first public hearing (Saitama, 14 July 2012), Minister for Economy, Trade and Industry Yukio Edano made the following remarks:

The world will change so that each family as consumers will make energy choices themselves and also produce energy. Each consumer/user will have the freedom and the responsibility to choose. I would like you more than ever before to think of energy choice as your own problem ... We presented these three options, but we do not mean to imply that we have to choose one of these.<sup>420</sup>

These various formulations suggest that the government did not see the role of the national debate as limited to the immediate policy decision and that it was not restricting its consideration to the three scenarios. Rather, it was trying to stimulate a wider, truly national debate that extended to the family and community level. Its reason for wishing to stimulate such a debate was that the nature of the energy shift it was trying to promote required direct engagement of citizens as energy producers and consumers who make their own energy choices. Former National Policy Minister Motohisa Furukawa confirmed this interpretation when I interviewed him.<sup>421</sup>

---

<sup>419</sup> National Policy Unit’s national debate web site ‘Hanasō, “Energy to kankyō no mirai!”’: <http://www.cas.go.jp/jp/seisaku/npu/policy09/sentakushi/about/index.html>

<sup>420</sup> Transcript of Saitama hearing, 14 July 2012 (p. 2-3): [http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/giji/1\\_full.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/giji/1_full.pdf)

<sup>421</sup> Interview with Motohisa Furukawa, 19 January 2013

This is a laudable and visionary aim, but in that case the question arises, ‘Why did the government frame the national debate in terms of these three quantitative scenarios?’ Would it not have been better to do as several members of the Fundamental Issues Subcommittee suggested, namely to frame the debate in terms of ‘a qualitative strategic energy policy’ to realise a ‘vision of a new society’?<sup>422</sup> Some of the participants clearly thought so. The need to develop a vision of future society was identified as an important theme by the DP-style event held in Kawasaki on 12 August 2012 (Citizen’s Choice: Energy and Environmental Strategy Executive Committee 2012, p. 54). Also, some of the participants in the official DP were inclined to shift the discussion from the three scenarios to other issues, such as liberalisation of the electric power system. Some of the organisers of the official DP saw this as a problem with the functioning of the small groups in which this discussion occurred (Sone et al. 2013, pp. 130-131, 201-202), but another way of looking at it is that the debate was framed too narrowly.

### Structured decision making

This criterion can be applied to the committee meetings and to the DP. I will deal with these first, then extend the analysis to the overall policy-making process.

In the case of the DP, the only decision-making for participants in the event related to what to discuss in small groups, what questions to ask the experts in the plenary sessions, and how to answer the questionnaire. These are standard aspects of the DP method. The DP’s small groups were not open to the public, but participants’ responses to the final questionnaire suggest that they were well run overall.<sup>423</sup> Besides this the

---

<sup>422</sup> Last page of handout 1 submitted to FIS meeting 15, 14 March 2012:

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/015/pdf/15-1.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/015/pdf/15-1.pdf)

<sup>423</sup> In response to the final questionnaire, 61.4 percent of participants gave a score of 5 to 7 (i.e. ‘agree’: 7 being the strongest possible agreement) for the question whether participants participated more or less equally, and 63.9 percent gave a score of 1 to 3 (i.e. ‘don’t agree’) for

assessment of the Third Party DP Verification Committee and reports by the DP organisers provide a guide (Sone et al. 2013; Yanase 2013, pp. 150-153). These sources indicate that there were no major problems, although some groups had difficulty converging on a point of discussion (Sone et al. 2013, pp. 130-131, 201-202).

The decision-making process in the committees followed standard Japanese advisory committee procedures. The secretariat guided the process and drafted the report, while the chair had effective power to make the final decision. Committee members who didn't like the decision realised that there was a time limit beyond which further argument was futile and judged that it was wiser not to destroy the whole process.<sup>424</sup> JAEC's Technical Subcommittee spelt out the role of the members more clearly than usual, including that the final report did not have to be a unanimously agreed position.<sup>425</sup> Suggestions by some members of FIS to modify the procedures by setting up a subcommittee were rejected (section 4.2.2). It may be true that the decision-making process was structured, but it was not democratic.

The overall process and timeline were described in various documents, but no clear description was given of how the national debate would be reflected in policy decision-making. The statement by public participation experts and the Third Party DP Verification Committee both made the point that the organiser should have explained in advance how the results would be used in policy making, but this was not done (section 4.2.4). That was no doubt partly due to the fact that the process was improvised on the run. However some structure was belatedly given by the establishment of the National

---

the question whether someone dominated the group. See responses to T3 questionnaire, questions 13a and 13g:

[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_08.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_08.pdf)

<sup>424</sup> Interview with Tetsunari Iida, 3 September 2012

<sup>425</sup> 'Kentō Shō-inkai no kongo no susumekata (an)' (The subcommittee's future procedure (draft)), meeting 5, 11 January 2012:

<http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryō/siryō5/siryō2.pdf>

Debate Verification Panel, which provided the type of analysis needed for the government to make a judgment about how to reflect the national debate in policy. The *Innovative Strategy for Energy and the Environment* that was produced after the national debate was completed clearly links the decision for ‘the Government to show a path towards realization of a society not dependent on nuclear power’ to the results of the national debate (EEC 2012a, p. 4).

### Conclusions

In terms of Frewer and Rowe’s criteria, it is clear that public participation in the post-Fukushima energy policy review represented an improvement on the pre-Fukushima situation (refer evaluation in section 3.5.2), but that important limitations remained.

The process was more representative in a non-strict sense, with a wider range of views represented on the advisory committees and randomly selected participants in the DP. Although the advisory committees were no more independent than in the past, there were important improvements in the independence of the national debate, principally through the introduction of the DP and the National Debate Verification Panel. These innovations also enhanced transparency and the National Debate Verification Panel gave more structure to the overall decision-making process.

A special web site for the national debate improved access to resources and the DP gave participants better access to experts than the public hearings in pre-Fukushima days. In the DP, participants were able to ask and get direct answers to questions that mattered to them, whereas the pre-Fukushima public hearings tended to be dominated by experts and opinion leaders. Problems remained with task definition, but the overall focus on a specific policy decision meant that there was less vagueness and confusion than in the Round Table Conference and the Conference for Public Participation. Except for the

involvement of NGO representatives on the advisory committees, public involvement began late in the process. There was no marked improvement on this criterion, except that public comments were accepted and tabled throughout the process.

But the most significant difference between the pre-Fukushima and post-Fukushima processes was that the latter exerted real influence on the policy outcome (up until the change of government). Factors making this possible included the massive demonstrations that were occurring at the same time, the lack of a unified government position, and the fact that the Fukushima nuclear accident had shaken the foundations of the previous policy. The emphasis that the government placed on the national debate from the start of the policy review and the greater commitment of the DPJ than the LDP to public participation were also important factors.

#### ***4.5.3 Good faith***

Section 1.2.2 proposed the application of the International Association for Public Participation's (IAP2) seven core values as one way of ensuring that public participation is carried out in good faith. This section uses IAP2's seven core values to assess the degree to which post-Fukushima official public participation processes were conducted in good faith and compares this with the pre-Fukushima processes (section 3.5.2).

1. The public should have a say in decisions about actions that could affect their lives.
  - Dialogue with the public was one of the principles in the Energy and Environment Council's 29 July 2011 Interim Compilation of Discussion Points for the Formulation of an 'Innovative Strategy for Energy and the Environment' (EEC 2011a). The fact that the Prime Minister of the time held an open dialogue about the issue with the general public (section 4.2.1) indicates considerable



sincerity. The DPJ government was ideologically supportive of public participation, as evidenced, for example, by its 'New Public Commons' program (Cabinet Office) and its revision of the tax law to allow more generous tax privileges to NPOs (The Japan Times 2012).

- In terms of the IAP2 spectrum (section 1.2.2), the level of participation in the national debate was limited to 'inform' and 'consult', but by being given the opportunity to participate in the drafting of options, civil society representatives on the advisory committees could be said to have reached the third stage of the spectrum, 'involve'.
2. Public participation includes the promise that the public's contribution will influence the decision.
- A weakness of the process was that no indication was given in advance of how the results would be used in policy making. It was not until the establishment of the National Debate Verification Panel that a mechanism was in place for evaluating the results of the public participation process.
  - Nevertheless, the fact that the national debate related to multiple options carried the implication that the outcome was not preconceived and, contrary to the fears of nuclear critics, the national debate did in fact influence the policy decision (section 4.4).
3. Public participation promotes sustainable decisions by recognizing and communicating the needs and interests of all participants, including decision makers.
- As it turned out the decision was not sustainable. It was overturned as a result of a change of government a few months later. It could be argued that part of the reason for this was that the needs and interests of the nuclear industry were not adequately communicated. Electric power companies were excluded from

the Fundamental Issues Subcommittee, although they were invited to give expert witness.<sup>426</sup> They retained a position on JAEC's Framework Council, but JAEC's input to the overall energy review process only related to the nuclear fuel cycle. Also, they were requested not to encourage their staff to participate in the public hearings during the national debate. The issue is complex, however, because in the past excessive attention to the nuclear complex's needs and interests contributed to the subversion of the public sphere (section 3.4.3). Nevertheless, the German nuclear phaseout experience suggests that electric power companies must inevitably be involved in deciding how to phase out nuclear energy (Rüdig 2000).

4. Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
  - The DP represented a significant attempt to seek out and facilitate the involvement of members of the general public. The government hoped it would enable it to tap into the 'silent majority'. Although the participants were not a descriptively representative sample of the general population, they were non-partisan and therefore willing to change their views on the basis of deliberation.
  - The call for public comments gave anyone an opportunity to contribute, but nuclear critics thought the government could have done more to publicise this and the public hearings. For example, e-shift suggested taking out TV and newspaper advertisements (section 4.3.1).
  - The exclusion of electric power company staff from the public hearings meant that some potentially affected or interested people could not participate, but the government judged that allowing them to participate would be even more damaging to perceptions of good faith. Given pre-Fukushima experience of

---

<sup>426</sup> Fundamental Issues Subcommittee, document list for meeting 12, 14 February 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/012/](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/012/)

electric power companies stacking public meetings with their own staff (section 3.4.2), it is difficult to make a categorical assessment on this point.

- There was a limit to how far the net could be cast in a hurriedly organised public participation exercise conducted over such a short period of time. The public participation experts who critiqued the DP request for proposal (section 4.2.4) stated that the national debate should have been seen as ‘just the beginning of the national dialogue’.<sup>427</sup>

5. Public participation seeks input from participants in designing how they participate.

- The government did not involve participants or civil society in designing the national debate, but input from civil society representatives on the Fundamental Issues Subcommittee (FIS) was one of the factors that persuaded the government to conduct a DP (section 4.2.2). Lobbying by the e-shift anti-nuclear network was probably a factor behind the decision to extend the deadline for public comments and publish all public comments on its web site, and the government showed flexibility in the face of criticism of the public hearings process (section 4.3.1). On the other hand, attempts by nuclear critics to influence the way the advisory committees were run were rejected out of hand (sections 4.2.2 and 4.2.3).

6. Public participation provides participants with the information they need to participate in a meaningful way.

---

<sup>427</sup> 29 June 2012 statement by 26 public participation experts addressed to the Agency for Natural Resources and Energy:

Japanese: “‘Kakushinteki Energy Kankyō Senryaku no sakutei ni muketa kokuminteki giron no suishin jigiyō no mondaiten ni tsuite’:

<http://matsuura-lab.org/dp-opinion-archive/contents-1.html>

English: ‘Issue Statement regarding the “Project for Promoting National Dialogue toward the Formulation of Innovative Strategy for Energy and the Environment”’:

<http://matsuura-lab.org/dp-opinion-archive/en/index.html>

- See discussion under Frewer and Rowe’s ‘resource accessibility’ criterion in section 4.5.2.
7. Public participation communicates to participants how their input affected the decision
- The *Innovative Strategy for Energy and the Environment* clearly links its decision ‘to show a path towards realization of a society not dependent on nuclear power’ to the results of the national debate (EEC 2012a, p. 4).<sup>428</sup>

The above assessment of the post-Fukushima energy review process against the IAP2 core values produces mixed results. It suggests that the degree of good faith increased over time. Observing the traditional style advisory committee process at the beginning of the policy review, nuclear critics could be forgiven for doubting the government’s good faith. The rushed nature of the national debate, hastily cobbled together to meet a political schedule and begun before all the structures were in place, did not inspire confidence either. However the flexibility of the government in responding to criticism, its willingness to ‘do whatever [it] could to gain acceptance for the results of the national debate’,<sup>429</sup> the establishment of the National Debate Verification Panel, and finally the decision to endorse a goal of zero nuclear energy by 2039 all increased the sense that the policy review was conducted in good faith.

---

<sup>428</sup> Extract from *The Innovative Strategy for Energy and the Environment*:  
 Verified results of national discussions so far held throughout Japan clearly indicate that, after the experiences of an accident at TEPCO’s Fukushima Daiichi Nuclear Power Station and in the ensuing sufferings of many local areas and citizens including those in Fukushima Prefecture, many people are hoping to “build a society not dependent on nuclear power”. So do those discussions, on the other hand, also reveal divergences in their views on how early it could realize and even whether it could possibly be built. Under such circumstances, it is important for the Government to show a path towards realization of a society not dependent on nuclear power (EEC 2012a, p. 4).

<sup>429</sup> Interview with Tomohito Ihara of the National Policy Unit, 10 January 2013

Compared to pre-Fukushima nuclear energy policy reviews (section 3.5.2), the DPJ government's post-Fukushima process represented a big improvement in good faith. In the first place, participants were treated with greater respect. Whereas pre-Fukushima processes were stuck in the deficit model of viewing citizens' concerns as due to ignorance, post-Fukushima this perspective was no longer tenable. Nevertheless, suspicions remained about the government's sincerity. These suspicions were not allayed until the *Innovative Strategy* was released, at which point it was generally recognised that the national debate had exerted some influence on the decision. Deputy Director of Energy Green, Hideaki Takemura, accounted for this influence by comparing the attitudes of the DPJ and the LDP towards public participation as follows:

Part of why we were able to achieve so much was because it was the DPJ government. It was different in some respects from the LDP. There was probably a stance of listening to the public. Or perhaps it felt that it had to adopt a pose. Maybe it didn't feel that way in its heart of hearts, but because it adopted a pose that's the way it turned out. But the LDP doesn't need to do that.<sup>430</sup>

Another sense in which good faith was improved was the status of public participation within the overall policy-making process. Whereas the Round Table Conference (section 3.3) and the Conference for Public Participation (section 3.4.2) were peripheral to the mainstream policy-making process, the post-Fukushima national debate was in a direct line to the final decision (section 4.5.2). In that sense, the national debate was more comparable to public hearings and public comments at the end of the process that produced the 2005 *Framework for Nuclear Energy Policy* (section 3.4.3), but those exercises were proforma in nature and occurred after a preferred policy direction had already been set. The national debate, by contrast, gave the general public an opportunity to choose between multiple options. Embedded in that framework was the assumption that the policy was not decided in advance. Also, if the government had a preferred option to begin with, innovations such as the DP and the National Debate

---

<sup>430</sup> Interview with Hideaki Takemura, 20 February 2013

Verification Panel opened it up to considerable risk. The independent way in which these components of the national debate were run reduced the scope for manipulating the outcome.

Significantly, the interests of electric power companies were not fully and frankly communicated in either the pre- or post-Fukushima contexts. In the pre-Fukushima context their interests were communicated behind closed doors. In this way they were able to ensure that only policies acceptable to them were adopted. During the DPJ government's post-Fukushima policy review electric power companies were explicitly excluded from the formal proceedings, both from the advisory committees and the national debate. They attempted to exert influence behind the scenes, particularly through the electric power company unions (The Asahi Shimbun 2012g), but with their credibility at an all time low, they were unable to exercise veto power the way they had in the past. However, as post-election developments show, they still retain great power.

Masaharu Yagishita argued that as soon as the three scenarios were decided, a forum should have been established in which stakeholders could discuss from their respective perspectives the problems they perceived with the scenarios. He believed that about two months was required for that process to take place before the DP was held.<sup>431</sup> It could be argued that the good faith of the policy review process was diminished by not going through such a process and by not creating the conditions for a sustainable decision.

#### ***4.5.4 Was public participation deliberative?***

Given that a deliberative poll (DP) was conducted, the question arises, 'Was the post-Fukushima energy review deliberative?' At a micro level the answer is straight-forward. The only aspect of the process that could be said to have been in any way deliberative

---

<sup>431</sup> Interview with Masaharu Yagishita, 8 January 2013

was the DP. In the committee stage of the process the committee members ‘just stated their own opinions’,<sup>432</sup> which they were not open to changing and the same was true of the public hearings. However at a macro level the answer is less obvious.

The following analysis is based on Dryzek’s deliberative systems scheme (section 1.2.2). The elements of this scheme are public space, empowered space, transmission, accountability, meta-deliberation, and decisiveness (Dryzek 2010, pp. 11-12).

### Public space

The term ‘public space’ is interpreted here to be interchangeable with ‘public sphere’. After the Fukushima Daiichi nuclear accident Harutoshi Funabashi called for the ‘enrichment of the public sphere’, implying that it was underdeveloped before the accident (sections 2.3.1 and 3.5.2). He identified four necessary conditions:

The first important condition is an increase in the number of actors that publish their opinion on public matters in the public sphere ... Second, various media must contribute to a free exchange and circulation of information within the public sphere because they play the role of the cultivators of information. Not only mass media but also social media ... Third, in order to ameliorate the quality of debate and discussion in the public sphere, various organizations engaged in research activities must provide sufficient and exact information concerning social problems and policy-making. Universities and research groups based on NPO should contribute on this point more actively in the future. Fourth, it is necessary to increase the three-actors-type arena instead of the two-actors-type arena (Funabashi 2012, pp. 73-75).

The following comments address the post-Fukushima status of the first three of these conditions. To address Funabashi’s fourth condition, ‘to increase the three-actors-type arena instead of the two-actors-type arena’, is beyond the scope of this thesis.

In regard to the first condition (‘the number of actors that publish their opinion’), many more people have begun to express views, in particular critical views, about nuclear

---

<sup>432</sup> *Ibid.*

energy since the Fukushima accident. For example, masses of people who had not previously participated in demonstrations joined the protests outside the Prime Minister's residence (section 4.3.2); opinion leaders became crusaders for a nuclear phaseout;<sup>433</sup> a group of mayors calling for a nuclear phaseout was formed (Mayors for a Nuclear Power Free Japan); 'designated cities' formed a group to consider renewable energy (Shitei Toshi Shizen Energy Kyōgikai);<sup>434</sup> and political figures including former Prime Ministers expressed the view that a nuclear phaseout was necessary and possible.<sup>435</sup> In the first three years after the nuclear accident, 455 local and prefectural assemblies submitted nuclear phaseout petitions to the National Diet (The Asahi Shimbun 2014b). People from across the political spectrum taking a position on nuclear energy and energy policy in this way created greater space for public discussion.

There have also been civil society efforts at dialogue between nuclear critics and proponents. For example, Junko Edahiro describes two initiatives that she was involved with (Edahiro 2013). One, called Minna-no Energy and Environment Conference (MEEC), held three forums itself and collaborated in five other regional forums.<sup>436</sup> The second initiative is a forum for dialogue between proponents and opponents of nuclear energy in Kashiwazaki City, home to TEPCO's Kashiwazaki-Kariwa Nuclear Power Station and a place where dialogue of this nature was unprecedented. Edahiro's perspective is summed up by the title of her article, 'The future of nuclear power and energy will be decided through dialogue with citizens' (my translation).

---

<sup>433</sup> For example, the leaders of the Citizens' Committee for the 10 Million People's Petition to say Goodbye to Nuclear Power Plants: <http://sayonara-nukes.org/english/>

<sup>434</sup> Designated cities are cities with a population of over 500,000 which have been designated as such by an order of the Cabinet under Article 252, Section 19 of the Local Autonomy Act.

<sup>435</sup> Naoto Kan, Morihiro Hosokawa and Junichiro Koizumi are actively campaigning for a nuclear phaseout and even Prime Minister Abe's wife Akie is an outspoken critic of nuclear energy (DeWit 2013b; Kyodo 2014a). (Note that other than Naoto Kan, the anti-nuclear activities of these political figures was not widely publicised until after the change of government.)

<sup>436</sup> Each time 150~300 hundred people attended and between a few thousand and 20,000 watched on the internet (Edahiro 2013, p. 11).



In regard to media, in contrast to the general pre-Fukushima compliance with official policy, since the nuclear accident many media groups have taken a clear stance in favour of a nuclear phaseout. A study by Ken Fujimori, a journalism professor at Senshu University, found that between 12 March 2011 and 4 August 2012 ‘A total of 28 newspapers, or 61 percent, ran editorials calling for a move away from nuclear energy toward an entirely nuclear-free future’ (Kawamoto & Shiga 2012). The media also reported extensively on the national debate. For example, Sone et al’s (2013, p. 224) description of the media interest in the DP suggests that it was greater than for previous DPs anywhere in the world. Social media also played a major role after the Fukushima Daiichi nuclear accident (Friedman 2011; Kawasaki 2013, p. 599). A Kyodo survey of Twitter messages found:

Among tweets containing words related to major campaign issues during the period from Nov. 16, when the Lower House was dissolved, 1.12 million messages mentioned nuclear power, 37 percent of the total (Kyodo 2012f).

Clearly the public sphere has been enriched in the first two areas identified by Funabashi. It is less certain that there has been the same degree of enrichment in ‘organizations engaged in research activities’. It is beyond the scope of this thesis to carry out an extensive study of this issue, but the following remarks suggest that the picture is mixed.

In regard to non-government research organisations and NGOs represented on the Fundamental Issues Subcommittee, these all existed before the Fukushima Daiichi nuclear accident, and post-Fukushima they continued to push the same basic line that they had pre-Fukushima. Since Fukushima some new organisations have emerged and pre-existing organisations have become involved in the energy debate. A notable newcomer is Softbank Chairman Masayoshi Son. Since the Fukushima nuclear accident he has become a strong advocate for renewable energy. Soon after the accident he

persuaded many of Japan's prefectures to form the Natural Energy Council (Shizen Energy Kyōgikai),<sup>437</sup> which lobbies the national government on renewable energy policy. He also established the Japan Renewable Energy Foundation (JREF), which lists as part of its mission to '[r]esearch, develop and advocate policies, measures and financial/business models that are based on the dynamics of markets and society, to promote renewable energy.'<sup>438</sup> Another prominent businessman in the IT field who supports energy reform is Rakuten Chairman Hiroshi Mikitani. He is the representative director of Japan Association of New Economy (JANE). JANE has an Energy Reform Committee<sup>439</sup> and has made several statements about nuclear energy and energy related issues since the Fukushima nuclear accident.<sup>440</sup> The Network of Business Leaders and Entrepreneurs for a Sustainable Business and Energy Future (Enekei)<sup>441</sup> is another business grouping engaged in the energy policy debate. It was established in 20 March 2012 to promote local initiatives.

These are just a few illustrative examples. They indicate that there are significant new players attempting to influence the debate about nuclear energy and energy policy. There are also some old players that have formed new organisations to defend nuclear energy. For example, Energy Genshiryoku Seisaku Kondankai submitted a proposal to Prime Minister Shinzo Abe on 25 February 2013,<sup>442</sup> but it was later discovered that the Agency for Natural Resources and Energy had helped it draft its recommendations

---

<sup>437</sup> As at August 2014 the Shizen Energy Kyōgikai has 36 of Japan's 47 prefectures as members: <http://www.enekyo.jp>.

<sup>438</sup> JREF's English mission statement: <http://jref.or.jp/en/about/GreetingMission.php>

<sup>439</sup> JANE brochure: <http://jane.or.jp/img/pdf/english/jane.pdf>

<sup>440</sup> JANE energy-related statements: [http://jane.or.jp/proposal/#policy\\_energy](http://jane.or.jp/proposal/#policy_energy)

<sup>441</sup> Enekei's web site: <https://enekei.jp>

<sup>442</sup> Energy Genshiryoku Seisaku Kondankai's 25 February 2013 submission to Prime Minister Shinzo Abe and Minister for Economy, Trade and Industry Toshimitsu Motegi, 'Sekinin aru genshiryoku seisaku no saikō an: Genshiryoku kara nigezu, shōmen kara mukiau' (Responsible reconstruction of nuclear energy policy: Don't run from nuclear energy, face it front on): <http://nuclearpower-rennaissance.netj.or.jp/outline/t/t2013022501/index.html>  
[http://nuclearpower-rennaissance.netj.or.jp/outline/t/t2013022501/pdf\\_t2013022501-1.pdf](http://nuclearpower-rennaissance.netj.or.jp/outline/t/t2013022501/pdf_t2013022501-1.pdf)

(Matsuura 2013). That testifies to the resilience of the links between the nuclear village and the bureaucracy.

With regard to the academy, there have been some positive developments, but not the far-reaching changes that one might expect after such a disaster. In response to my question about shifts in the academy Harutoshi Funabashi said,

Within the Science Council of Japan there are ten committees related to the Tohoku disaster in the field of natural sciences and technology, but there are only two committees with members from the humanities and social science field.<sup>443</sup>

He acknowledged that there were many sociologists doing research in the Tohoku region about the damage from the disaster and that there was discussion happening in the field of law, but overall he felt that it was inadequate considering the difficulty of the problems.

Concerning the scientific community in general, Co-Director of the Citizens' Nuclear Information Center Yukio Yamaguchi believed that there was a lack of deep reflection (*'hansei'*) on the Fukushima Daiichi nuclear accident.<sup>444</sup> He felt that the statements issued by leading nuclear scientists<sup>445</sup> and by the heads of scientific academies<sup>446</sup> lacked substance. The heads of academies' statement was released without reference to the membership and was principally about reasserting the importance of research and ameliorating reputational damage from radiation contamination.

---

<sup>443</sup> Interview with Harutoshi Funabashi, 26 February 2013. In follow up email correspondence, Funabashi clarified that there was one purely humanities and social sciences committee and one committee comprising researchers in the humanities and social science field as well as scientists and technologists.

<sup>444</sup> Interview with Yukio Yamaguchi, 21 February 2013

<sup>445</sup> Statement by 16 nuclear scientists, 30 March 2011, 'Fukushima gempatsu jiko ni tsuite no kinkyū kengen' (Emergency proposal concerning the Fukushima nuclear accident): [http://peacephilosophy.blogspot.com/p/blog-page\\_31.html](http://peacephilosophy.blogspot.com/p/blog-page_31.html)

<sup>446</sup> '34 gakkai (44 man kaiin) kaichō seimei' (34 heads of academies (440,000 members) statement), 28 April 2011: <http://www.ipsj.or.jp/03somu/teigen/seimei20110427.html>

That the nuclear energy community was not open to new thinking was confirmed by the post-Fukushima debate in the advisory committees (sections 4.2.2 and 4.2.3). Nikkei Shimbun journalist Shunichi Taki said of the post-Fukushima debate in the Journal of the Atomic Society of Japan (ATOMOS),

ATOMOS made space for discussion of energy policy, but it is a pity that it did not go beyond the ‘nuclear energy is necessary’ argument (Taki 2013, p. 64).

The above discussion suggests that in regard to nuclear energy and energy policy, the first element of Dryzek’s deliberative systems scheme, public space (public sphere), is much richer than it was pre-Fukushima, although debate in academia is still inadequate.

### Empowered space

The second element of Dryzek’s deliberative systems is empowered space. This took the form of the Energy and Environment Council (EEC), which was empowered to draft the *Innovative Strategy for Energy and the Environment*, and the Cabinet, which was empowered to authorise official energy policy.<sup>447</sup> These bodies did not engage in public deliberation, though EEC published documents and minutes of its meetings. Also, after the Fukushima nuclear accident the Diet became more involved in debate about nuclear energy and energy policy and passed important legislation, including legislation to establish a Feed In Tariff scheme for renewable energy (Agency for Natural Resources and Energy), but Cabinet was responsible for deciding overall energy policy. In a formal sense there was a clearly empowered space. However, as it turned out, the formally empowered EEC and Cabinet did not have the capacity to actually make an effective decision and implement it. It required cooperation from a large number of actors in order to produce a decision and an even larger number to implement it. Lack

---

<sup>447</sup> Under Article 12 of the Basic Act on Energy Policy, the Basic Energy Plan must be endorsed by Cabinet. A report to the Diet is required, but not Diet approval.

of cooperation is one reason why, in the period between the publication of the *Innovative Strategy* and the December election, the DPJ government was unable to make progress on producing a Basic Energy Plan. One obstacle was the chairman of the Advisory Committee for Natural Resources and Energy, Akio Mimura, who was also the chairman of the Fundamental Issues Subcommittee (FIS). The Basic Act on Energy Policy requires the Minister for Economy, Trade and Industry to produce a Basic Energy Plan after hearing the opinion of the Advisory Committee for Natural Resources and Energy, but Mimura effectively rejected the *Innovative Strategy*, saying it would be ‘difficult to bring it together into a concrete proposal’.<sup>448</sup> Baku Nishio of the Citizens’ Nuclear Information Center is of the view that Mimura sabotaged production of a Basic Energy Plan under the DPJ government (Nishio 2014).

### Transmission

Dryzek describes transmission from public space to empowered space as ‘some means through which deliberation in public space can influence that in empowered space’. As discussed in sections 4.3 and 4.4, the national debate and the demonstrations together influenced decision makers. Transmission from public space to empowered space occurred firstly as a result of synergies created by anti-nuclear activists between the national debate and the protests, which channelled the protesters’ voices into the official decision-making process. Viewed in a wider context, the communicative power of the national debate and the demonstrations was reinforced by the attention of the mass media and public opinion at large. These factors made it harder for empowered space to ignore the results of deliberation that was taking place in public space.

---

<sup>448</sup> Fundamental Issues Subcommittee meeting 32, 18 September 2012, transcript pp. 41-43: [http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/032/pdf/gijiroku32th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/032/pdf/gijiroku32th.pdf)

### Accountability

The DPJ government was held accountable by the electorate and lost the election. However it lost it over other issues, so in electoral terms accountability over energy policy remained inconclusive. Empowered space answered to public space in the publication of the *Innovative Strategy for Energy and the Environment*. The Minister for National Policy's report from the National Debate Verification Panel was also a form of accountability in that it provided a reasoned connection between the national debate and the *Innovative Strategy*.

### Meta-deliberation

Meta-deliberation ('deliberation, about how the deliberative system itself should be organized') in the context of the energy policy review did not occur in any formal sense. Inasmuch as meta-deliberation could be said to have occurred, it took the form of challenges to the way the energy policy review was conducted. Challenges arose within the advisory committees, through civil society lobbying, and in the mass media. Questions were raised about how early in the process the general public should be invited to contribute, how the advisory committees should be run, how the national debate should be conducted, the role of the Diet, and so on (sections 4.2.2 and 4.3.1).

Just as significant as the challenges to the way the energy policy debate was conducted were challenges about the focus of the debate. This tension was clearest in the Fundamental Issues Subcommittee (FIS) (section 4.2.2). The committee's members fell broadly into the categories of nuclear proponents, nuclear critics, and economic rationalists.<sup>449</sup> Nuclear proponents focused on energy security in traditional terms and

---

<sup>449</sup> These three categories do not align precisely with Samuels' (2013, pp. x-xi, 123-130) three narratives: stay the course, put it into gear and go in a new direction, simple life. Nuclear proponents fell somewhere in the range of the first and second narratives. If the economic rationalists fit anywhere, it could only be under the second narrative. The expectation might be that the nuclear critics would fall under the third narrative, but from a technological and energy

supported the government's and the secretariat's insistence on developing quantitative energy 'best mix' scenarios. Nuclear critics thought the debate should be about 'qualitative strategic energy policy' options and believed that it was important to focus on visions of the type of society that should be aimed for. Meanwhile, the economic rationalists proposed leaving the energy mix to the market and internalising environmental costs. In the end no meta-consensus was achieved on the appropriate focus of the debate within the FIS, which formed the basis for the national debate.

The challenges to the form and focus of discussion in the FIS were not dealt with in a deliberative fashion. They were simply rejected by an authoritarian chair and an inflexible secretariat. On the other hand, the government was flexible in its response to challenges to the national debate procedures. It would stretch Gastil and Black's definition of deliberation (section 1.2.2) to say the government 'carefully examine[d] a problem and arrive[d] at a well-reasoned solution after a period of inclusive, respectful consideration of diverse points of view' (Gastil & Black 2008, p. 2), but arguably it partially fulfilled the conditions for meta-deliberation.

### Decisiveness

The final element of Dryzek's deliberative systems scheme is decisiveness. The *Innovative Strategy* represented a decision based on the other elements of the deliberative system, but, as discussed above in regard to empowered space, it was only an interim decision pending the production of a Basic Energy Plan. As it turned out, the government did not have the effective power to draft a new Basic Energy Plan, let alone

---

systems perspective they fit better under the second narrative. All the nuclear critics put their faith in the widespread introduction of advanced renewable energy and energy efficiency technologies and systems, and reforming the electric power system, rather than a return to some idyllic traditional lifestyle. They did, however, critique 'growth at all costs' economics. As a narrative 'simple life' resonates with some of what the nuclear critics said, but in terms of concrete proposals, they envisioned 'smart communities' that are heavily dependent on advanced information and communications technology.

implement it, so it must be concluded that the governance system lacked real decisiveness.

### Conclusion

The most striking features of the above analysis are the post-Fukushima advances in regard to public space and the decline in the power of empowered space compared to the pre-Fukushima era. (Arguably, post-Fukushima the deliberative qualities of empowered space improved somewhat, with more debate in the Diet.) Had the DPJ government been a more effective and stable government capable of making sustainable decisions, some weaknesses in terms of Dryzek's criteria notwithstanding, it would have been fair to conclude that nuclear energy and energy governance was far nearer to being a deliberative system than it was pre-Fukushima. As it is, the overall assessment depends heavily on which of these two elements is given greater weight. I am inclined to think that enrichment of the public sphere is more important, but it is too soon to say whether the post-Fukushima enrichment of the public sphere will stand the test of time. That will depend on many factors, including the direction of energy policy and the energy system over the next few years, and enrichment of the public sphere in general (not just in relation to nuclear energy and energy issues) including in the academy. Chapter 5 considers the former of these issues: possible future directions for energy policy.

Finally, comparing the deliberative systems value of unofficial components of pre- and post-Fukushima public participation, the above discussion shows how unofficial activities by civil society enhanced the deliberative qualities of the post-Fukushima process by enriching the public sphere and improving transmission between public and empowered space. They represented an advance on pre-Fukushima unofficial processes in the sense that they influenced national policy, rather than just local projects. However,



at another level, pre-Fukushima local referendums were as near to deliberative systems as could reasonably be hoped for (section 3.5.2). The fact that no referendum has been held since the Fukushima nuclear accident means that this avenue for enhancing the deliberative qualities of nuclear energy policy-making has not been explored. But it is important to bear in mind that the post-Fukushima local referendum campaigns were much less ‘local’ than the pre-Fukushima examples, which occurred at a town or village level. If, some time in the future, a large city or prefecture conducts a referendum, it will be interesting to observe how the challenges involved in ensuring deliberative quality on a larger scale are managed.

#### ***4.5.5 Assessment against public participation criteria (part 2)***

The other set of criteria against which this thesis assesses public participation in Japan’s nuclear energy and energy policy-making process is Moro’s five evaluation criteria (section 1.2.3). These are useful for assessing the outcomes of participation exercises. The comments below are subjective, but they nevertheless give some indication of benefits that were realised and others that might have been realised if there had been a stable government capable of following through. These comments should be compared with the pre-Fukushima assessment in section 3.5.4.

1. Add value to policy making, in terms of effectiveness, efficiency, impact, pertinence
  - The policy that emerged from the participation process was quickly reversed as a result of a change of government, so there was no opportunity for value to be added in terms of the effectiveness, efficiency, impact and pertinence of the policy itself.
  - However the participation process had impact. The principle message of the national debate was that a majority of the public supports a nuclear phaseout.

The clarity of that message, distilled by the National Debate Verification Panel, was the source of the national debate's impact. If the result had not been so clear it would not have been as powerful an exercise. As discussed in section 4.5.6, it gave a degree of perceived legitimacy to the government's decision to set a target of phasing out nuclear power, although that legitimacy was hotly disputed.

## 2. Empower citizens

- Through the national debate, citizens were heard and they exerted influence on energy policy for the first time in history, so it is reasonable to conclude that citizens were empowered, although that conclusion must be tempered by the fact that the decision that they influenced was immediately overturned as a result of a change of government.
- Another sense in which citizens were empowered was the increased knowledge and energy literacy they gained through the process.<sup>450</sup> That was particularly true for those who participated directly in the deliberative poll, but debate in the wider public sphere contributed to a growing awareness and deeper understanding of energy issues. The growth in awareness and understanding commenced soon after the Fukushima Daiichi nuclear accident as a result of power rationing, but the publicity stimulated by the national debate also contributed. The 90,000 people who submitted public comments in their own words had to take the trouble of thinking about what they wanted to say. For many, that in itself would have had educational value.

---

<sup>450</sup> Interview with Kazuhiro Ueta, 16 January 2013

### 3. Improve social trust and social capital

- An improvement in social trust might have been achieved if the government had been able to produce a new Basic Energy Plan and begin implementing it, but, as it was, the national debate did not restore trust in the DPJ government, which was routed in the subsequent election.
- I am unaware of any attempts to measure the impact on social capital, but the national debate was not structured so as to forge links between people and communities, so it would be surprising if there were any discernible improvement in social capital at a community level. On the other hand, any increased energy literacy resulting from the process might be regarded as a growth of social capital.
- Perhaps it could also be argued that the national debate had demonstrative value for Japanese society. Yagishita (2014, p. 361) argues that the national debate on energy and environment policy showed that, given a proper forum and deliberative method, the Japanese public has the ability to find solutions to important social issues. Implicit in this is the view that before the national debate there were doubts about whether the Japanese public had this ability. Demonstrating that it did indeed have this ability could be seen as a contribution to social capital.

### 4. Involve a sufficient number of citizens

- The number of participants in the DP was a standard number for that method. It was enough to assure statistical significance.
- An unprecedentedly large number of citizens participated in the public comments component. (An even larger number participated if the demonstrations are counted.)

- Some people believe the national debate should be seen as the beginning of a process rather than the end (refer public participation experts' 29 June 2012 statement and the National Debate Verification Committee's call for continuing discussions about outstanding questions—section 4.2.4). Others take the view that a national referendum is the best way to gauge the public will on nuclear energy (section 4.3.3). Both perspectives imply that more people should be involved, either over a period of time, or at a single point in time.
  - In the absence of an agreed standard, it is impossible to state definitively how many is 'sufficient', but considering the importance of energy in people's daily lives, it is reasonable to conclude that more people should be brought into the debate over an extended period of time (section 4.5.6)
5. Change the public administration's way of managing public affairs
- The national debate was itself a different way for the public administration to manage its public affairs, particularly the DP and the National Debate Verification Panel. It was an important precedent, but not one that the LDP-Komei government is likely to repeat.

Based on the above evaluation it can be seen that the DPJ's post-Fukushima public participation process had more meaningful outcomes than pre-Fukushima official processes (section 3.5.4), particularly in terms of impact and number of citizens involved, but several of the potential benefits could only be obtained if the government was able to carry through on its decisions. In this case the DPJ government promptly lost office and its successor reversed both the policy decisions and the process initiatives. It remains to be seen whether the national debate will have any lasting effect on the way the public administration manages public affairs, but at this stage it does not

look promising. Beck's 'new political culture in participation' (section 1.2.1) flourished for a season in Japan, but did not take root. Nevertheless, one would hope that the knowledge and energy literacy gained by citizens will be a lasting legacy.

#### ***4.5.6 Legitimacy: public participation and representative democracy***

From the assessment in the previous few sections it can be seen that, although the DPJ government's post-Fukushima public participation process represented an improvement on pre-Fukushima processes, there were plenty of flaws for those who wished to find fault. This section considers the question of legitimacy. Because the process had both good points and bad points, legitimacy was very much in the eye of the beholder.

Of the various perspectives on legitimacy, two are particularly relevant to this case: (1) 'formal legitimacy' achieved through elections, and (2) 'perceived legitimacy', which might be described as 'the extent to which key actors, decision-makers and the media accept and support the procedure and its outcomes' (Hendriks, Dryzek & Hunold 2007, p. 372) (section 1.3). The following discussion addresses perspective (2) before considering perspective (1).

#### ***Perceived legitimacy***

Media responses to the procedure and outcomes of the national debate were varied and generally coincided with the particular media outlet's position on nuclear energy. Comments published in three national newspapers were quoted at the end of section 4.2.4. The Asahi Shimbun was generally positive, The Mainichi Shimbun was ambivalent, but praised the government for conducting the process and said it was 'significant that through deliberation, the number of "zero dependence" supporters rose', while The Yomiuri Shimbun disputed the conclusion of the National Debate Verification Panel and accused the government of populism. Thus, each newspaper

assessed the process to suit its own position on energy policy. It is worth noting, however, that the two pro-phaseout newspapers did not hesitate to find fault with the process in its details. If it were not for the deliberative poll and the National Debate Verification Panel it is likely they would have canned it completely.

Support from decision-makers also varied. Within the government there were diverse views about the legitimacy of the national debate. In response to my question about whether the process gave legitimacy to the zero option, the DPJ's Shoichi Kondo said,

As a very common sense general feeling I think it gave legitimacy, but it is a fact that there were people who refuted that. Unfortunately there were even such people within our party. Or there were people who, while accepting the legitimacy, expressed the logic that politicians must make a different judgment. Even if they accepted the legitimacy of the data, there were those who rejected the legitimacy of the proposal.<sup>451</sup>

Kondo did not mention who said what within the party room, but it may be assumed that those who refuted the legitimacy of the outcome or of the policy proposal were nuclear proponents.

Generally speaking, the assessment of the national debate by the people who I interviewed reflected their views about nuclear energy. Both sides had reasoned arguments, but their focus was different. Masaharu Kitamura (section 2.3.1), a professor in the Nuclear Engineering Department of Tohoku University who was also a member of the Third Party DP Verification Committee, said:

I respect Sone's challenge in holding a deliberative poll, but I don't think highly of the contents of the deliberative poll. It was done in a rush. It is a contradiction to do it in a rush. You have to take time if you want to call it deliberation. If they wanted to go the deliberation route I wanted them to take more time. If a political decision was to be made they should not have used the public as an excuse. Politicians should have made a judgment.<sup>452</sup>

---

<sup>451</sup> Interview with Shoichi Kondo 4 February 2013

<sup>452</sup> Interview with Masaharu Kitamura, 22 February 2013

Nuclear proponent Tetsuo Sawada of the Tokyo Institute of Technology questioned the framework of the debate, based as it was on three scenarios none of which he could support. He also questioned the DP participants selection method, which produced a preponderance of elderly people. He noted that the Niconico Live internet channel had conducted a survey of 1,270,000 people. Most were undecided, but young people were slightly more likely to support nuclear energy.<sup>453</sup>

Kitamura's and Sawada's criticisms related to process flaws identified in the assessment based on Frewer and Rowe's criteria (representativeness and resource accessibility—section 4.5.2), but not all criticisms by people working in the nuclear energy field were justified. Ekou Yagi (2013) points out a common misconception.

An impression that is not uncommon, especially amongst people who I meet in the nuclear energy field, is, 'Those were the voices of a special type of people. The thinking of the silent majority is different' (Yagi 2013, p. 30).

Yagi presents data from the DP showing how much the opinions of the participants changed during the event and concludes that they were not people with preconceived ideas. She warns that if nuclear proponents dismiss this as 'the voices of a special type of people' they will 'lose their point of connection with society' (p. 33). Inasmuch as this common impression amongst nuclear proponents is a misconception, it is not a problem for the objective legitimacy of the DP and the national debate, but it still represents a challenge for legitimacy in the subjective sense of 'perceived legitimacy', in which acceptance of the procedure and outcomes is important.

However the response to the national debate was not all negative. Nuclear critics generally supported the legitimacy of the process and the outcome, even though they

---

<sup>453</sup> Interview with Tetsuo Sawada, 4 September 2012

were suspicious at first. For example, Akiko Yoshida of FoE Japan expressed the following opinion:

Even though the national debate was not perfect, multiple processes and information sources were brought together. It wasn't just public comments. The results of public opinion polls are included ... Submissions by organisations supporting nuclear power and also by us NGOs were included in the discussion. In that sense I don't think you can necessarily criticise the national debate. There may be criticisms about each individual process, but I think lots of processes were comprehensively brought together. The 89,000 public comments show an unprecedented high level of interest. I don't think you can ignore this.<sup>454</sup>

Another nuclear critic, Kazuhiro Ueta of Kyoto University, believes that, despite the numerous problems with the national debate, it was good that the DP (for which he was an advisor) and the national debate were conducted. He is confident that the energy literacy of the Japanese public greatly increased as a result, and believes an important outcome was that many people came to know about the national debate approach. He concluded that the national debate provided some degree of legitimacy to the nuclear phaseout scenario.<sup>455</sup>

The above discussion shows how nuclear critics and nuclear supporters latched onto those aspects of the national debate which supported their position on energy policy. Nuclear critics were inclined to consider the national debate as a whole and view it favourably overall, while people favourably disposed to nuclear energy focused on the defects and were unwilling to make allowances. But nuclear supporters also had more fundamental objections. They did not restrict their critique to the micro level of the flaws of the national debate itself. Nuclear supporters who I interviewed challenged the legitimacy of the national debate and the zero nuclear decision on the grounds that more time was required in order to make a sound decision. This was also a common theme in

---

<sup>454</sup> Interview with Akiko Yoshida, 7 January 2013

<sup>455</sup> Interview with Kazuhiro Ueta, 16 January 2013



pro-nuclear literature. For example, Takahiko Ito, President of the Japan Atomic Energy Relations Organization said,

Not just the hearings and the deliberative poll held by the government this summer, I think a forum is required in which broad discussion can occur, taking sufficient time and based on expertise and knowledge, with the participation of many [social] strata: the young generation who will support the next generation, the middle generation who support the present, senior people who have carried Japan till now, mothers raising children, housewives looking after families, the academy with its expertise, and industry which supports Japan's economy (Ito, T 2012).

Ito's view was premised on the assumption that taking more time and basing the debate on more expertise would produce a conclusion favourable to nuclear energy. But the belief that more time was required was not unique to nuclear proponents. Tadashi Kobayashi of Osaka University's Center for the Study of Communication-Design is a leading proponent of deliberation who takes a neutral position on nuclear energy. When I interviewed him he suggested spending ten years discussing the issues and holding a referendum at the end of that period.<sup>456</sup> Although Ito's motivation was to use a dialogue process to gain support for nuclear energy, the nuclear supporters' demand for a broader debate over a longer period of time is valid and represents reasonable grounds for challenging the legitimacy of a rigid nuclear phaseout goal. The question of how a wider debate about energy policy might be developed over a longer period of time is addressed in Chapter 5, but in fairness to the DPJ government, the wording of the *Innovative Strategy for Energy and the Environment* and the subsequent Cabinet Decision allows for the phaseout goal to be modified in the light of changed circumstances (section 4.4), which could include a change of public opinion.

### Legitimacy of the three scenarios

The above discussion related to perceived legitimacy based on subjective judgments about 'the extent to which key actors, decision-makers and the media accept and

---

<sup>456</sup> Interview with Tadashi Kobayashi, 17 January 2013

support the procedure and its outcomes'. However in at least one respect objective questions about the scientific validity of the national debate were raised. When I asked Fundamental Issues Subcommittee (FIS) member Kazuhiro Ueta about the three scenarios, he said that because there was no explanation of how to get to the prescribed percentage mixes, people were asked to make a choice about an issue on which it was not possible to choose.<sup>457</sup> He believed the three scenarios had no logical basis; rather, they were based on the feelings of the FIS members who proposed them in response to a request from the secretariat (section 4.2.2). Judging from Ueta's comment, the scientific basis of the three scenarios was not clearly established. (See also the discussion of 'task definition' in section 4.5.2.) That would have been a major problem for the process's legitimacy if those scenarios were really the basis of the discussion and the decision, but as it turned out it became a debate about people's attitudes to nuclear energy.

Reporting on the DP small group discussions, Yagi (2013, p. 33) notes that some participants expressed the view that percentage targets for electric power generation was not what the discussion should have been about. Rather, it should have been about the ethical choice of whether or not to phase out nuclear energy. Although the three scenarios were the official basis of the national debate, it became clear from the first public hearing that the real focus was precisely on this ethical choice. The Minister for Economy, Trade and Industry Yukio Edano even stated at the beginning of that hearing that the government was not committed to choosing between the three scenarios (section 4.5.2). More by good luck than good management, then, the scenarios' lack of scientific validity was not as fatal for the legitimacy of the decision as it might have been. Nevertheless, it would have been far preferable if the scenarios under consideration had a sound scientific basis.

---

<sup>457</sup> Interview with Kazuhiro Ueta, 16 January 2013

### Legitimate enough?

Despite its defects, the national debate did in fact influence the DPJ government's decision by strengthening the position of those supporting a phaseout (section 4.4). Although there were sceptics within the DPJ, the outcome was seen as carrying enough legitimacy to justify setting a goal of zero nuclear energy by 2039. Influential sections of the media saw the national debate as supporting that decision, even as they criticised some aspects of the process. However the flaws in the national debate gave plenty of ammunition to those who did not support a nuclear phaseout and key actors, such as electric power companies, certainly did not support the outcome. So in the end the question of how far the national debate legitimised the zero nuclear goal must be regarded as moot. Nevertheless, the legitimacy of the post-Fukushima public participation process and its outcome was far greater than the legitimacy of pre-Fukushima public participation exercises, for which claims of legitimacy did not go beyond bureaucratic rhetoric (section 3.5.5).

### Formal legitimacy

Such legitimacy as was afforded by the outcome of the national debate was not sufficient to entrench the DPJ government's goal of phasing out nuclear energy. Perceived legitimacy was comprehensively overridden by the formal legitimacy of an election. If the legitimacy of the post-Fukushima energy policy review process and decision had been more widely accepted, then formal legitimacy based on elections might not have changed the outcome, but as it was electoral legitimacy became the determining factor. After the election the new Minister for Economy, Trade and Industry, Toshiimitsu Motegi, was dismissive of the deliberative poll and by implication of the whole national debate (section 4.4.2). Furthermore, the Yomiuri Shimbun reported that shortly after taking office Prime Minister Shinzo Abe said on a TBS

television program, ‘We will build new nuclear power plants and seek to win the people's understanding.’ Yomiuri continued,

During the TV program, Abe said the Japanese people are worried about having sufficient electricity in the immediate future.

“Therefore, parties that called for ‘datsu-gempatsu’ [moving away from nuclear power] or ‘sotsu-gempatsu’ [graduating from nuclear power] were not trusted” in the lower house election, he said (The Yomiuri Shimbun 2013).

The implication was that legitimacy comes through elections and that Prime Minister Abe took the view that his government had a mandate to authorise the construction of new nuclear power plants.<sup>458</sup> In fact it is very doubtful whether the new government could legitimately claim such a mandate. The LDP’s election platform merely stated that it would determine ‘the optimum power-generation makeup’ within 10 years, opinion polls showed that a majority of the population still supported a nuclear phase out, and in total more votes were cast for parties calling for a nuclear phaseout than for the LDP, but in the winner takes all system of electoral politics a legitimately elected government may consider itself elected to make decisions.

In this case public participation was trumped by representative democracy. The anti-nuclear energy movement continues to make reference to the national debate in its statements, and it remains as an important historical precedent, but the change of government snuffed out any direct impact that it might have had on policy (section 4.5.1). However it is not possible to draw from this example the general conclusion that representative democracy will always trump public participation, even if that potential always exists. Had the DPJ performed better as a government and been trusted by the electorate, it might have won the election. In that case the national debate might have afforded sufficient legitimacy for the nuclear phaseout goal to be written into the Basic

---

<sup>458</sup> Prime Minister Abe has since said he has no plans to build new nuclear power plants (Kyodo 2014c).

Energy Plan. The challenge then would have been to negotiate details with stakeholders, in particular the electric power companies. If there is a general conclusion to be drawn, perhaps it is not so much that representative democracy trumps public participation, as that, in conditions of high politics, highly partisan issues such as energy policy cannot be resolved by brief one-off public participation processes. (Refer Boswell, Niemeyer and Hendriks' (2013) discussion of the difficulties for participation and deliberation on high politics issues quoted in section 2.2.1.)

### *Complementary role of public participation within representative democracy*

The question arises, did public participation in the DPJ government's post-Fukushima energy review process supplement or complement representative democracy in a useful way? In at least two senses the answer must be yes. First, the national debate, in particular the deliberative poll, did so 'by giving elected members a clearer picture of their constituents' views on specific issues and reform proposals' (Boswell, Niemeyer & Hendriks 2013, p. 171). It is up to the elected members to then decide what they want to do with that information, but the national debate, including the analysis by the National Debate Verification Panel, gave them higher quality information on the public's views than pre-Fukushima public participation exercises. Second, while the national debate had only a brief impact on policy, it had longer-term influence on the position of the DPJ. Having set a goal of phasing out nuclear energy in its *Innovative Strategy on Energy and the Environment*, the DPJ then incorporated that policy into its election platform. Although it lost the election, it retained that policy. Considering the difficulty the DPJ had in deciding to adopt a nuclear phaseout goal in the first place, and given that the national debate was a decisive factor in that decision, it must be concluded that representative democracy was complemented to a significant degree by the national debate. The fact that a government which does not respect the process or

outcome of the national debate was elected does not negate the national debate's real impact on the political landscape.

Other ways in which the national debate supplemented or complemented representative democracy are more speculative, but in as much as it enriched the public sphere, it must be said to have had a positive influence. Opinion polls continue to indicate that the public supports a nuclear phaseout, but, in the absence of detailed surveys,<sup>459</sup> there is no way of judging how much influence the national debate had on public opinion. I am unaware of any empirical research to confirm Kazuhiro Ueta's assessment that the energy literacy of the Japanese public increased as a result of the national debate, but it is plausible. Hiroshi Takahashi, an expert witness for both the official DP and the unofficial DP, also said that he believed the public's level of understanding improved.<sup>460</sup> However, inasmuch as the energy literacy of Japanese society has improved as a result of all that has happened since the Fukushima Daiichi nuclear accident (the national debate being just one part of that process),<sup>461</sup> there are some grounds for optimism about an ongoing public debate about Japan's energy policy, even if the government does not encourage it. That is the theme of the next chapter.

---

<sup>459</sup> A survey by Maeda and Onuma (2013) suggests that the public had a negative impression of the national debate process as a whole and also, to a slightly lesser degree, of the deliberative poll. However the internet survey of over 2,000 people on which their results were based was not designed to give an objective indication of the public's attitude to the national debate. Rather, it was designed to measure relationships between factors influencing their attitude. It was a type of simulation, and many of the questions asked were leading questions. As such, it cannot be taken as a reliable indication of the public's response to the national debate. Nevertheless it suggests that the lack of trust in the government was too strong for respondents to believe that the national debate was conducted fairly.

<sup>460</sup> Interview with Hiroshi Takahashi, 12 March 2013

<sup>461</sup> Tetsunari Iida also makes the point that energy literacy has increased since the Fukushima Daiichi nuclear accident (Iida 2011, p. 43; 2012).

## Chapter 5 : Future Directions

### 5.1 Introduction

Under a government that is not instinctively inclined to share power with the governed, what avenues remain for the public to influence nuclear energy and energy policy? This chapter explores some possibilities. It begins by considering options based on the lessons learned from the DPJ government's post-Fukushima policy review process (section 5.2.2), following up arguments in Chapter 4 that there is a need for some form of ongoing national debate. It then looks at how, when the national government restricts the scope of public participation, citizens' movements and other actors can create new openings at a local level (sections 5.3 and 5.4).

Several official statements supporting future public participation were made in the context of the post-Fukushima energy policy review, which began in June 2011. These include:

1. Minister for Economy, Trade and Industry Yukio Edano said during the 2012 national debate hearings that consumers will have 'the freedom and the responsibility' to make energy choices (section 4.2.4). Similar comments were made in the DPJ government's *Innovative Strategy for Energy and the Environment* (Energy and Environment Council 2012a, pp. 10, 20) and the LDP-Komei government's 2014 Basic Energy Plan (Ministry of Economy Trade and Industry 2014c, pp. 19-20).
2. The National Debate Verification Panel called for continuation of the national debate, including consideration of eleven discussion points (section 4.2.4).
3. The new Basic Energy Plan states that the government will 'promote dialogue with all levels of the society in order to increase transparency over the energy policy

planning process and obtain public trust in the policy.’ (Ministry of Economy Trade and Industry 2014c, p. 89).

4. In regard to the disposal of high-level radioactive waste the new Basic Energy Plan states, ‘a mechanism for local consensus building involving residents representing various positions will be created’ (Ministry of Economy Trade and Industry 2014c, p. 52).

These examples, coming from both the DPJ and the LDP-Komei governments, show that the discourse of public involvement in energy policy is not about to disappear, even if in practice the government is not inclined to conduct public participation exercises in good faith.

This chapter presents some perspectives on the above four points, paying particular attention to the potential interaction between points 1 and 3: how people making choices at the local level could open avenues for dialogue reaching from the local to the national level.

Point 1 refers to a quite different type of participation from that envisaged in the other points and warrants some preliminary theoretical remarks. In Bishop and Davis’ categorisation it can be thought of as fitting under ‘consumer choice’. As argued below, it can also be located within the broader deliberative systems theory on which this thesis is based (section 1.2.2).

Former Prime Minister Naoto Kan points out in regard to nuclear energy, ‘in the end it is the people’s choice’. Explaining that it is about our energy consumption choices, he says:



This problem in particular goes beyond public participation. We are directly concerned. It's not about stating our opinion, it's a question of what we will do: it's about our lifestyles. In that sense, we are more directly involved than public participation in general issues hitherto.<sup>462</sup>

Kan is referring to our 'everyday actions'. This can be compared to Mansbridge's (1999) 'everyday talk', which she argues should be considered part of the 'full deliberative system'. In an article that marked the beginning of the 'systemic turn' in deliberative democracy theory (section 1.2.2) Mansbridge uses the analogy between everyday speech and a market:

Everyday talk anchors one end of a spectrum at whose other end lies the public decision-making assembly. Everyday talk produces results collectively, but not in concert. Often everyday talk produces collective results the way a market produces collective results, through the combined and interactive effects of relatively isolated individual actions (Mansbridge 1999, p. 212).

When citizens make market decisions as a means of expressing their political preferences, as is the case where citizens choose electricity generated from renewable sources rather than from nuclear power plants, they may be operating as actors within a deliberative system as much as when they engage in everyday talk. Even when the decision does not meet criteria for deliberation in a micro sense (Hendriks 2006), the act of communicating a political message via the market may contribute to deliberation at the macro level, especially if it simultaneously communicates the message via the public sphere, as in the case of the community power movement (sections 5.3.2 and 5.4.3). This view might seem at odds with the following comment by Dryzek (2010):

Some government policies can also involve a direct attack on deliberative capacity. For example, one approach to increasing efficiency in local government seeks to construct people as "customers" or "consumers" of government services, as opposed to citizens potentially engaged in the coproduction of governmental decisions (Alford and O'Neill 1994). To the extent that approach succeeds, homo civicus is displaced by homo economicus, who can make choices but not give voice (Dryzek 2010, p. 152).

---

<sup>462</sup> Interview with Naoto Kan, 12 March 2013

Dryzek offers an important critique of modes of governance that deprive citizens of a voice in decision-making, but market mechanisms do not always deprive citizens of a voice. Sections 5.3.2, 5.4.3 and 5.5 of this chapter argue that, in the context of Japan's energy policy, increased consumer choice could potentially give citizens greater voice.

Turning to point 2, the eleven discussion points proposed by the National Debate Verification Panel ranged from technical questions, through values, judgments and preferences. It is unlikely that agreed answers could be found, but it is more feasible to 'clarify the opinion structure among stakeholders'<sup>463</sup> and form some sort of meta-consensus. Some observations on the potential for this are made in section 5.2.2.

Points 3 and 4 represent commitments from the LDP-Komei government to engage with the public on energy policy in general and high-level radioactive waste (HLW) policy in particular. Focusing on the HLW issue, section 5.2.1 critiques the direction that this government is taking on public participation in nuclear energy policy, while section 5.2.2 considers alternative approaches.

This chapter focuses first on opportunities for public participation in nuclear energy policy at the national level (section 5.2). It then addresses energy policy more broadly, with a particular focus on the potential for participation at a local level (section 5.3). The role of citizens' movements is addressed in section 5.4 and finally section 5.5 sums up the chapter's 'local versus national' theme, showing that participation at the local level may be able to fill some of the void resulting from the lack of official support at the national level.

---

<sup>463</sup> Interview with Masaharu Yagishita, 8 January 2013

## 5.2 Nuclear energy issues

### 5.2.1 *Restricting the scope of participation*

High-level radioactive waste (HLW) disposal is currently the only nuclear issue where the government appears to be somewhat serious about consulting the public. This section uses the example of HLW disposal to illustrate the problems with the government's approach to public participation in the nuclear energy policy field. Then, in light of the HLW case, section 5.2.2 considers alternative approaches to public participation based on the assumption that some form of ongoing national debate about the future of nuclear energy is necessary.

HLW disposal is an unavoidably public issue. Without public support no local government would be willing to volunteer to host an HLW dump. However the government's approach betrays a desire to restrict the scope of debate, both geographically and in content, rather than a genuine commitment to public participation. (See discussion below of the Science Council of Japan's critique.) It is a continuation of the government's long-standing divide-and-conquer approach: buying off opposition and creating an economically dependent region whose residents are consulted to some extent, while the rest of the population has no opportunity to exert influence.

The government is trying to minimise the impact of public opinion by confining public involvement as far as possible to candidate municipalities. The 2014 Basic Energy Plan refers to 'local consensus building' and 'seek[ing] understanding from local residents', but it only requires 'explanation' towards the rest of the nation (Ministry of Economy Trade and Industry 2014c, p. 52).<sup>464</sup> Furthermore, the government is trying as much as

---

<sup>464</sup> The May 2014 interim report of the Radioactive Waste Working Group states that HLW disposal should be recognised as an unavoidable aspect of the use of nuclear energy, the overall nuclear energy policy context should be shown, and the HLW disposal issue should be 'explained' as an important part of that overall policy (Radioactive Waste Working Group 2014, p. 22). Words were added at the final meeting to the effect that public opinion about overall

possible to treat HLW as a discreet issue, so that failure to find a disposal site does not interfere with the operation of nuclear power plants. However the HLW problem is intrinsically connected to nuclear policy as a whole. The quantity to be disposed of depends on the amount of nuclear energy produced and the form of the waste depends on the nuclear fuel cycle chosen—whether spent nuclear fuel is reprocessed or disposed of directly.

The government's approach to siting a HLW disposal site was critiqued by the Science Council of Japan (SCJ 2012) for precisely this reason. The arrangements established in response to the *HLW Kondankai's* 1998 report (Appendix 5) did not lead to progress in HLW disposal, so in 2010 the Japan Atomic Energy Commission (JAEC) requested SCJ for an opinion on the HLW disposal program (Kondo 2010). Emboldened by the Fukushima nuclear accident, SCJ responded with a fundamental critique, saying,

This proposal is grounded on the judgment that seeking agreement on the individual issue of selecting a final disposal site for high-level radioactive waste without first making sufficient effort to form agreement on the broader policy surrounding nuclear energy is an inappropriate procedurally back-to-front approach (SCJ 2012, p. iii).

It noted that HLW was an issue that must be covered in a comprehensive assessment of nuclear energy policy (p. 22) and proposed either setting a limit on the quantity of HLW produced (in the case where a nuclear phaseout is chosen), or setting a limit on the rate of increase (if continued use of nuclear energy is chosen) (p. 12). The government rejects this aspect of SCJ's proposal on the grounds that finding a HLW disposal site is an urgent issue, failure to do so entails present dangers, and a site must be found regardless of the form of the material to be disposed of (Radioactive Waste Working Group 2014, p. 5). But this is disingenuous reasoning given that the government's

---

nuclear energy policy and waste policy should be 'listened to' and, where appropriate, policy changes made, but the overall tone and balance of the report, as well as the lack of concrete recommendations to back up these words, suggests that this is another example of bureaucratic rhetoric (Koga 2013) (section 3.4.3).

underlying motivation is to prevent the lack of a solution to the waste problem from obstructing continued operation of nuclear power plants. It is not just concerned about existing HLW; it wants to clear the way for producing more HLW.

In regard to public participation, SCJ argued that in order to deal with the division between those who enjoy the benefits and those who suffer the disbenefits of nuclear power,<sup>465</sup> it is necessary to have a national debate with broad participation from both sides (p. 9). It stated that the debate should be coordinated by an independent third party and no one with an interest (*'samazamana tachiba no kankeisha'*) should be excluded (p. 13). For the final stage of obtaining local agreement to host a HLW dump it proposed holding a local referendum (p. 18) (sections 3.2.4 and 4.3.3).

However the government continues to focus on finding a municipality to host a HLW dump, while bypassing the majority of the population. In focusing on public participation at the local level, the government is particularly interested in France's Local Information Committees (CLI) as a model (Masuda 2013, p. 9; Ministry of Economy Trade and Industry 2014c, p. 55).<sup>466</sup> CLIs are consultation and information bodies whose purpose is to promote transparency in nuclear activities. They are formed wherever a 'Basic Nuclear Installation' (INB) is established and comprise representatives of stakeholders including trade unions, environment groups, business and the medical profession. They are essentially a confidence building mechanism that presupposes the continuing existence of the INB for which they were established. The question of whether the facility should be there in the first place is not on the table for

---

<sup>465</sup> Accepting nuclear power plants has brought advantages and disadvantages to host regions and no doubt accepting a HLW dump will do the same, but neighbouring municipalities have been exposed to many of the same risks without receiving the economic benefits of host sites. By contrast, major cities have received the benefit of the electricity produced without being exposed to the same level of risk from accidents.

<sup>466</sup> Refer also the presentation by Philippe Jamet (Commissioner of the Nuclear Safety Authority (ASN)) to the Japan Atomic Energy Commission on 18 December 2012, 'The Local Information Committees (CLI) related to nuclear installations': <http://www.aec.go.jp/jicst/NC/iinkai/teirei/siry02012/siry055/siry02-1.pdf>

discussion. So rather than seeing them as public participation in decision-making, it is more appropriate to see them as a new ‘soft social control instrument’ to be added to the diverse toolkit described by Aldrich (2008, p. 130). (See also Aldrich 2014.)

According to Aldrich, ‘Only about half of all siting attempts within the nuclear power field have succeeded’ (p. 151). But if the toolkit of soft social control instruments succeeded for half the attempts to site nuclear power plants, then perhaps the nuclear industry and administration is hoping that a slightly enhanced version of the toolkit will suffice to convince at least one municipality to host a HLW dump. Finding just one HLW disposal site would counter nuclear critics’ rhetoric that nuclear power is like ‘an apartment without a toilet’, even if in the long run multiple sites will be required.

Former Prime Minister Junichiro Koizumi is not so optimistic. After visiting Finland’s proposed Onkalo HLW repository he became convinced that it would be impossible to find a suitable site in Japan. In a public lecture delivered on 16 October 2013 he contrasted the geology of Japan with that of Finland to refute nuclear proponents’ argument that success overseas can be translated into success in Japan.<sup>467</sup> In view of Japan’s seismology and hydrology, he concluded that it would be impossible to convince the Japanese public that HLW disposal is possible in Japan.

Dawson and Darst (2006) identify ‘three key factors conducive to success’ in siting HLW repositories:

an open and lengthy strategy of consultation with the public; widespread *pre-existing* and *reciprocal* trust between society and government/industry; and resilient democratic institutions that can channel public opinion, but resist being overwhelmed by it’ (p. 611).

---

<sup>467</sup> Most of the speech can be viewed on the following URL of the Dailymotion website (‘Koizumi moto Shushō “Datsu-gempatsu” kōen zenyō o kiku’):  
[http://www.dailymotion.com/video/x167n8e\\_小泉元首相-脱原発-講演-全容を聞く\\_news](http://www.dailymotion.com/video/x167n8e_小泉元首相-脱原発-講演-全容を聞く_news)

If Koizumi is right, persisting with soft social control instruments to solve the HLW problem, at the same time as avoiding comprehensive debate about controversial upstream policies, is unlikely to build the trust and the democratic institutions that Dawson and Darst identify as key factors conducive to siting HLW repositories.

### ***5.2.2 Prospects for continued national debate***

The previous section used the example of HLW disposal to highlight problems with the LDP-Komei government's narrow, divide-and-conquer approach to public participation. That the government should prefer this approach after decades of failed HLW policy and after the Fukushima nuclear accident suggests that it would be foolish to expect a sudden change of heart. Nevertheless, this section takes as its starting point the assumption that the National Debate Verification Panel was right in saying that some form of ongoing national debate is necessary (sections 4.2.4 and 5.1). This is because although there is a *prima facie* case that the majority of the public favours a nuclear phase out, many important questions remain unanswered. These questions should be tackled from the perspective of a wide range of discourses and every effort should be made to prevent the political public sphere from being subverted by power.

Given the negative attitude of the national government, approaches that presume it will lead such a process must be regarded as hypothetical. Approaches that assume leadership from other players may be more realistic in the short term, although questions arise about their capacity to exert influence. The comments that follow do not specify a lead organisation. Some components would probably require direct national government involvement, while others could potentially be initiated by other tiers of government, academia, civil society, or a combination of the above.

### *Focus of the national debate*

First, it is important to choose the right point of entry for a continued national debate. HLW disposal is not the right point of entry, although it is an essential part of the total picture. How can the public be expected to make a judgment about the final disposal of HLW if they are not given the opportunity to debate the form of the material to be disposed of?<sup>468</sup> And how can trust be obtained if finding a HLW disposal site is treated primarily as a necessary condition for the continued operation of nuclear power plants? Focusing on the question of what to do with spent nuclear fuel is a more logical approach, but it is only a subset of the larger question of whether to continue operating nuclear power plants, and if so at what capacity and for how long. At the time of writing, this wider question is higher in the public consciousness and is an obvious point of entry. It might be argued that overall energy policy is a more appropriate focus. It is certainly true that the public should be engaged in the process of forming energy policy as a whole. It is also true that nuclear energy cannot be addressed in isolation. But in the post-Fukushima climate it is inevitable that any national debate about energy policy will turn into a debate about the future of nuclear energy, so it makes sense to give the public the chance to address this issue. From the above discussion it would, therefore, seem that the appropriate focus is either nuclear energy policy within a wider energy policy context, or energy policy with a strong focus on the future of nuclear energy.

### *Deepen and extend the national debate*

That does not mean that the national debate held in the summer of 2012 should be repeated in the same form. Rather, the debate should be deepened and extended geographically and in time. As pointed out by Tadashi Kobayashi, it should be deepened to include the nuclear fuel cycle as a major component (section 4.2.4). The exclusion of this issue from the 2012 national debate enabled the DPJ government to

---

<sup>468</sup> Whether HLW is defined exclusively as a bi-product of reprocessing, or whether spent nuclear fuel is included in the definition of HLW.



opt for a contradictory energy strategy (section 4.4). In regard to extending the debate geographically, this would give a larger percentage of the population an opportunity to consider and contribute to the policy forming process on an issue that affects everyone. As for extending the debate in time, the public participation experts mentioned in section 4.2.4 stated that the 2012 national debate should be seen as the beginning, not the end of the national dialogue. Extending the process over a longer period of time will enable the process to reach more people and give them the opportunity to reflect more maturely on the issues.

#### *Meta-consensus on discussion points*

The eleven ‘underlying discussion points’ identified by the National Debate Verification Panel (sections 4.2.4 and 5.1) provide a useful starting point for an extended national debate, although the process should be flexible enough to allow new themes to emerge. Most of the National Debate Verification Panel’s discussion points require input from experts and stakeholders to clarify the scientific basis and interests involved. Masaharu Yagishita wanted to ‘clarify the opinion structure among stakeholders’<sup>469</sup> before the 2012 national debate took place (sections 4.2.2 and 4.5.3), but this did not happen. If a process for this purpose is established in the context of an extended national debate, ideally it would lead to a ‘meta-consensus that structures continued dispute’ (Dryzek 2010, p. 15). The public’s role would be to form and transmit opinions on the ‘contested values’, ‘disputed judgments’, ‘competing preferences’, and ‘contested discourses’ (Dryzek 2010, p. 15) identified during debate among experts and stakeholders.

As Dryzek warns, we should not uncritically celebrate meta-consensus without due consideration for the deliberative qualities of the processes that produce it (p. 15). In a

---

<sup>469</sup> Interview with Masaharu Yagishita, 8 January 2013

report on a stakeholder dialogue about environmentally sustainable transport, Hamada and Yagishita (2011) note the difficulty of getting stakeholders to engage in deliberative dialogue about highly conflicted issues:

When one tries to delve deeply into important points of debate, the larger the disparities in interests and values, the more stakeholders try to avoid debating issues head on. That is precisely what causes a lack of deliberation in policy-forming processes, and is an obstacle to fundamentally resolving issues (pp. 171-172).

Ideally all stakeholders should be represented, but if key stakeholders, such as electric power companies, are not willing to commit to a deliberative dialogue, perhaps a deliberatively-formed meta-consensus between a range of pro- and anti-nuclear experts, including scholars, NGO representatives, sub-national government officials, etc. might be possible. Precedents that provide hints for how people representing a range of discourses might be brought together include the Nuclear Energy Policy Roundtable 2010 (Genshiryoku Seisaku Entaku Kaigi 2010), Minna no Energy and Environment Council (section 4.5.4), and a forum for dialogue between proponents and opponents of nuclear energy in Kashiwazaki City (section 4.5.4). At the level of the Diet, the Preparatory Diet Committee on Energy (section 4.3.1, footnote 349), which functions as an informal network of Diet Members cooperating with critical nuclear experts, might be able to play a role in generating discussions aimed at forming such a meta-consensus.

#### *Applying lessons from the post-Fukushima process and from overseas*

After deciding the focus and themes of the debate, the next issue is the manner in which it should be conducted and the methods to be used. It is not appropriate to be prescriptive, but it is important to learn from past public participation exercises, such as those analysed in this thesis. Comparing pre- and post-Fukushima processes, there were some clear areas of improvement that should be built on (section 4.5). These include increased independence, a greater degree of descriptive representation of the

participants, a clearer distinction between the roles of experts and lay people, improved clarity and transparency in linking the outcome of public participation to the policy decision, greater responsiveness to civil society suggestions about process, and greater openness to being influenced by unofficial public participation processes. Some of these improvements were attributable to the use of a deliberative poll (DP) and the establishment of the National Debate Verification Panel. The DP method is one of a number of deliberative methods using randomly selected mini-publics (sections 1.2.2 and 2.3). Such methods have a role to play in a wider national debate comprising multiple approaches.

It is also important that the outcome of the national debate be assessed by an independent panel. The National Debate Verification Panel is one model, although the independence of its judgment was very much dependent on an exceptionally flexible secretariat. Consideration should be given to ways of ensuring the independence of such review panels, so that they are not dependent on the good offices of more flexible than average bureaucrats. Another post-Fukushima innovation was that the National Debate Verification Panel's assessment of the outcome of the national debate and the decision itself were sensitive to unofficial processes as well as official processes. This is a precedent that should be continued.

It is also useful to learn from international experience. In this regard the public consultation process into spent nuclear fuel disposal conducted by Canada's Nuclear Waste Management Organization (NWMO 2005) (section 1.2.2) has much to recommend it. Japan could learn a lot from the wide range of techniques used, the phased nature of the process, the breadth of the consultations, and the consideration of

societal values<sup>470</sup> and ethical principles. Although the Canadian process suffered from the fundamental flaw that a nuclear phaseout was explicitly excluded from consideration, if the focus of the national debate were on whether to continue operating nuclear power plants at what capacity and for how long, then this flaw would not apply. However it is also important to avoid another problem with the Canadian process, namely the lack of independence of the managing organisation NWMO. For the sake of objectivity and to ensure public confidence in the process, a national debate into the future of nuclear power should be managed by an independent body. This was one of the recommendations of the Science Council of Japan (section 5.2.1).

*What support can be found in official policy?*

There is little evidence that the LDP-Komei government intends to engage the public in good faith. Despite the intention expressed in the 2014 Basic Energy Plan (BEP) to ‘promote dialogue with all levels of the society’ (Ministry of Economy Trade and Industry 2014c, p. 89), the process by which the BEP was produced does not augur well. The only opportunity given to the general public and NGOs critical of nuclear energy to contribute was minimalist public comment exercises (section 4.4.2). It seems that instead the government intends to persist with ‘soft social control instruments’ (Aldrich 2008, p. 130) (section 5.2.1), or, as former Fukushima Governor Eisaku Sato put it, to advance ‘like a bulldozer’ (Sato, E 2009, p. 59). Nevertheless, the BEP contains some positive ideas – in particular, the final paragraph:

[I]nstead of having only the national government bear responsibility for planning and implementing the energy policy, it is important to firmly position different entities, such as municipalities, business operators and non-profit corporations, in a newly constructed communication mechanism and develop the mechanism into one in which they will get involved in the processes from policy planning to policy implementation as responsible entities in view of the fact that they are involved in the energy policy in ways that exercise their own strengths. For instance, GOJ sets up local energy councils comprised mainly of municipalities across Japan toward realization of a framework which allows comprehensive

---

<sup>470</sup> Ramana (2013, p. 201) questions whether these values are being respected in the implementation of the policy, namely the search for a host site.

discussion by various entities, and consider initiatives that allow various entities to discuss, study and deepen their understanding of a variety of energy-related challenges to push forward the policy (Ministry of Economy Trade and Industry 2014c, p. 89).<sup>471</sup>

It remains to be seen how independent the communication system and the local energy councils mentioned in the above quote will be, who will be involved, and how much freedom the central government will give them to influence policy, or whether indeed they will be established at all. This is an area where it is important to promote meta-deliberation about how the deliberative system should be organised. The reference to non-profit corporations (or ‘non-profit organisations’) indicates that civil society is recognised as having a role, and the local energy councils could provide alternative avenues for public engagement and influence. Potential roles for civil society are discussed in section 5.4 and the potential for engagement at a local level is addressed in the context of a discussion of overall energy policy in section 5.3.

The above discussion relates to national policy and suggests elements of a process through which Japanese citizens might form opinions and reach a collective decision on a matter of great public importance, namely the future of nuclear energy. However, although the issue is national in scope, deliberation does not necessarily have to be initiated by the national government. Nor does it have to be conducted primarily in national forums. For example, it could be conducted through local forums the results of which are compiled and assessed nationally. But prescribing the details of how such a process might take place is beyond the scope of this thesis.

---

<sup>471</sup> The ‘provisional English translation’ is rather confusing. ‘GoJ sets up...’ is more comprehensible if interpreted as ‘GoJ will set up...’. ‘Non-profit corporations’ would normally be translated as ‘non-profit organisations’, which would make it clearer that they include citizens’ organisations.

### 5.3 Overall energy policy: connecting local to national

Whereas the previous section addressed public participation focused specifically on national policy, this section considers how debate focusing on local issues might indirectly influence national policy. Nuclear energy is now more than ever treated as a part of overall energy policy. An important development in energy policy since the Fukushima Daiichi nuclear accident is the increased emphasis on distributed energy. This potentially opens up opportunities for more participation at the local level, including through citizen involvement in local energy planning and in the form of energy producer-consumer citizens ('prosumers'). The latter type of participation can be seen as an extension of Bishop and Davis' 'consumer choice' category (sections 1.2.2 and 5.1). In circumstances where the national government is not supportive of public participation, it is useful to consider the extent to which participation at the local level could fill the void.

Distributed energy was addressed in pre-Fukushima Basic Energy Plans, but it was given greater emphasis by the DPJ government in its 29 June 2011 interim discussion points (Energy and Environment Council 2011a) and the 14 September 2012 *Innovative Strategy for Energy and the Environment* (Energy and Environment Council 2012a). It was also supported by the LDP-Komei government in its 14 June 2013 statement, *Japan Is Back*<sup>472</sup> (Headquarters for Economic Revitalization 2013, p. 19) and in the 2014 Basic Energy Plan (Ministry of Economy Trade and Industry 2014c, p. 44). The issue of distributed energy is related to the decision to further liberalise the electric power system (see Appendix 14 for a discussion of the status of liberalisation), a policy which the LDP-Komei government continued from the DPJ government and which has profound implications for the future of nuclear energy.

---

<sup>472</sup> The provisional English translation of this document says 'develop dispersed power systems that center on renewable energy and storage cells' (p. 19). The Japanese '*bunsangata*' here translated as 'dispersed' is usually translated as 'distributed' in this context.

The discussion below considers the implications for public participation of distributed energy and liberalisation of the electric power system. First, the changing relationship between energy policy at the local and national levels is examined in section 5.3.1. This forms the basis for a discussion in section 5.3.2 of the potential for public participation at the local level.

### ***5.3.1 Subsidiarity principle applied to energy policy***

During the FY1998 series of the Round Table Conference (section 3.3) Tetsunari Iida called for reconsideration of national and local roles in energy policy based on the concept of subsidiarity, where what can be done locally is done locally and higher levels of government take responsibility for what cannot be done at lower levels.<sup>473</sup> This section discusses calls from the regions to move away from a centralised energy policy system.

A role for local and prefectural governments in energy policy is already specified in the 2002 Basic Act on Energy Policy. Article 6 defines the responsibilities of ‘local public entities’ as follows:

(1) The local public entities shall be responsible for taking measures complying with the measures of the State as well as formulating and implementing measures that suit the actual situation of their districts with regard to energy supply and demand, in conformance to the Basic Policy.

(2) When using energy, the local public entities shall endeavor to reduce the environmental load by using goods that contribute to reducing the environmental load associated with energy use and taking other relevant measures.<sup>474</sup>

---

<sup>473</sup> Tetsunari Iida’s handout for meeting 5 of the FY1998 series of the Round Table Conference (21 January 1999):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

<sup>474</sup> Translation taken from the Japanese Law Translation web site:

<http://www.japaneselawtranslation.go.jp/law/>

This was first translated into policy in the 2003 Basic Energy Plan (BEP), which described the role of ‘local public entities’ as follows:

Linking with residents, local public entities have an extremely important role to play, not just in fulfilling their unique role in promoting energy supply measures by introducing new types of energy that make use of local ingenuity, but also through energy demand measures, including taking the lead in energy conservation initiatives, presenting the necessary vision, and traffic flow measures and town planning.

In relation to energy supply and demand, in accordance with the basic principles indicated in the Basic Act on Energy Policy, local public entities shall, in addition to forming policies based on the government’s policy, make and implement policies that respond to the local situation. Based on the perspective of respect for local autonomy, besides striving to make its policy clear and specific and sufficiently in harmony with and understood at the local level, the government shall actively listen and undertake public relations so that local voices are appropriately reflected in energy policy, and also promote participation in local public entities’ energy policies. It is also hoped that local public entities will actively take advanced initiatives for the promotion of energy conservation and new types of energy, and the government will take care that these initiatives are promoted (Ministry of Economy Trade and Industry 2003, Chapter 6, Section 2, Clause 1 (my translation)).<sup>475</sup>

From the above legislation and policy, it might appear that while local energy policy was subordinate to national policy it nevertheless had an important role in Japan’s overall energy policy framework. However that is not the perception of regional and local governments, nor of many people promoting energy projects at the local level (see, for example, Hara & Yoshiwara 2012). The introduction to a detailed energy strategy proposal developed by Osaka after the Fukushima Daiichi nuclear accidents includes the following statement, under the heading ‘from the [national] government to the regions’:

In order to break free of dependence on nuclear energy and construct a new electric power supply system based on the perspective of consumers and people making a living, in place of the past structure of leaving it up to the [national] government, it is necessary for the prefecture and city, which are closer to the residents, to become actively engaged in and play a bigger role in issues related to energy, which is the foundation of our livelihoods. It is necessary for the hitherto centralised authority of energy policy to be changed, and, in addition to transferring the necessary authority and funding from the [national] government

---

<sup>475</sup> This wording was repeated almost verbatim in the 2007 and 2010 versions of the BEP.



to the regions, for the regions to promote and produce their own unique energy policies responding to their own characteristics (Osaka Prefecture/City Energy Strategy Committee 2013, Introduction, Section 2, Clause 4, p. 2).

Even where the national government sought to encourage local initiatives, it is claimed that its top-down approach was largely unsuccessful. Hiroko Uehara, former mayor of Kunitachi and Secretary General of Mayors for a Nuclear Power Free Japan<sup>476</sup>, made the following comment when I asked her about public participation in local energy issues:

Examples are gradually emerging, but a bad point about Japanese local governments is that if the national government provides subsidies they all go for them. But it is very difficult for them to have a strategy suited to their own local government ... So they all fail ... Until now they failed because they did it as a kind of performance to get subsidies from the national government, with the administration taking the lead. They didn't involve the public.<sup>477</sup>

Tetsunari Iida gives the example of the Ministry of Agriculture, Forestry and Fisheries' (MAFF) Biomass Nippon Strategy and cites an administrative review of the program by the Ministry of Internal Affairs and Communications, which found that not one of the 220 projects had succeeded since the program began in 2002 (Iida 2011, p. 44). Iida sees bottom-up initiatives by local governments and people with the vision and ability to make projects happen on the ground as the key to success, rather than top-down efforts led by the national government.

### *Demands from the regions for reform of the electric power system*

Since 3.11 local and prefectural governments have begun to take a much more active interest in energy issues. The abovementioned energy strategy proposal developed jointly by Osaka City and Osaka Prefecture is just one example. Osaka City is one of 18

---

<sup>476</sup> Mayors for a Nuclear Power Free Japan web site: <http://mayors.npfree.jp/?cat=1>

<sup>477</sup> Interview with Hiroko Uehara, 29 January 2013

member cities of the Designated Cities Natural Energy Council.<sup>478</sup> The Council was established on 27 July 2011 in response to the Fukushima Daiichi nuclear accident to exchange information towards the spread and expansion of natural energy and to make joint proposals to that end.<sup>479</sup> Since then it has made several proposals to the national government, including the following on 6 February 2014.<sup>480</sup>

- 1) Promote electricity system reform from a demand side perspective, with participation not just of electric power companies, but also of citizens, local governments, and all stakeholders.
- 2) Show a target for natural energy and strengthen the electric power grid.
- 3) Improve support for the introduction of solar and biomass energy in cities.
- 4) Provide support to accelerate moves to spread smart cities throughout Japan.

These points cover some of the main areas where reform is needed to give local and prefectural governments, as well as citizens and private enterprises, greater freedom to take initiatives in the fields of renewable energy and energy conservation. Similar demands have been made by other groupings of local and prefectural governments.<sup>481</sup>

In particular, strengthening the electric power grid within and between regions and preventing electric power companies from restricting access to the grid are crucial measures required to enable an expansion of independent providers of renewable energy. Under the current arrangements electric power companies are able to limit the amount

---

<sup>478</sup> My translation of the Japanese title, ‘Shitei Toshi Shizen Energy Kyōgikai’. Designated cities are cities with a population of over 500,000 that have been designated as such by government ordinance.

<sup>479</sup> Shitei Toshi Shizen Energy Kyōgikai statement of purpose, 27 July 2011: [http://www.enekyo-city.jp/template/w/pdf/20110727\\_02.pdf](http://www.enekyo-city.jp/template/w/pdf/20110727_02.pdf)

<sup>480</sup> My summary of the main points in Shitei Toshi Shizen Energy Kyōgikai’s 6 February 2014 proposal: [http://www.enekyo-city.jp/template/w/pdf/20140206\\_01.pdf](http://www.enekyo-city.jp/template/w/pdf/20140206_01.pdf)

<sup>481</sup> For example the following:

Natural Energy Council (Shizen Energy Kyōgikai): <http://www.enekyo.jp>

Mayors for a Nuclear Power Free Japan: <http://mayors.npfree.jp>

of renewable energy they purchase, charge arbitrarily high rates for access to the grid, or deny access to the grid altogether. Also, renewable energy generators may have to pay a large part of the cost of connecting to the grid from remote areas (Kyodo 2013c; Nagata 2014; Obayashi 2013; Takahashi, M 2012, pp. 42-46). Obstacles such as these protect the monopoly power of the electric power companies and favour a centralised electric power system based on nuclear energy. They are the reason why in 2011 the percentage of the electricity market taken by players other than the regional monopoly electric power companies was just 3.6 percent (Electricity System Reform Expert Subcommittee 2013, p. 5). There are hopes that the government's plan to reform the electric power system, fully liberalising the electricity retail market and separating electricity generation and transmission (Appendix 14), will ensure the independence of the grid and create greater space for new entrants, including generators of renewable energy, although many people believe the reforms should proceed faster than planned and concerns remain about the potential for vested interests to obstruct reform.<sup>482</sup>

### *Decentralisation trends and possibilities*

The Designated Cities Natural Energy Council is the tip of the iceberg of a movement towards the decentralisation of Japan's energy system, which Andrew DeWit believes may be unstoppable. He says,

The evidence suggests ... that Japanese power policy and politics is becoming decentralized and distributed. An antipathetic, or merely incompetent, cabinet can surely slow down this shift away from centralized and nuclear power toward decentralized renewables. But ... the momentum and scale of the shift suggest that it may be unstoppable (DeWit 2013a).

---

<sup>482</sup> For example, Hiroshi Takahashi of Fujitsu Research Institute and member of the Electric Power System Reform Expert Subcommittee (interview 12 March 2013). Refer his comment during meeting 12 (8 February 2013) of the Expert Committee into Electric Power System Reform (transcript pp. 12-13): [http://www.meti.go.jp/committee/sougouenergy/sougou/denryoku\\_system\\_kaikaku/pdf/012\\_gijiroku.pdf](http://www.meti.go.jp/committee/sougouenergy/sougou/denryoku_system_kaikaku/pdf/012_gijiroku.pdf)

In this context, DeWit questioned the relevance of the Basic Energy Plan that the LDP-Komei government was in the process of drafting:

Energy policy and energy markets in Japan include an increasing number of players and an increasingly diverse mix of technologies, whose price structures and other factors are shifting far too rapidly to be summarized by the kind of policymaking process that the old guard are at present undertaking. In other words, they seem likely to be in the midst of generating a document that will be meaningless even before they get it printed and bound (DeWit 2013a).

The disconnect between old style energy policy making and the post-Fukushima reality was exemplified by the proceedings of the Advisory Committee for Natural Resources and Energy's (ACNRE) Strategic Policy Committee, which drafted the new Basic Energy Plan. The only representative of either a prefectural or local government on the committee was the governor of Fukui Prefecture, but he represented the traditional interests of a region that is deeply dependent on nuclear energy. Besides hosting the *Monju* Fast Breeder Reactor, Fukui Prefecture hosts 13 light water reactors, more than any other prefecture. The committee invited outsiders from industry and nuclear advocates from overseas, but it consulted none of the new regional players.<sup>483</sup>

There is a long history of struggle by subnational governments for decentralisation and greater autonomy from the central government (Jain 2011), and the 3.11 triple disasters added grist to the mill for this debate (Samuels 2013, pp. 151-179). In deliberative systems terms, this can be seen as a type of meta-deliberation about how the deliberative system should be organised (section 1.2.2). In some cases regional challenges to the central government's energy policy can be seen as part of the wider tussle over regional independence. For example, the Mayor of Osaka, Toru Hashimoto, is the leading advocate of the *dōshūsei* movement for reform of the Japanese federal

---

<sup>483</sup> Representatives of the Japan Consumers' Cooperative Union and the National Liaison Committee of Consumers' Organizations were invited to give presentations, but they did not represent the new regional renewable energy initiatives. They participated in the 24 July 2013 meeting of the Strategic Policy Committee:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/001/](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/001/)

system and his challenge to the central government's authority over energy issues is certainly not unrelated to this wider agenda.

Regardless of such political considerations, some people see a shift to a distributed energy system as having profound implications for relations between the center and the periphery. For example, Feldhoff (2013) optimistically sees potential for rural areas to gain greater independence:

If Japan were to seize on the Fukushima disaster as a critical juncture that blazes the trail to a new energy future with a less centralized renewables-based energy regime, new opportunities to fundamentally reform regional development and planning policies could arise. Abandoning power plant siting as a means of development should be a central element of any reform. The reduced dependency of rural areas on external investment and their reduced vulnerability in the face of external decision-making could help to strengthen the empowerment of local communities by providing them with control over their development paths and projects.

Investment of local finance in local energy resources would strengthen local economies by preventing the profits from being siphoned off to the cities. Furthermore, increased economic and political independence would not just apply to rural areas. Designated cities and even municipalities in the Greater Tokyo Area stand to gain greater independence as a result of initiatives such as establishing municipal power companies, entering into supply agreements with independent power providers, and increased horizontal cooperation between municipalities.

#### *Balancing central and local roles*

That is not to say that there is no role for the national government. Although Hiroko Uehara criticised the tendency of local governments to depend on handouts from the national government (see above quote), she nevertheless acknowledged that local governments need financial support from the national government. But she believes such support should be for locally grown initiatives, such as the joint initiative of local

businesses and Odawara City (Fujisaki & Nakagawa 2013; Iizuka 2014).<sup>484</sup> The national government also has to enact legislation and establish the framework to encourage and enable local initiatives, and most particularly to carry through reforms of the electric power system. Instead of the situation which still prevails of regional monopolies controlling the electric power system in a relationship with the government of ‘national policy / private management’ (*kokusaku-min’ei*), all consumers would be able to choose between competing producers on the basis of price, energy source, and the overall package of services provided. The government would be forced to accept that the energy mix is the outcome of market forces, not something that can be guided by national policy. Although the Basic Act on Energy Policy clearly makes local energy plans subordinate to national policy, the national planning process would have to give more consideration to what is happening at the local level, and inevitably more power over energy issues would be devolved. This would favour renewable energy at the expense of nuclear energy, which, based as it is on large-scale plants with high up-front costs, is favoured by a centralised monopoly system.

The logical end point of these reforms would be an energy policy based on the principle of subsidiarity as proposed by Iida,<sup>485</sup> where the national government decides only those things that cannot be decided at a lower level. Depending on how the government chooses to interpret and implement it, the latest Basic Energy Plan could be a tentative first step in that direction. For example, the proposed local energy councils (section 5.2.2) could become a part of a process of devolving power to the regions. However the national government could also try to turn them into another top-down mechanism to maintain control. If so, it can expect an ongoing struggle with those who want more regional independence.

---

<sup>484</sup> Interview with Hiroko Uehara, 29 January 2013

<sup>485</sup> Tetsunari Iida’s handout for meeting 5 of the FY1998 series of the Round Table Conference (21 January 1999):

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/5kokai/5koukai51.html>

### ***5.3.2 Participation at the local level***

This section considers how decentralisation could reinforce the opportunities for public participation and how public participation at the local level could in turn encourage moves towards a more decentralised energy system. It focuses on three models of local participation: local energy planning, collective action by producer-consumer citizens ('prosumers'), and attempts to connect local initiatives to national policy.

Of the pre-Fukushima era Kazuhiro Ueta of Kyoto University observed, 'Not many Japanese local governments had an energy section.' He went on to say, 'It is necessary for energy policy to be decentralised and for citizens and local governments to work together on energy issues' (Ueta 2013, p. 167). Post-Fukushima has seen a great increase in energy planning at the local level (DeWit 2013a), but the level of public involvement varies. It cannot be assumed that local policy-making will automatically lead to a high degree of good quality public participation (Ercan & Hendriks 2013). However the greater opportunities for public participation in general at the local level (section 2.2) suggest that there is more potential for citizens to be involved at the local than at the national level. The trend towards decentralisation discussed in section 5.3.1 provides an opportunity to capitalise on the more advanced state of public participation at the local level, but the risk remains of 'lack[ing] the authority to make the macro-level changes that are often necessary to ensure that local initiatives make a difference' (Parkinson 2007, p. 26) (section 2.2.1).

This section uses four illustrative examples to examine three models of local public participation on energy issues and suggests how participation at the local level could articulate with national policy.

### Hamamatsu City

In March 2013 Hamamatsu City, a member of the Designated Cities Natural Energy Council, announced the *Hamamatsu City Energy Vision* (Hamamatsu City 2013), but the only form of public involvement was responses to questionnaires sent to businesses and to randomly selected residents.<sup>486</sup> It was an example where local energy policy-making did not lead to a high level of public participation at the policy-forming stage, although there might be more participation in the implementation phase. The *Vision* calls for an ‘all Hamamatsu’ approach involving citizens in implementing the vision.<sup>487</sup>

### Sapporo City

A contrasting example is Sapporo City (also a member of the Designated Cities Natural Energy Council), which is developing its own energy vision (City of Sapporo). The vision is being drafted by the local government, but the public has been involved in various ways.<sup>488</sup> Public comments were called on two occasions and two questionnaires were conducted of randomly sampled citizens. In addition, a one-day citizens’ workshop was held with participants selected from those who responded to the second questionnaire.<sup>489</sup> The report on the workshop called it a ‘Planning Cell’, but in fact it was more like a short version of a ‘Citizens’ Discussion’, the Japanese adaptation of the planning cell method (section 2.3.3).<sup>490</sup> The draft energy vision was submitted for

---

<sup>486</sup> See the following attachment to the Vision (Hamamatsu-shi energy vision, Shiryō-hen):  
[http://www.city.hamamatsu.shizuoka.jp/shin-ene/new\\_ene/documents/energy\\_vision\\_material.pdf](http://www.city.hamamatsu.shizuoka.jp/shin-ene/new_ene/documents/energy_vision_material.pdf)

<sup>487</sup> I telephoned the responsible office at Hamamatsu City on 21 February 2014 and confirmed the details (though not the interpretation) in this paragraph.

<sup>488</sup> This paragraph is based on telephone conversations on 21 February 2014 and 11 June 2014 with staff of Sapporo City and documents from Sapporo’s web site.

<sup>489</sup> Refer the documents provided with the call for public comments:  
[http://www.city.sapporo.jp/energy/vision/documents/pc\\_data.pdf](http://www.city.sapporo.jp/energy/vision/documents/pc_data.pdf)

Refer also document submitted to the 12 December 2011 meeting of Sapporo’s environment advisory council, ‘Energy tenkan chōsa (Sapporo chiiki ni okeru jizoku kanōna energy rikatsuyō chōsa) Chūkan hōkokusho (Shimin anketo chōsa kekka sokuhō ban)’:  
[http://www.city.sapporo.jp/kankyo/shingikai/kankyo\\_shingikai/8dai2/documents/shiryō6.pdf](http://www.city.sapporo.jp/kankyo/shingikai/kankyo_shingikai/8dai2/documents/shiryō6.pdf)

<sup>490</sup> I spoke to Kensuke Kubota of Sapporo City on 11 June 2014. He sent me a report on the workshop. The main similarity with the citizens’ discussion method was the random selection method and the use of small 5-6 member groups, although groups were not rotated.



comment to Sapporo's environment advisory council (City of Sapporo), which includes representatives of some energy and environment NGOs.

Perhaps the difference between Sapporo's and Hamamatsu's approaches reflects their different level of commitment to public participation. Nikkei Shimbun ranked Sapporo the second best city in Japan in terms of public participation (section 2.2.4), but Hamamatsu was not listed in the top 50. Nevertheless, Sapporo's approach to developing its energy vision was rather top-down. The process responded to post-Fukushima public sentiment, but was initiated and led by the local government. A contrasting example in a city of about 100,000 residents in central Honshu (Iida City—discussed below) illustrates how bottom-up, civil society-led local energy initiatives can exert influence even beyond their region.

### *Iida City*

Iida City (Nagano Prefecture) is a local renewable energy success story. Its involvement in renewable energy dates from the early 2000s, well before the Fukushima nuclear accident. In terms of public participation, it extends Bishop and Davis' 'consumer choice' category (section 1.2.2) to include 'prosumer choice', but it goes beyond the individual choice implied by Yukio Edano's comments during the national debate (sections 4.2.4 and 5.1) to include advocacy and collective action by citizens.

NPO Minami Shinshu Ohisama Shimpo was established in February 2004 to promote local sustainable energy production at a time when Iida City was drafting its fourth basic plan, a theme of which was 'environment culture city'. The NPO transformed itself into a small local energy company (Ohisama Shimpo Energy) in order to become the vehicle for an Environment Ministry (MoE) model town project for which Iida City had received funding to promote a virtuous cycle between the environment and the

economy (Hara & Yoshiwara 2012, pp. 211-212). Besides the grant from MoE, Ohisama Shimpo Energy sought citizens' finance from people throughout Japan and, in cooperation with the local government and the Institute for Sustainable Energy Policies (ISEP), it became the first example in Japan of a citizen-financed solar energy project, installing solar panels on the rooves of public buildings.<sup>491</sup>

Ohisama Shimpo Energy has come a long way since then, installing a total of 1.6 MW worth of solar panels at 253 locations by 2012 and expanding into other fields of renewable energy, while maintaining its close cooperation with the local government (Hara & Yoshiwara 2012, pp. 212, 215). During that time it has built up strong relationships with local businesses, the local credit union and the community in general. As a model for community energy development and by actively telling its story to visitors and at meetings throughout Japan (Takahashi, M 2012, pp. 54-57) it has exerted influence beyond its own region.

It is an example of prosumer choice expanding the opportunities for citizens to have a voice in energy issues. Starting from an environmentally-motivated market-based choice to produce renewable energy, the process by which the program was implemented generated extensive discussion in the public sphere at both the local and national levels. By connecting citizens' economic actions as investors, producers and consumers to their participation in the public sphere, it blurs the distinction between the market system and the deliberative system (section 5.1).

It was a rare pre-Fukushima example of national government projects successfully fostering lasting local renewable energy development (section 5.3.1). The initial MoE funding that Iida City received was for three years, then in 2009 the government

---

<sup>491</sup> Interview in English with ISEP's Shota Furuya, 13 March 2013

introduced a feed in tariff system (FIT) for solar energy which made it possible for Ohisama Shimpo Energy to offer favourable terms to private home owners for fitting solar panels onto their rooves (Takahashi, M 2012, pp. 57-60). That enabled the business to spread beyond public facilities and made it easier for private citizens to become energy prosumers. But although the government subsidy and the solar FIT system created opportunities, it was the active involvement of the community and support from people throughout Japan that made the project a success.

The Iida City example illustrates how local government and citizens working together in a symbiotic relationship can make the most of their local renewable energy and human resources to develop distributed electric power systems. But great though the achievement was, its potential as a model was limited by the restrictive nature of the electric power system within which it operated (section 5.3.1). Until the system is reformed, the same limitation applies to the energy visions of Hamamatsu and Sapporo. The question arises, how might citizens at the local level overcome Parkinson's dilemma (section 2.2.1) by challenging this system and exerting influence on national policy?

### *Setagaya City*

One example of connecting action at the local level to national policy can be found in Tokyo's Setagaya City. In this case, the principal leadership comes from the mayor, but he has involved citizens and citizens' groups in his program. Mayor Nobuto Hosaka was elected mayor just over a month after the Fukushima Daiichi nuclear accident on an anti-nuclear platform (Nishiyama 2012). After he was elected he swiftly set about promoting the uptake of renewable energy (Setagaya City). He sought to involve the public as much as possible, establishing a forum to discuss ideas for promoting the use

of ‘natural energy’ (*‘Setagaya-ku Shizen Energy Katsuyō Sokushin Chiiki Forum’*)<sup>492</sup> and holding several symposiums targeting the general public.<sup>493</sup>

Mayor Hosaka is, possibly more than any other local government leader, seeking to connect action at the local level with national policy. He believes that it is only from the regions that national policy will be changed. He is quoted as saying,

Other than by sending a message from the regions, Japan’s energy policy won’t change. Since the nuclear accident, voices from electricity consumers are getting louder. It is the duty of local governments to respond (Takahashi, M 2012, p. 146).

In this spirit, he met then Minister for Economy, Trade and Industry Yukio Edano on two occasions to lobby him for energy system reform, including requesting support for Setagaya City to pioneer electricity liberalisation,<sup>494</sup> in the belief that showing practical examples is an effective way to influence energy policy.<sup>495</sup>

When Mayor Hosaka met Edano he was representing the interests of many Setagaya residents, including, for example, the membership of a major consumers’ cooperative. The Seikyo Coop, which includes in its membership about half of Setagaya’s multiple-resident households, is actively cooperating with Setagaya City in its renewable energy program and is planning to engage in an electricity business.<sup>496</sup> Nevertheless, Hosaka’s leadership is central.

---

<sup>492</sup> Details of the forum’s fourth meeting held on 29 July 2013:

<http://www.city.setagaya.lg.jp/kurashi/107/157/695/696/d00127299.html>

<sup>493</sup> For example ‘Shizen energy ni yoru chiiki-dzukuri’ symposium’ (Local development through natural energy) held on 18 July 2013:

<http://www.city.setagaya.lg.jp/kurashi/102/126/829/d00127657.html>

<sup>494</sup> Message from Mayor Hosaka to residents of Setagaya Ward, 19 September 2012, ‘Edano Keizai Sangyō Daijin ni yōsei o okonaimashita’:

<http://www.city.setagaya.lg.jp/kurashi/107/157/695/696/d00121190.html>

<sup>495</sup> Interview with Setagaya Mayor Nobuto Hosaka, 27 February 2013

<sup>496</sup> *Ibid.*

Shota Furuya of the Institute for Sustainable Energy Policies (ISEP) acknowledges the importance of Hosaka's leadership, but has the following words of caution:

I am always thinking about knowledge production because renewable energy is very knowledge intensive or experience based. From that perspective, the advantage of local citizens' initiatives is that they maintain the practices in the long term—10 years or 20 years. So they can start one small project and from there step to bigger and bigger projects and they can accumulate experience and knowledge and tell stories to the people ... If the mayor, like Hosaka, takes the lead and people follow then sometimes the mayor will lose the election in 4 years. Then the practice will stop and the followers will be lost ... And if the city administration, or municipal officers take the lead, he or she can move in two or three years to another section, so that will not assure the knowledge accumulation process. Basically ISEP thinks citizens' initiatives are desirable because of the knowledge accumulation.<sup>497</sup>

If the Iida City case is an example of a citizens' initiative with knowledge accumulation,<sup>498</sup> Setagaya is an example of political leadership making the link between local initiatives and national policy.

#### *Interaction between local participation and national energy policy*

The first two of the above four examples are directly comparable because they both relate to the same stage in the policy-making cycle in the creation of a local energy plan. The latter two examples are somewhat different, but they each illustrate different ways in which the opportunity for citizens to have a voice in energy issues can be expanded by involvement at the local level. From these four examples, three potential public participation models at the local level can be identified: (1) contribution to the process of drafting local energy policies, (2) citizens' energy initiatives, and (3) advocacy for national policy measures. The second type of participation is far more demanding than the first, requiring citizens to develop high-level skills and knowledge, but in so doing it

---

<sup>497</sup> Interview in English with Shota Furuya, 13 March 2013

<sup>498</sup> This is not to imply that Iida City has not sought to make the link to national policy. For example, on 24 June 2011 Iida City approved submission of an opinion to the national government calling for a change in nuclear energy policy and promotion of 'natural energy' (Iida City 2012, pp. 37, 48). Also, as a practical working demonstration of distributed energy, it is exerting exemplary influence at a national level.

puts down deeper and more extensive roots into the community. The example given for the third model, Setagaya City, was driven by an activist mayor,<sup>499</sup> but it is conceivable that a citizen-led version of the Setagaya model could occur if NGOs with specialist expertise, citizens advocating reform of the system to enable them to develop energy projects, or mass movements took the initiative and enlisted the support of locally elected representatives and local officials to lobby the national government. An example of a citizens' movement combining the second and third types of participation is discussed in section 5.4.

Each of these three forms of local participation interacts in its own way with national policy. The first two forms support, in different ways, *implementation* of the national government's policy of promoting distributed energy (Ministry of Economy Trade and Industry 2014c, p. 44), while the third form attempts to influence the *formation* of national policy. The more the policy is implemented the more distributed the energy system will become and the closer the policy environment will approach to a state of subsidiarity (section 5.3.1), further enhancing the potential for local participation and consumers and prosumers to exert influence. However, if the national government tries to obstruct the realisation of this logical consequence of its own policy, then pressure can be applied at the policy-forming level. Support of local elected representatives and officials will amplify the voices of citizens, while support from citizens will strengthen the voices of elected representatives and officials. Where local and prefectural governments act in concert (such as through the Designated Cities Natural Energy Council, or the Natural Energy Council, or the Mayors for a Nuclear Power Free Japan), the potential for influence is increased. In regard to the need to overcome resistance to a

---

<sup>499</sup> Compare the example discussed in section 3.4.3 of the activist governor of Fukushima Prefecture Eisaku Sato cooperating with civil society-based nuclear critics and lobbying the central government on nuclear energy policy.

shift from a ‘centralized, large-scale power generation’ system to a distributed system,

DeWit (2014) says:

[M]ost local governments, innovative businesses, and the public appear to want paradigm change. The power of this pressure from below is crucial to bolstering Japan’s green growth potential and international competitiveness’ (p. 131).

Thus participation at a local level can, in principle, exert influence on national energy policy. However the amount of influence will depend on the amount of power that can be generated viz-à-viz the national government and the degree to which the national government is inherently sympathetic. The LDP-Komei government has shown that it is inclined to protect the interests of electric power companies, which are not favourable toward true consumer/prosumer choice via liberalisation and unbundling of generation, transmission and distribution (Appendix 14). Such reforms threaten their monopoly and the future of nuclear power. As Wakasugi<sup>500</sup> (2013) points out, electric power companies can be expected to fight to neutralise the impact of the reforms that are being rolled out. If they succeed, the potential for local energy initiatives will be constrained and the ability of citizens participating at a local level to exert influence on national policy and energy issues in general will be limited accordingly. The next section addresses the potential for citizens’ movements to act as a countervailing force against such moves.

## **5.4 The role of citizens’ movements**

In the situation where subversion of the political public sphere by power is in full swing, it is important for citizens to generate countervailing power. Section 5.3.2 discussed the potential for citizens’ voices to be amplified by support from local elected

---

<sup>500</sup> Wakasugi is the pen name of a bureaucrat-whistleblower who wrote a novel about the nuclear village.

representatives and officials, but it would be unwise to rely on the good will of these people. Pressure needs to be generated at a local level to encourage local politicians and officials to take action. This requires more than isolated individuals and groups; it requires citizens' movements. This section considers the potential for citizens' movements to promote forms of public participation that can resist the subversion of the public sphere by power.

#### ***5.4.1 Key citizens' movements***

If citizens' movements discussed in this thesis were to be identified, they might fall under the following three categories: the anti-nuclear energy movement (section 5.4.2), the energy transformation movement (section 5.4.3), and the public participation movement (section 5.4.4), although it is stretching the definition to call the last of these a citizens' movement.<sup>501</sup> The first two categories overlap to a significant extent, but they can be distinguished in that the focus of the first is on the problems with nuclear energy and the need to phase it out, whereas the focus of the second is on renewable energy, energy conservation/efficiency and the overall energy system. In fact, especially before the Fukushima Daiichi nuclear accident, many individuals and organisations in the latter movement deliberately shied away from raising the issue of nuclear energy, because they perceived that it would have a negative impact on their work.<sup>502</sup> A notable exception was Tetsunari Iida's Institute for Sustainable Energy Policies (ISEP).

The third category probably does not really count as a citizens' movement, but it is included because various forms of public participation are the focus of civil society campaigns. The campaigns mentioned in this thesis are referendum campaigns (sections 3.2.4 and 4.3.3) and the campaign to promote a public participation method called

---

<sup>501</sup> Refer comments about my use of the term 'citizens' movement' in section 1.3 footnote 18.

<sup>502</sup> Interviews with Hideyuki Ban, Co-Director of Citizens' Nuclear Information Center, 26 May 2011 and 21 March 2013



‘citizens discussions’ (section 2.3.3). These two campaigns are not directly linked to each other, so while they both fit under the broad theme of public participation, they cannot really be classified as a public participation movement. Nevertheless, for the sake of simplicity this thesis refers to them collectively as a movement. There is what might be called a movement for public participation within academia, which includes the scholars and schools mentioned in section 2.3, but there are only very loose links between the various groupings and participants are exclusively academics rather than ‘ordinary citizens’. In Japan there is nothing like the public participation movement that exists in western countries, which includes organisations such as the International Association for Public Participation (IAP2) and many other groups promoting public participation, either as a comprehensive idea, or as specific methods under the broad umbrella of public participation. As discussed later in this section, this deficiency has significant implications for the potential role of Japanese civil society in promoting public participation in energy issues.<sup>503</sup>

#### ***5.4.2 Anti-nuclear energy movement***

Section 4.3 related how the anti-nuclear energy movement, through lobbying and protests, took advantage of the national debate on energy and the environment to influence the contents of a major statement of policy direction, the DPJ government’s *Innovative Strategy for Energy and the Environment* (Energy and Environment Council 2012a), but that document was made null and void by the LDP-Komei government after the December 2012 election. What role can the anti-nuclear energy movement play under a pro-nuclear energy regime with which it has a hostile relationship? This section argues that the nature of the anti-nuclear movement makes it difficult for it to take the lead in initiating the type of broad national debate discussed in section 5.2.2. Nevertheless, its contribution enriches the debate within the public sphere by offering a

---

<sup>503</sup> The points in this paragraph were checked with Naoyuki Mikami, a public participation expert from Hokkaido University.

discourse that for all but a brief period after the Fukushima nuclear accident has been marginalised. The following analysis is based on interviews with people involved directly in the anti-nuclear movement and astute outside observers.

I interviewed Aileen Smith of the Kyoto-based group Green Action shortly after the change of government. At the time she saw the situation as follows:

Now with the LDP back in we are back into the necessity of doing some of the classic stuff. When they try to bulldoze through new safety regulations we have to hammer away at their illogicality. We have to really work to shut down the Ohi Nuclear Power Plant so they have to start from zero. It is a lot more of a classic stand off now with the LDP.<sup>504</sup>

The idea is to make it as difficult as possible for the government to restart nuclear power plants and implement its nuclear energy program: to delay and obstruct by finding technical faults with the plants themselves, the seismic safety, the approval process, and so on. One potentially powerful form of this approach is lawsuits ('standing' in Bishop and Davis' classification (section 1.2.2)). Although the record of success is not good (section 3.2.3), a success in the Fukui District Court gave the anti-nuclear movement some cheer.<sup>505</sup> ISEP's Shota Furuya refers to the anti-nuclear energy movement in this traditional role as a kind of '*tsukemono-ishi*' (a stone or weight placed on pickles to encourage the pickling process). Seen in this light, the role of the anti-nuclear energy movement is to keep the pressure on the government: to keep it in a pickle, as it were.<sup>506</sup>

This approach fits with the traditional culture of the anti-nuclear energy movement, which is oriented towards the technology. As Aileen Smith explains:

---

<sup>504</sup> Interview with Aileen Smith, 15 January 2013

<sup>505</sup> On 21 May 2014 the Fukui District Court handed down a verdict ordering Kansai Electric Power Company (KEPCO) not to restart Units 3 and 4 of its Ohi Nuclear Power Station, but from the past record KEPCO must consider that there is a good chance the verdict will be overturned by higher courts.

<sup>506</sup> Interview in English with Shota Furuya, 13 March 2013

We have a tradition of addressing physical safety. But we have to be aware that our movement is rooted in the physicists or the scientists who had hands on knowledge of these nuclear power plants and knew they were not safe. So the roots come from there, rather than say from religious communities saying it's unethical. The roots of the movement are not from an ethical movement, or from a hundred economists banding together and saying nuclear is bad for the economy. It came from technical people.<sup>507</sup>

This approach was understandable pre-Fukushima when the general public was not interested in nuclear issues and was content to leave it to the powers that be,<sup>508</sup> but it also had disadvantages, particularly that highly technical debates were a difficult medium through which to communicate with the general public.

Yasushi Kudo of NPO Genron<sup>509</sup> is an astute outside observer. He commented that the anti-nuclear movement never had the support of the public and that the anti-nuclear energy movement was not focused on the public.<sup>510</sup> I asked members of the anti-nuclear energy movement their opinions about this comment. Their reactions varied, but several agreed with the latter half of the statement in particular. To the extent that this was and remains true, it will be difficult for the anti-nuclear movement to play a leading role in initiating a broad-based national debate. Two post-Fukushima developments, the mass protests and the development of an alternative nuclear energy policy proposal, show signs that the anti-nuclear movement is more focused on the public than before, but neither gives reason to believe that the communication problem has been overcome.

Organisers of the weekly mass demonstrations outside the Prime Minister's residence succeeded in making them more accessible to the general public than had been the case in the past (section 4.3.2). However, as was inevitable, numbers have dwindled and

---

<sup>507</sup> Interview with Aileen Smith, 15 January 2013

<sup>508</sup> *Ibid.*

<sup>509</sup> 'NPO Genron is a private, not-for-profit, and independent think tank dedicated to creating a forum for serious debate on Japan's political, diplomatic, economic and social issues from the viewpoint of independent-minded citizens' (NPO Genron).

<sup>510</sup> Interview with Yasushi Kudo, 28 December 2012

reduced media attention has reduced the ability of the demonstrations to reach the masses. These demonstrations represented a new movement, which was not bound by the culture of the traditional anti-nuclear energy movement. Eiji Oguma of Keio University spoke optimistically of the anti-nuclear protests as having ‘changed society’ (Hagi 2013),<sup>511</sup> but even if in some ways they have a different culture from the traditional anti-nuclear energy movement, they share its oppositional focus. In order to communicate with the wider society they need to develop a positive agenda as well. As Japan Times reporter Kazuaki Nagata puts it,

[I]t is critical to take the antinuclear movement to the next level by drafting persuasive, concrete plans that can actually uproot the deeply ingrained nuclear industry (Nagata 2013).

Since 2013 the anti-nuclear energy movement has, for the first time, turned its hand to developing a comprehensive alternative nuclear energy policy proposal. This task was taken on by the Citizens’ Commission on Nuclear Energy (CCNE), a think tank established by the Takagi Fund for Citizen Science. It comprises 11 committee members, 18 advisory panel members, as well as members of teams working on CCNE’s four thematic areas: the Fukushima nuclear accident, nuclear waste, process for a nuclear energy phaseout, and nuclear regulation. I am a member of the advisory panel.

CCNE published a citizens' nuclear phaseout policy outline on 12 April 2014 (CCNE 2014). Of particular relevance to this thesis is the attention given to public participation (CCNE 2014, pp. 183-189, 211-223). It is fair to say that the public participation component of the proposal is the most detailed collective statement by the anti-nuclear energy movement on the subject so far. It draws on the DPJ government’s national

---

<sup>511</sup> Oguma (2013, p. 294) notes that the post-Fukushima movement sparked other protest movements. He identified this willingness of the public to raise their voices against injustice as a significant development.

debate as a reference (pp. 184-186) and emphasises the importance of enriching the public sphere (p. 219). Nevertheless, in the early stages of the drafting process public participation was treated as an afterthought, reflecting a movement culture which automatically oriented the project towards technical issues rather than process.

CCNE sought to transmit democratic values (section 1.2.1) by putting into practice its commitment to public participation. After publishing an interim report (CCNE 2013a; CCNE 2013b; CCNE 2013c) it held hearings in 16 locations throughout Japan. A deliberate decision was made at that stage to seek input from people who support CCNE's goal of phasing out nuclear energy, rather than invite comments from people who are ambivalent or support nuclear energy. The final policy proposal expressed a desire to engage in debate with people who support a continuation of nuclear power (CCNE 2014, p. 225), but, as discussed below, CCNE's stance limits its potential to engage pro-nuclear stakeholders.

A problem that I identified was that CCNE's proposed national debate took a nuclear phaseout as a given (CCNE 2014, pp. 183-189). It took as its starting point the results of the 2012 national debate. I pointed out that presupposing the outcome of a future national debate was disrespectful to the public and precluded the possibility of entering into dialogue with the current government, but the drafters did not take up my recommendations. It is understandable that CCNE does not want to retreat from the outcome of the 2012 national debate, but, if it is not open to the possibility that a follow-up national debate could have a different outcome, nuclear proponents will not bother to engage with it and only a narrow range of discourses will be represented. This will limit its ability to speak to the wider public or to take the lead in initiating the type of broad national debate discussed in section 5.2.2.

Nevertheless, CCNE's proposal is an important development for the anti-nuclear movement and a significant contribution to the debate within the public sphere. It takes the movement one step beyond simple opposition and offers a credible alternative for the public to consider. It also provides policy advice to decision-makers in the regions, where the national government's influence is not so absolute.

#### ***5.4.3 Energy transformation movement***

The 'proposal-style' activism of the 'energy transformation movement' contrasts with the traditionally oppositional style of the anti-nuclear movement. Like the proposal-style movements developed in Japan from the 1970s through the 1980s, it encourages 'citizens to channel their energies into the creation of self-sustaining alternatives working within the system' (Avenell 2011), although its mission also includes changing the system. Iida City's Ohisama Shimpo Energy (section 5.3.2) is an example of this type of activism. The comments below amplify the discussion of local participation in section 5.3.2 and introduce a specific initiative through which this movement hopes to connect energy prosumer citizens acting at the local level with national policy.

An organisation with a unique leadership role in this movement is the Institute for Sustainable Energy Policies (ISEP). ISEP is promoting a concept referred to as 'community power'. ISEP's Hironao Matsubara articulates the three guiding principles of community power as follows:

"Community Power" refers to an approach for promoting renewable energy through cooperation among a wide range of people, use of local resources, and working from the bottom up. The World Wind Energy Association (WWEA) advocates these three principles, emphasizing the need for a mechanism to return profits to local people (Matsubara 2013).<sup>512</sup>

---

<sup>512</sup> Refer also *Renewables Japan Status Report 2014* (ISEP 2014, p. 17)

Since the Fukushima Daiichi nuclear accident, ISEP has been hosting community power conferences and building a network of people and organisations to promote a shift from a large-scale centralised to a small-scale distributed energy system, including a phase out of nuclear energy.<sup>513</sup> As part of this process, from 31 January to 2 February 2014 an International Community Power Conference was held in Fukushima. Based on the conference's final declaration,<sup>514</sup> ISEP moved to establish a National Community Power Association (Zenkoku Gotōchi Energy Kyōkai). It referred to the new organisation as 'our side's Federation of Electric Power Companies' (*kochira-gawa no Denjiren*),<sup>515</sup> implying that the new association of locally-controlled renewable energy businesses intends to play a role analogous to the role played by the Federation of Electric Power Companies (FEPC)<sup>516</sup>. The association aims to be a forum for sharing information and addressing shared issues, such as finance, human resources and business models. If it plans to play a role analogous to FEPC, it must also take on an advocacy role. In this regard, the Fukushima International Community Power Conference Declaration explicitly states,

[I]t will be essential that communities that aim at becoming 100% renewable energy communities strengthen their political impact by cooperating closely and extending their networks.

The reason given for this is that 'the influence of nuclear and fossil fuel lobby groups on political decision makers is still very strong'. So one important role of the National

---

<sup>513</sup> For example a meeting in Yokohama on 9 March 2013 to launch a local energy initiative (Chiiki Energy Initiative): <http://www.isep.or.jp/news/4291>

<sup>514</sup> 'Fukushima Community Power Declaration' issued by the conference on 2 February 2014: English: <http://www.isep.or.jp/en/library/2930>

Japanese: <http://www.isep.or.jp/library/5954>

<sup>515</sup> 27 February 2014 and 26 May 2014 press releases announcing the establishment of the National Community Power Association:

<http://www.isep.or.jp/library/5994>

<http://www.isep.or.jp/library/6465>

<sup>516</sup> FEPC brings together the huge regional monopoly utilities that have dominated the post-war electric power system.

Community Power Association is to be a renewable energy lobby to counter the influence of FEPC and the monopoly electric power companies.

The national nature of the National Community Power Association will enable it to lobby on a national level, but its strength will lie in its connection to local projects and its focus on addressing real needs of citizens engaged in community power projects. Such people are in a better position than average citizens to understand the barriers and recognise the policy obstacles. ISEP's Shota Furuya explains as follows:

In my mind the policy is a kind of enabler for the local projects. In a substantial way the policy needs feedback from local practices ... These policies are so complex for ordinary citizens, so people can't understand these complex system and institutional things directly. But if they are involved in the local projects they can understand the process and the barriers. They can think about what is the block in the policy. Then they can start making pressure for change on the experts and politicians to change.<sup>517</sup>

The voices of citizens wishing to develop their own energy projects are a potential source of influence that so far has not been tapped to its full potential, but which can be expected to grow in significance as more people become involved in community power projects. Having said that, community power projects represent only a small proportion of the renewable energy that has been introduced so far. According to ISEP there are over 50 projects in progress or about to get started (ISEP 2014, p. 1), but given the small scale of the projects, that represents only a tiny fraction of the 30GW worth of renewable electricity generation capacity in Japan at the end of March 2014.<sup>518</sup> Big players such as Softbank Chairman Masayoshi Son can be expected to exert more influence. ISEP's Shota Furuya says of Son,

Mr Son is very clever at making big things happen. But sometimes we need to be careful about that. I sometimes saw Mr Son and was a founding member of

---

<sup>517</sup> Interview in English with Shota Furuya, 13 March 2013

<sup>518</sup> Agency for Natural Resources and Energy report, 17 June 2014 (Ministry of Economy Trade and Industry 2014b)



the Japan Renewable Energy Foundation<sup>519</sup> ... I saw he does not think about community-based renewable energy development. But he has a different role. He has to break the system barriers with the big scale initiatives: like unbundling or the grid connection issue. He can have a very big voice for change.

Perhaps Son should be seen as part of the energy transformation movement. Certainly he has connections with the movement and is promoting energy transformation. But focusing on the community level, if community power projects can win the support of the local community, because of their educative value and their potential to engage local stakeholders, politicians and officials, these projects could become nodes of communicative power (section 1.2.1, footnotes 7 & 8) enabling the movement to exert more influence than its scale and numbers might suggest. Furthermore, given that the projects are designed to return profits to the local community, they are likely to face less opposition than mega-projects sponsored by big business. They represent a form of local public participation that generates economic benefits, produces social capital in the form of knowledge and networks, and develops citizens with the understanding to make significant contributions to the national energy policy debate.

#### ***5.4.4 Public participation movement***

The above discussion suggests that the anti-nuclear energy movement and the energy transformation movement have important roles to play in the energy policy debate by presenting alternative discourses and making concrete proposals for reform, although under the current regime it is doubtful how much countervailing power they will be able to generate against the subversion of the political public sphere by the power of the nuclear complex.

What of the third citizens' movement, the public participation movement? There is a great need for a substantial contribution from such a movement. For example, a public-

---

<sup>519</sup> Masayoshi Son is founder and Chairperson of the Japan Renewable Energy Foundation: <http://jref.or.jp/en/index.php>

participation movement could provide the independent leadership to bring opposing sides to the table in a national debate of the type discussed in section 5.2.2 and to give such a debate legitimacy. But given that the disparate public participation-related campaigns do not really amount to a citizens' movement it is difficult to see them playing a major role. The remarks that follow should, therefore, be taken in the spirit of 'what if?'.

The post-Fukushima *referendum campaign* discussed in section 4.3.3 is ongoing. There is meaning in holding up the referendum idea as a continual challenge to the legitimacy of the government's energy policy, even if a referendum is not actually held. As mentioned in section 4.5.6, Tadashi Kobayashi of Osaka University's Center for the Study of Communication-Design suggested spending ten years discussing the issues and holding a referendum at the end of that period.<sup>520</sup> Whether a referendum on nuclear energy should be held ten years or three years or one year hence is debatable, but the concept of society as a whole making a collective decision by means of a national referendum after a sufficient period of thorough debate is quite persuasive. As discussed in section 3.2.4, there are differing views about the deliberative qualities of national referendums, but a referendum would be more representative than, for example, a deliberative poll. The question is, will the nuclear energy issue retain its salience and will it become such a millstone around the neck of politicians for them to consider taking the unprecedented step of supporting a plebiscite?

At the *national level*, the lack of a precedent and the constitutional implications (section 4.3.3) mean that for the foreseeable future it is unlikely that the referendum campaign will produce a concrete outcome. Whether the idea will gain traction some time in the future depends on factors that at the moment cannot be predicted. It is more conceivable

---

<sup>520</sup> Interview with Tadashi Kobayashi, 17 January 2013

that *local referendums* could be held, for example on questions such as whether or not to permit the restart of idled nuclear power plants, or to accept construction of new nuclear power plants, or to host a radioactive waste dump. These are issues on which local governments have an effective veto power and which are of great concern to local residents. The hurdle for initiating a local referendum on the broader question of nuclear power in general is greater. Reasons given for not holding referendums in Shizuoka and Niigata Prefectures and Tokyo and Osaka Cities after the Fukushima nuclear accident included the view that nuclear energy was a national responsibility which should not be decided at a local level (section 4.3.3). This argument is likely to carry more weight when the issue is outside the authority of the government staging the referendum.<sup>521</sup>

There is potential for referendums about issues over which the local government has decision-making power and which impact directly on local residents to be influential at a project level and also to be highly deliberative, as was the case in the Maki and Kariwa referendums. However, it is more doubtful whether they would exert influence on national policy. If the result opposes the proposed project, a pro-nuclear national government is likely to respond the same way as the government of the time responded to the pre-Fukushima referendums, by maintaining its basic policy stance. Referendums about issues over which the local government does not have authority (e.g. overall nuclear energy policy), and which are more abstract in their impacts on citizens, face even greater hurdles. They might carry symbolic power, but fail to exert influence at either a policy or a project level. That in itself would diminish their deliberative quality from a deliberative systems perspective (lack of decisiveness—Dryzek 2010, p. 12), but the quality of deliberation in public space also would be unlikely to reach the high

---

<sup>521</sup> The Shizuoka and Niigata Prefecture referendum proposals concerned operation of nuclear power plants in those prefectures, and were therefore related to issues within the authority of the prefectural government, but the Tokyo and Osaka City referendum proposals related to issues beyond the authority of the governments of those cities.

standards of the Maki and Kariwa referendums, due to the difficulty of generating a high level of public commitment to the process, especially if the population was large.

The other public participation campaign mentioned was the campaign to promote the *citizens' discussion* method (section 2.3.3). The citizens' discussion method could potentially be used to involve citizens in deliberation about local energy policy. Indeed, Sapporo City incorporated a truncated version of a citizens' discussion in the process of developing its energy vision (section 5.3.2). When I spoke to members of the Citizens' Discussion Promotion Network in March 2013, they had given no consideration to running citizens' discussions on local energy policy, although a citizens' discussion related to the rebuilding of Fukushima is planned for November 2014.<sup>522</sup> The citizens' discussion method has rarely been used for highly conflicted issues (section 2.3.3), so they might be loath to touch anything related to nuclear energy. But there is no reason why local energy plans should be regarded as controversial. This is not a matter of deciding national policy. Rather, it would be a contribution to implementing national energy policy by promoting distributed energy systems (section 5.3.2).

In regard to *national policy*, section 5.2.2 argued that the 2012 national debate should be seen as the beginning rather than the end of public engagement in the post-Fukushima energy policy-forming process and that the debate should be deepened and extended geographically and in time. In theory, as a means of extending the debate geographically, micro-deliberative forums could be organised in municipalities throughout Japan, and the results brought together to inform national policy. But that will not happen without people promoting such a process. The anti-nuclear energy movement would like a national debate to take place, but is not in a position to sponsor such a debate, partly because it lacks the resources, but equally importantly because it

---

<sup>522</sup> Email correspondence from Kenichi Kobari of the Citizens' Discussion Promotion Network.

would not be perceived as impartial. One organisation which was committed to involving the public in dialogue and deliberation transcending the division between nuclear proponents and opponents was Minna-no Energy and Environment Conference (MEEC) (sections 4.5.4 and 5.2.2), but it has not been active since 2012. In the absence of a true public participation movement in Japan, it is difficult to see where civil society leadership will come from on this issue.

Some of the academics involved in the 2012 national debate expressed a strong sense of responsibility to promote an ongoing debate about energy policy.<sup>523</sup> When I interviewed Sophia University's Masaharu Yagishita he said,

Please recall what we did in Kawasaki.<sup>524</sup> A national debate is not something you do because the government is doing it. True democracy is about citizens deciding that something is important, debating it among themselves, and proposing those ideas; not as idle gossip (*'ido bata kaigi'*), but explaining the outcome of a proper debate based on a scientific method following certain rules. It would then be impossible to ignore. This is important. That's why what we did in Kawasaki was big. So you shouldn't be too focused on whether or not the LDP will do it. Such a passive attitude is no good.<sup>525</sup>

He felt that it would be tough for academics to sponsor such a debate by themselves. As an example, he suggested that a media outlet like NHK could be a possible sponsor, but any people with the necessary ability, social trust and commitment could seek to raise the funds and organise such an exercise. The role of academics would be to provide expertise. However, so far there are no signs of such an initiative.

If civil society is unwilling or unable to initiate a national debate on nuclear energy or energy policy, the only alternative is to hope that a process will be initiated at an official level, but there is little prospect of the LDP-Komei government taking the lead. One

---

<sup>523</sup> Interviews with Naoyuki Mikami (18 December 2012) and Masaharu Yagishita (8 January 2013).

<sup>524</sup> This refers to the independent deliberative poll-like event which Yagishita organised with residents of Kawasaki City on 12 August 2012 (refer section 4.2.4).

<sup>525</sup> Interview with Masaharu Yagishita on 8 January 2013

possible candidate could be the local energy councils proposed in the 2014 Basic Energy Plan. If they eventuate, these councils could become an important focus for public participation, but that will depend on their role, makeup and mode of operation. If they are able to assert their independence from the national government and the electric power companies, they could provide an important forum for public engagement.

Given the track record of the current and past LDP-dominated governments, it is difficult to be sanguine about the chances of the establishment of local energy councils that are truly independent of both the national government and the electric power companies, but that is an area where citizens movements could potentially exert some influence. The Japanese anti-nuclear energy movement's predilection for focusing on the technology suggests that it is unlikely to make local energy councils a campaign focus, but the energy transformation movement might recognise them as a priority.<sup>526</sup> A campaign to promote a more distributed style of policy-making through independent local energy councils could be used to stimulate meta-deliberation about the policy-making process as a whole and the role of citizens therein.

#### ***5.4.5 Concluding remarks***

Despite the need for an ongoing national debate on nuclear energy policy, in the absence of another crisis, it is difficult to imagine the LDP-Komei government initiating in good faith an official public participation process. By establishing the Citizens' Commission on Nuclear Energy (CCNE) the anti-nuclear energy movement initiated its own parallel process, including public hearings. Its alternative nuclear energy policy

---

<sup>526</sup> Hiroko Uehara, Secretary General of Mayors for a Nuclear Power Free Japan, made the following comment:

By arranging for representatives of citizens' movements to become members of local energy councils, local governments calling for an energy policy shift would improve the chances that they, in partnership with citizens, could bring about a policy shift towards a nuclear phase out. (Email correspondence, 9 July 2014.)

proposal makes an important contribution to opinion formation within the public sphere, but effective mechanisms for bringing its process into dialogue with the official decision-making process are lacking.<sup>527</sup> Ideally a deliberative process would be conducted in which CCNE's proposal is presented as one among multiple points of view and ordinary citizens are given an opportunity to form opinions and communicate their judgments to decision makers. Such a process would require a sponsor and independent management, but so far there is no sign of these emerging. That leaves the anti-nuclear energy movement with little choice but to continue its traditional approach of challenging government policy on logical and technical grounds in the courts, on the streets, in the media and in all sorts of other forums.

There is more potential for the energy transformation movement to gain traction, especially at a local level. In addition to developing practical alternative energy projects that return economic benefits to local communities, by networking nationally and cultivating allies within local government and community it has the potential to influence local energy plans and also national energy policy. In terms of Dryzek's deliberative systems scheme (Dryzek 2010, pp. 11-12) (section 1.2.2), these approaches represent alternative avenues for transmission from public space to empowered space.

If they eventuate, the proposed local energy councils could also open up new avenues, so it is desirable that civil society promote meta-deliberation about the role of these councils and attempt to influence their form and terms of reference.

---

<sup>527</sup> CCNE itself is pessimistic about its influence in the current political circumstances. In its interim report it says:

In Japan the key political conditions for achieving nuclear phaseout are: 1) the formation of a political regime determined to seek a nuclear-free future, 2) the formation by that regime of a majority in both houses of the Diet, 3) the holding of power for consecutive terms and 4) tenacious adherence to nuclear phaseout oriented policies (CCNE 2013c, p. 14; CCNE 2014, p. 214).

## **5.5 Local versus national: a citizen-centered perspective**

The previous sections of this chapter brought into relief the relationship between participation at the local level and participation at the national level in the field of nuclear energy and energy policy. Under the current government, opportunities for public participation at the national level are limited and ineffectual. By contrast, liberalisation and the shift towards a more distributed energy system are opening up opportunities for public participation at the local level. Also, citizens are expected to have greater power as choice-making energy consumers and prosumers. However, the question arises, is participation at this level like ‘people being empowered to make decisions about the colour of their wallpaper, but not about the style of the house, let alone the broader issues of housing development’ (Parkinson 2007, p. 27) (section 2.2.1)?

The first point to make in response to this question is that the type of participation envisaged in this chapter is not necessarily the micro-deliberative type, which is the focus of Parkinson’s critique. Bottom-up community power projects such as those discussed in sections 5.3.2 and 5.4.3 are built around citizens coming together to bring concrete projects to fruition. They are by no means trivial. In addition to their economic and environmental benefits, they have intrinsic value, because they generate social capital in the form of knowledge accumulation (refer Shoto Furuya quote in section 5.3.2) and social networks. Top-down local energy planning processes would not normally be expected to generate as much social capital in the planning stage, although they might generate considerable social capital and economic and environmental benefits in the implementation stage.

But beyond the direct benefits of local energy-related participatory processes, their wider significance lies in their potential to generate political pressure for system change.



To maximise their impact, local participatory initiatives need to “‘spill over’ into the public sphere and ultimately affect broader political debates” (Ercan & Hendriks 2013, p. 432). Citizens’ movements have an important role in facilitating this ‘spill over’ effect. Ercan and Hendriks state:

Particular consideration needs to be given to how democratic sites aimed at advocacy and activism connect with those aimed at citizen deliberation and more broadly political decision-making (Ercan & Hendriks 2013, p. 433).

The role of the energy transformation movement, particularly the community power movement, in accumulating knowledge, stimulating debate, building relationships with and educating the community and decision makers, and linking initiatives across local boundaries is vital in ensuring that local energy-related participation processes do not end up being trivial, but have national significance. Even where participatory processes are initiated in a top-down fashion, they should be open to and encourage these bottom-up movements.

Another aspect of the local-national division is advantages and disadvantages of scale. While energy system issues can only be resolved at a national level, participation at the local level can avoid some of the problems faced at the national level. By scaling down and scaling in (refer Hartz-Karp 2012, 'scaling up and scaling out') local participation is more able to avoid the obstacles posed by the highly partisan high politics world of national politics (section 2.2.1). For example, Sapporo’s energy planning process appears to have avoided major controversy. Notwithstanding the above comments about the risk of triviality, the accumulated effect of municipalities developing energy plans and citizens choosing renewable energy could generate momentum for change at the national level. The ‘think globally act locally’ approach of the energy transformation movement could open cracks in the edifice of national policy in spite of the national government’s best efforts to maintain control.

The above discussion suggests that participation at the local level may be able to fill some of the void resulting from the lack of official support at the national level. It does not imply that local participation can substitute entirely for participation at the national level, but it points to alternative avenues for the transmission of the results of deliberation in public space to empowered space when the direct route is shut down (Dryzek 2010, pp. 11-12). In order to understand how citizens respond to such roadblocks it is important to take a broad view of public participation. Public participation is not just about top-down official processes. It also includes citizen-initiated parallel processes (for example CCNE—section 5.4.2), protest, and citizens actively seeking to understand and influence energy policy as prosumers and as choice-making consumers (section 5.4.3). From the perspective of concerned citizens, their desire is to have a voice in the policy-forming process. When one avenue is shut down they will seek out other avenues.

This chapter showed that alternative avenues for public participation exist and that it is not unreasonable to believe in the potential for participation at the local level to exert influence at the national level. The extent to which it will exert influence in fact depends on many factors, including the extent to which local initiatives ‘spill over’ into the public sphere and the depth of the connections within and between citizens’ networks and local government networks.

## Chapter 6 : Conclusion

This thesis has traced the history of public participation in Japan's nuclear energy policy-forming process, comparing the pre- and post-Fukushima situations. Assessments in terms of various sets of evaluation criteria (Frewer and Rowe, IAP2, Moro, Dryzek—section 1.2.3) shed light on some key differences between pre- and post-Fukushima processes. Although the criteria were applied loosely, they proved useful in identifying strengths and weaknesses of the processes. Significant improvements were identified in the post-Fukushima process under the Democratic Party of Japan (DPJ) government, including a marked increase in good faith in the official process, reflecting the DPJ's greater ideological commitment to public participation, but these improvements did not survive the December 2012 change of government (sections 4.5.2, 4.5.3 and 4.5.5).

The nuclear energy administration has shown an interest in public participation techniques, but it has not conducted an open evaluation of its public participation exercises in terms of criteria like those used in this thesis. The legitimacy of decision-making would be enhanced if public participation processes were planned and evaluated in these terms, but that has not happened. Pre-Fukushima this appears to have been at least partly due to the government's reluctance to share power with the public. Post-Fukushima the DPJ government was more committed to public participation, but the rushed nature of the 2012 national debate reflected an ad hoc approach which compromised the process to some extent.

The LDP-Komei government appears to be unenthusiastic about public participation. If it is unwilling to apply criteria like those used in this thesis, they could be used as a basis for critique. Subjecting public participation exercises to intuitively reasonable criteria such as these could be an effective way of drawing attention to the illegitimacy

of decision-making processes. In this regard, this thesis demonstrates how evaluation criteria can be applied to public participation in Japan's nuclear energy and energy policy-forming processes.

However this thesis does not restrict itself to evaluating official public participation processes. Such processes are just part of deliberation in the wider public sphere and any legitimacy they afford must be viewed through this wider lens. Approaching the problem from a citizens' perspective, the thesis defines public participation broadly to include both official and unofficial citizen-initiated processes. From a citizens' perspective it does not matter whether their input is through official or unofficial channels, as long as it is influential.

The thesis considered unofficial public participation by examining the role of citizens' movements. In particular, it showed how after the Fukushima nuclear accident a major protest movement that emerged at the same time as an official participation process was being conducted was able to reinforce the outcome of the official process and thus influence the policy direction (sections 4.3 and 4.4). This was an example of a citizens' movement creating synergies between unofficial and official processes and exerting influence by channelling its message through the bureaucratic logic of an official process. Such synergies may not always be possible, and piggy-backing on official processes may not always be the best strategy for citizens' movements, but by identifying the mechanisms through which synergies emerged in this case, this thesis contributes to the understanding of how the 2012 national debate influenced the DPJ government's decision to aim for a nuclear phaseout.

In the case of the post-Fukushima energy policy review, the influence of public participation turned out to be fleeting. The LDP-Komei victory in the December 2012

election and the subsequent reversal of the DPJ government's policy direction was a stark reminder of the primacy of representative democracy over public participation. Where bi-partisan support is lacking, policy decisions will be vulnerable. This vulnerability can be exploited by powerful stakeholders. In the case of the 2012 national debate on energy and environment policy, nuclear proponents who opposed what was a fairly clear outcome were able to claim that defects in the process made it illegitimate and have it eliminated it from further consideration. They were thus able to subvert the results of deliberation in the political public sphere (section 4.4.2).

This brings us back to the central question of this thesis: 'To what extent and in what ways has public participation prevented and could public participation prevent in future the subversion of the political public sphere by power?' After commenting on the use of deliberative systems theory to answer this question, I will briefly address the first half of the question (about the past), then conclude with some observations in response to the second half (about the future).

Framed as it is in terms of the public sphere, the question is focused on the macro-deliberative level. It is therefore useful to address it in terms of deliberative systems theory. This thesis has shown how Dryzek's (2010, pp. 11-12) deliberative systems scheme<sup>528</sup> (section 1.2.2) can be used as a tool for incorporating both official and unofficial processes, as well as deliberation in the wider public sphere, into the analysis of the quality of pre- and post-Fukushima public participation processes (sections 3.5.2 and 4.5.4). The scheme was also used to make sense of the role of citizens' movements within the deliberative system, even when they were not strictly representative and their mode of action did not always meet standard norms of deliberation (section 1.2.2). I will now use it to shed light on where the system broke down in the past (section 4.5.4)

---

<sup>528</sup> The elements are: 'public space', 'empowered space', 'transmission', 'accountability', 'metadeliberation', and 'decisiveness'.

and on the prospects for the future (sections 5.4.5, 5.5). As an idealisation the scheme serves as a useful benchmark, because when functioning properly such a deliberative system would not be subject to subversion by power.

In regard to the past, this thesis has shown that in the post-Fukushima era a combination of official and unofficial public participation was partially successful in preventing the subversion of the political public sphere by power (section 4.4), although that success was only temporary (sections 4.4.2 and 4.5.1), but that in the pre-Fukushima era the only success came through unofficial processes at the local level (sections 3.2.3, 3.2.4 and 3.5.3). In terms of Dryzek's deliberative systems scheme, the DPJ government's post-Fukushima official policy-making process fulfilled more elements than the pre-Fukushima processes, but it lacked an effective *empowered space* and consequently lacked *decisiveness* (section 4.5.4), so the influence from *public space* was not sustainable. Interestingly, pre-Fukushima local referendums (a hybrid of official and unofficial processes) fulfilled deliberative systems criteria far better than either pre- or post-Fukushima national processes (section 3.2.4). The responsiveness of empowered space to opinions formed in public space, both in deciding to hold a referendum in the first place and in respecting the results, was an important aspect of that.

Turning to the future, since the change of government the decision-making system has become problematic from the point of view of *transmission*, *accountability* and *meta-deliberation*: that is, public space is no longer able to influence empowered space at the national level, the government makes no serious attempt to answer to public space, and it is not open to deliberation about how the deliberative system should be organised. On the other hand, public space remains relatively strong, certainly much stronger than before the Fukushima nuclear accident. Furthermore, empowered space is much stronger than it was under the DPJ government, even though it operates in a decidedly

undeliberative way and works to exclude rather than include influence from public space.

What are the implications of this for the future of public participation and deliberative democracy in the field of nuclear energy and energy policy? In terms of Dryzek's scheme, the absence of a strong electoral alternative to the LDP suggests that the prospects for strengthening *accountability* are probably poor in the short term, but as long as there is a vibrant *public space* (public sphere) there is potential to strengthen *transmission* and *meta-deliberation*. Sections 5.3, 5.4 and 5.5 showed that even where direct channels are blocked at the national level, alternative channels for transmission from public space to empowered space exist through participation at the local level. The discussion in those sections also suggested that the influence of participation at the local level could be enhanced by meta-deliberation promoting a more distributed decision-making process to match a more distributed energy system. So in answer to the original question, although this analysis does not reveal the *extent* to which subversion of the political public sphere by power might be prevented, it is useful in identifying promising *ways* of approaching the problem, highlighting in particular the possibility of using local channels to enhance transmission from public space to empowered space.

In regard to the *extent* to which public participation might prevent the subversion of the political public sphere by power, the presence of a government that is not open to sharing power with the governed is a major limiting factor on the capacity for communicative power generated by public participation to act as a countervailing force. It is impossible to predict to what extent the alternative channels referred to in the previous paragraph might compensate for this limitation. However the account of the Maki referendum and lawsuit (section 3.2.4) provides a hint as to how communicative power (section 1.2.1, footnotes 7 & 8) generated by citizens' movements could

potentially resist the power of the nuclear complex. The Maki case showed that communicative power generated by citizens' movements is influential when it is converted into more concrete forms of power. The communicative power generated by the referendum movement was able to resist the power of the nuclear complex because it was first converted into political representation (through the election of supportive local councillors and mayor) and then into legal rights (in the form of property rights). It could be said that the transformation of communicative power into these more concrete forms of power created the conditions for transmission of influence from public space to empowered space to occur in a sustainable way. Applying this to the post-Fukushima situation, citizens' movements have been singularly unsuccessful in winning political representation at the national level (Appendix 13). They have had some success in the courts, though that is subject to appeals.<sup>529</sup> Possibly the most promising avenue is for communicative power to be converted into consumer power, particularly in the form of prosumer citizens, including individuals and households acting independently, as well as people participating collectively in community power projects. Ultimately, the cumulative impact of politically-motivated market choices could, as Naoto Kan implies (refer quotes in section 5.1), profoundly influence the make-up of Japan's energy system. While determined resistance from electric power companies can severely curtail the extent of this influence, the potential economic benefits of renewable energy projects to local communities can also open up channels for transmission between public space and empowered space at the local level.

This thesis has shown that deliberative systems theory can usefully be applied to the analysis of public participation in Japan's nuclear energy and energy policy-forming processes and that Dryzek's deliberative systems scheme is a useful analytical tool for this purpose. The principal value of the thesis is as a case study of the application of

---

<sup>529</sup> On 21 May 2014 the Fukui District Court handed down a verdict ordering Kansai Electric Power Company (KEPCO) not to restart Units 3 and 4 of its Ohi Nuclear Power Station.



theory rather than as a contribution to theory per se, but it has contributed one potentially significant theoretical insight. It extended Mansbridge's notion of a 'full deliberative system', which includes 'everyday talk' (Mansbridge 1999), to include 'everyday action' by 'consumer and prosumer citizens'. The deliberative system and the market system are generally thought of as different systems, but they may overlap when consumer and prosumer citizens make politically-motivated market choices. The decision to consume renewable energy instead of nuclear energy communicates a political message via the market. In addition, activities and deliberation associated with the establishment of the necessary energy system and renewable energy businesses, including community power projects, influence opinion-formation within the public sphere (section 5.1). In such circumstances, consumer/prosumer choice contributes to deliberation in public space and the consumer/prosumer power that is generated facilitates transmission from public space to empowered space. Thus the line between the deliberative system and the market system is blurred.

In terms of democratic theory in general, if the energy transformation movement's bottom-up approach is successful it will lead to a transformation of power relations such that power will be shared more equally between the governed, the government, and industry. The declaration issued by the International Community Power Conference 2014 in Fukushima shows that they see their movement as a movement for a more participatory democracy:

Renewable energies strengthens [*sic*] essentially self-governance, local autonomy, and democratic structures.<sup>530</sup>

---

<sup>530</sup> Fukushima Community Power Declaration, 4 February 2014:  
<http://www.isep.or.jp/en/library/2930>

Thus, the energy transformation movement is actively transmitting democratic values (section 1.2.1) by promoting a fundamentally more participatory governance system and energy market.

My intention is not to romanticise the energy transformation movement or to exaggerate its potential influence. The vision of a more democratic and participatory society based on a liberalised and distributed energy system is not shared universally. How much countervailing power the energy transformation movement along with consumer and prosumer citizens will be able to generate and how effectively they will be able to apply it will depend on the nature of the reforms to the electric power system and the degree to which real choice becomes available. It can be expected that the electric power companies will lobby hard to minimise competition in a field where they have traditionally been monopoly suppliers (Wakasugi 2013). Nevertheless, this movement is worthy of special attention. That is partly because it has some advantages over the other two movements discussed in section 5.4 when the government is pro-nuclear and unsupportive of public participation; but it is also because its agenda has profound implications for the way participatory democracy is viewed. The energy transformation movement is promoting not only greater participation in decision-making about individual policies, but also greater participation at an economic level, as well as a system of governance that is structurally more participatory, in preference to one dominated by the nuclear complex.

By drawing attention to the deliberative role of the energy transformation movement in general and the community power movement in particular, this thesis points to a potentially fruitful avenue of research into the connections between deliberative systems and economic and administrative structures. It would be useful to conduct a comparative study aimed at identifying variations in the level of participation and the

quality of deliberation in energy policy-forming between countries with different degrees of decentralisation and different degrees of liberalisation in their energy systems. Ideally such a study would consider both the local and national levels and assess the extent to which real power was devolved to lower tiers of government and shared between the governed and the government. In as much as this study of the Japan case lays some of the groundwork for such a study, it is a useful contribution to the field.

## Appendix 1 : Chronology

1945 (August 6 and 9)	Atomic bombs dropped on Hiroshima and Nagasaki
1954 (March 1)	Bikini Atoll hydrogen bomb test
1954 (March 4)	Japan's first nuclear energy budget passed
1956 (January 1)	Japan Atomic Energy Commission (JAEC) established
1956 (September 6)	First <i>Long-Term Program for Research, Development and Utilization of Nuclear Energy</i> published
1966 (July 25)	Japan's first nuclear power plant (Tokai 1) goes online
1974 (September 1)	Radiation leak in <i>Mutsu</i> nuclear ship
1978 (October)	JAEC split into the Atomic Energy Commission and the Nuclear Safety Commission
1979 (March 28)	Three Mile Island nuclear accident (USA)
1986 (April 26)	Chernobyl nuclear accident (Ukraine)
1993 (September 25)	Symposium entitled 'Why Plutonium Now?', jointly hosted by Citizens' Nuclear Information Center and Japan Atomic Industrial Forum, held in Osaka
1994 (March 4–5)	Japan's first official public participation exercise ( <i>Goiken o Kiku Kai</i> )
1994 (June 24)	Eighth <i>Long-Term Program for Research, Development and Utilization of Nuclear Energy</i> published
1995 (August 30)	First power generated by <i>Monju</i> Prototype Fast Breeder Reactor
1995 (December 8)	Sodium accident at <i>Monju</i> Prototype Fast Breeder Reactor
1996 (April 25 – September 18)	First series of the Round Table Conference
1996 (May 8)	Committee into the Disposal of High-Level Radioactive Waste ( <i>HLW Kondankai</i> ) commences
1996 (August 4)	Maki Town local referendum on proposed nuclear power plant
1997 (February 21 – December 1)	Committee into Fast Breeder Reactor ( <i>FBR Kondankai</i> )
1998 (September 9) – 1999 (January 21)	Second series of the Round Table Conference
1999 (June 15) – 2000 (February 7)	Third series of the Round Table Conference
1999 (September 30)	JCO criticality accident
2000 (November)	Ninth <i>Long-Term Program for Research, Development and Utilization of Nuclear Energy</i> published
2001 (January 6)	Reorganisation of Central Government Ministries
2001 (September 20)	Conference for Public Participation established
2002 (June 14)	Basic Act on Energy Policy established
2002 (August 29)	TEPCO data falsification scandal begins
2003 (April 15 – May 7)	All TEPCO's nuclear power plants shut down
2003 (October)	First Basic Energy Plan published
2003 (October 11)	Symposium entitled 'Open Debate: Rethinking Reprocessing and the Nuclear Fuel Cycle', jointly

	sponsored by Citizens' Nuclear Information Center, Japan Congress Against A- and H-Bombs (Gensuikin), and Japan Atomic Energy Commission, held in Aomori City.
2004 (June 21)	Commenced review of <i>Long-Term Program for Research, Development and Utilization of Nuclear Energy</i>
2004 (August 9)	Pipe rupture in the secondary coolant system of the Mihama-3 nuclear power plant
2004 (November 12)	Interim report on nuclear fuel cycle policy published
2004 (December 21)	Uranium tests commence at Rokkasho Reprocessing Plant
2005 (October 11)	<i>Framework for Nuclear Energy Policy</i> published
2006 (March 31)	Active tests commence at Rokkasho Reprocessing Plant
2007 (July 16)	Chuetsu-oki Earthquake hits Kashiwazaki-Kariwa Nuclear Power Plant
2009 (June 9)	Conference for Public Participation disbanded
2009 (August 30)	Democratic Party of Japan wins election
2009 (November 5)	Kyushu Electric Power Company's Genkai-3 reactor becomes the first in Japan to introduce pluthermal
2010 (June 18)	Third Basic Energy Plan published
2011 (March 11)	Fukushima nuclear accident
2011 (June 22)	Review of Basic Energy Plan commences (first meeting of the Energy and Environment Council)
2012 (July–August)	National Debate on Energy and the Environment
2012 (September 14)	<i>Innovative Strategy for Energy and the Environment</i> published
2012 (December 16)	Liberal Democratic Party – Komei Party coalition win election.
2013 (March 15)	New review of Basic Energy Plan commences
2014 (April 11)	Fourth Basic Energy Plan published

## **Appendix 2 : Historical Perspective**

This Appendix provides a brief overview of the history of Japan's nuclear energy program up to, but not including, the Fukushima nuclear accident. Its purpose is to provide background information on some of the events and organisations referred to but not elaborated on in the main part of the thesis.

### **1. Early days**

Japan's first budget for nuclear energy was allocated on 4 March 1954, three days after the Bikini Atoll hydrogen bomb test.<sup>531</sup> The initiative to establish a nuclear energy program followed United States President Dwight Eisenhower's 8 December 1953 'Atoms for Peace' speech to the United Nations General Assembly, in which he outlined his vision of reducing nuclear weapon stockpiles while making fissionable material available to other countries for the production of electricity and other 'peaceful' purposes. He stated, 'It is not enough to take this weapon out of the hands of the soldiers. It must be put into the hands of those who will know how to strip its military casing and adapt it to the arts of peace.' (Eisenhower 1953)

Nuclear energy was a hard sell a decade after the atomic bombing of Hiroshima and Nagasaki, and at a time when the Japanese public was in shock over the 1954 Bikini Atoll hydrogen bomb test, which exposed the crew of the Japanese fishing boat The Fifth Lucky Dragon to radiation. However, a high profile public relations campaign, sponsored by the United States government and driven by Matsutaro Shoriki, owner of major Japanese newspaper The Yomiuri Shimbun, and Yasuhiro Nakasone, who later

---

<sup>531</sup> Of the 260 million yen initial budget, '235 million yen was for the construction of a nuclear reactor, 15 million was for exploring uranium resources and 10 million yen was for the acquisition of research materials in the nuclear science and technology field (Yoshioka 2005b, p. 109). The 235 million figure was deliberately chosen to match the mass number of uranium-235 (Japan Press Weekly 2011)

became prime minister, convinced the public at large that the same nuclear energy that destroyed Hiroshima and Nagasaki could be a saviour when used to produce electricity (Kuznick 2011; Tanaka & Kuznick 2011). The background to the involvement of the United States in the campaign to convince the Japanese public of the merits of nuclear energy is described in the following extract from the unpublished memoirs of Abol Fazl Fotouhi, former president of the American Cultural Center in Hiroshima.

When I was in Washington in December, 1954, the United States Information Agency was considering the possibility of sending to Japan a mammoth exhibition depicting the peaceful uses of atomic energy.

Consideration had been given to the possibility of inaugurating the exhibition in Hiroshima and to time it so that it would coincide with the Tenth Anniversary of the Bombing. There were, however, compelling reasons against both showing it in 1955 and its inauguration in Hiroshima ...

The decision was made, therefore, to begin the showing in Tokyo, the capital of Japan, as it was done in other countries. The exhibition would then move to Nagoya, Osaka and down to Hiroshima and other cities ...

I was in Tokyo when hell broke loose in Hiroshima. Mr. Nagatani telephoned to say, that the newspaper reports about the showing of the Exhibition in the Museum had met with strong opposition from the Anti-A-and-H group and a number of other organizations (Fotouhi).<sup>532</sup>

Despite concerns in some quarters, the exhibition was a resounding success. 'In all, 917,000 people visited the exhibition, and the pavilion of the Peaceful Use of Nuclear Energy was the second most popular after that of Space Exploration' (Tanaka & Kuznick 2011).

In 1955, the Diet enacted the Atomic Energy Basic Act and the Act for Establishment of the Japan Atomic Energy Commission. The Japan Atomic Energy Commission (JAEC) was formally established on New Years Day 1956, with Matsutaro Shoriki as chairman. It was answerable to the Prime Minister and, initially, to the Atomic Energy Bureau within the Prime Minister's Office, but a few months later the Science and Technology

---

<sup>532</sup> Reproduced with permission of Abol Fazl Fatouhi's daughter, Farida Fotouhi.

Agency (STA) was established, also within the Prime Minister's Office, to succeed the Atomic Energy Bureau (Yoshioka 2005a, p. 83).

The objective of the Atomic Energy Basic Act was to 'to secure energy resources in the future, achieve scientific and technological progress, and promote industry by encouraging the research, development and utilization of nuclear energy, thereby contributing to the improvement of the welfare of human society and of the national living standard' (Article 1). The Act stipulated, 'The research, development and utilization of nuclear energy shall be limited to peaceful purposes, and shall be performed independently under democratic administration, and the results obtained shall be made public so as to actively contribute to international cooperation' (Article 2).

Since its establishment, JAEC has promulgated nuclear energy plans at approximately five-yearly intervals. Up until 2000 these plans were referred to as *Long-Term Program for Research, Development and Utilization of Nuclear Energy*. In the last plan (promulgated in 2005) the title was changed to *Framework for Nuclear Energy Policy*, but the basic thrust of the policy has remained the same since the first policy was published in 1956.

## **2. Institution building**

In the 1950s and 1960s the focus was on developing a cadre of nuclear specialists capable of carrying Japan's nuclear energy program forward and securing the necessary nuclear fuel. To this end, the Japan Atomic Energy Research Institute (JAERI)<sup>533</sup> and the Atomic Fuel Corporation (AFC) were established in 1956 and nuclear engineering

---

<sup>533</sup> JAERI was initially created 'as a foundation to facilitate the importation of enriched uranium from the US' on 30 November 1955, two weeks after the bilateral nuclear agreement between Japan and the United States was finally signed. Its 'legal status was changed to a special publicly-owned corporation under the supervision of the STA' on 15 June 1956 (Yoshioka 2005a, p. 81).



departments were 'established in eight major national universities and a few private universities' (Ishino 1999, p. 163). Several experimental reactors were brought on line during this period, starting with JRR-1, located in Tokai Village, which was imported from the United States and reached first criticality in August 1957. In 1967 the Power Reactor and Nuclear Fuel Development Corporation (PNC) was established to replace AFC and develop Japan's nuclear fuel cycle, including uranium enrichment, spent fuel reprocessing, plutonium fuel fabrication and plutonium-fueled reactors.

From the time the first nuclear budget was approved, there was the question of which government agency should play the lead role. The first budget was allocated to the Ministry of International Trade and Industry's (MITI) Agency of Industrial Science and Technology (Yoshioka 2005a, p. 81), but leadership was shifted to STA after its establishment in 1956. The rivalry between these two bureaucracies came to be very important in the development of Japan's nuclear program. Tabusa (1992) describes the beginnings of their rivalry as follows:

It was Nakasone again who had introduced a bill to create the STA; he had feared that his leadership in nuclear energy program might be weakened if MITI was given authority. The STA was a tool for Nakasone and the industrial leaders who shared his nuclear enthusiasm to fend off MITI intervention. The office of JAEC was located within the STA whose director served as JAEC chairman (Tabusa 1992, p. 95).

As time went by, however, the balance of power shifted in favour of MITI, particularly after commercial nuclear power plants came on line and Japan's nuclear energy program developed a strong industrial base. (See Appendix 2.6 for more on the division of responsibilities between MITI and STA.)

### 3. Nuclear power plants

Japan chose a British gas-cooled magnox reactor for its first nuclear power plant. The 166 MW reactor was built in Tokai Village in Ibaraki Prefecture. It was connected to the grid on 10 November 1965 and began commercial operations on 25 July 1966. However for subsequent reactors Japan shifted to boiling water (BWR) and pressurized water (PWR) ‘light water reactors’, the first being Tsuruga-1 (BWR, 357 MW). Tsuruga-1 was connected to the grid on 16 November 1969 and commenced commercial operations on 14 March 1970.<sup>534</sup>

Both Tokai-1 and Tsuruga-1 were owned and operated by Japan Atomic Power Company (JAPCO), a joint private-public-owned electricity wholesaler established for the purpose of leading the way into commercial nuclear power production. However, the 1970s saw the beginning of commercial operation of nuclear power plants by Japan’s regional monopoly utilities. Reactors started to come online from the beginning of the decade. The second light water reactor, Mihama-1 (PWR, 340 MW), began commercial operations on 28 November 1970. But it was the first oil shock in 1973 that really gave impetus to the push to introduce nuclear power plants in Japan. During the 1970s, a total of 20 light water reactors began commercial operations at 10 sites on the coast of three of Japan’s main islands. Hokkaido got its first nuclear reactor a decade later: Tomari-1 (PWR, 579 MW) began commercial operations on 22 June 1989.<sup>535</sup> The second oil shock in 1979 helped maintain the trend through the 1980s up to the mid 1990s, but the rate at which new plants came on line slowed down from the latter half of the 1990s. The newest plant, Tomari-3 (PWR, 912 MW), began commercial operations on 22 December 2009. That brought the number of operational nuclear power reactors

---

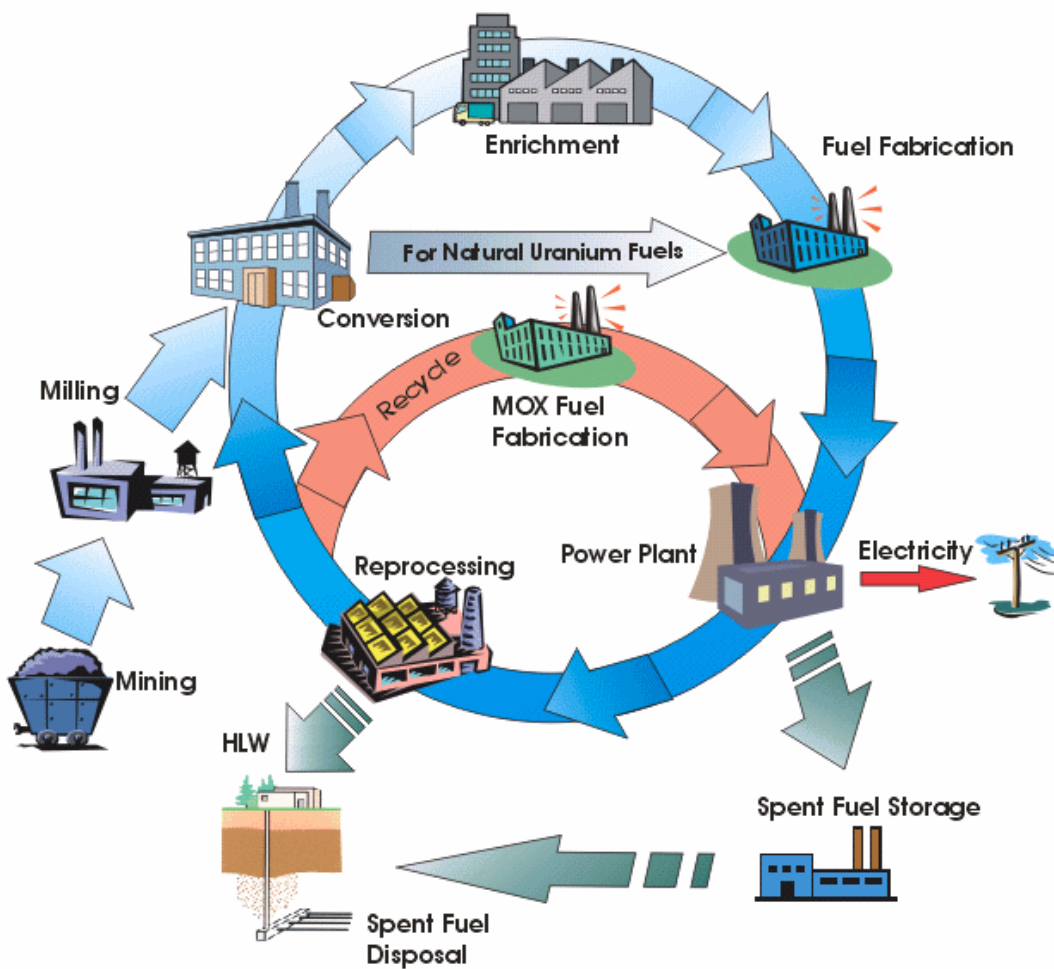
<sup>534</sup> Refer the following web sites for information on the status of Japan’s nuclear power plants: Citizens’ Nuclear Information Center: <http://www.cnrc.jp/english/data/nucreactors.html>  
International Atomic Energy Agency’s Power Reactor Information System: <http://www.iaea.org/pris/>

<sup>535</sup> The only regional monopoly utility without nuclear power plants is Okinawa Electric Power Company.

in Japan to 54 (48,960 MW total capacity), the status on 11 March 2011 when the Fukushima nuclear accident occurred.

#### 4. Nuclear fuel cycle

A fundamental component of Japan’s nuclear energy policy is the nuclear fuel cycle. The diagram below illustrates how the nuclear fuel cycle is supposed to operate in theory.



(International Atomic Energy Agency 2009, p. 7. Reproduced with permission of the IAEA.)

The nuclear fuel cycle can be broken into the front end (from mining to fuel fabrication) and the back end (after the spent fuel is removed from the reactor). Japan’s involvement in these two components is discussed below.

*Back end*

Japan's nuclear energy policy was based on the assumption that eventually plutonium generated during the operation of light water reactors would be separated out by reprocessing the spent nuclear fuel. The plutonium would then be used to fuel fast breeder reactors. In theory, fast breeder reactors are supposed to be capable of 'breeding' more plutonium than they use.

During the 1970s Japanese utilities entered into contracts with reprocessing plants in France and the UK, but at the same time Japan set about developing its own reprocessing technology. The government-owned Power Reactor and Nuclear Fuel Development Corporation (PNC) began construction of an experimental reprocessing facility at Tokai Village in June 1971, but the project ran into political difficulties on nuclear proliferation grounds after India conducted a nuclear test (which India labeled a 'peaceful nuclear explosion') in 1974. Concerned at the nuclear proliferation dangers of reprocessing and plutonium use, the United States decided not to proceed with its own reprocessing and fast breeder reactor programs and to pressure other countries to follow suit (Yoshioka 2006a, p. 237). Japan, which was obliged under a bilateral agreement to obtain United States' permission to reprocess spent nuclear fuel, but which was also deeply committed to developing a 'complete nuclear fuel cycle' (Japan Nuclear Cycle Development Institute), responded by mounting a vigorous diplomatic defence of its reprocessing program. Japan's lobbying was successful, although it did not convince the American government that its reprocessing technology was proliferation resistant. In 1977 National Security Advisor Zbigniew Brzezinski gave the following assessment in a memorandum to President Jimmy Carter:

Ambassador Mansfield has identified the Tokai nuclear reprocessing plant issue as the major political issue between the U.S. and Japan. He believes that unless a compromise is reached -- balancing our non-proliferation concerns against Japanese energy needs, and leaving no appearance that Japan is discriminated

against by comparison to the Europeans -- there will be profoundly adverse effects on the future of U.S.-Japan relations.

Prime Minister Fukuda, who has publicly called this a “life and death” issue for Japan, has raised Tokai with you twice, emphasizing the political significance for his government of early initiation of “hot” tests ...

Tokai is bound to appear as an exception to our general stand against reprocessing. The key issue is thus how an exception can be made with as little damage as possible to our non-proliferation objectives. None of the technical options is very good from the standpoint of those objectives; the best -- coprocessing -- pushes the Japanese in a direction not regarded as promising on non-proliferation grounds. Limiting damage to non-proliferation objectives will depend on what political measures accompany any technical solution (Brzezinski 1977 (underlines in original)).

The ‘exception’ granted by the U.S. government enabled Japan to become the only non-nuclear weapon state to develop a ‘complete nuclear fuel cycle’, although, as the discussion below shows, some components of the fuel cycle have yet to be commercialised. The Tokai Reprocessing Facility eventually began test operations with spent nuclear fuel in September 1977 and began full-scale operations in January 1981. It has reprocessed a total of 1040 tons of spent nuclear fuel since then (Japan Atomic Energy Agency 2012).

The focus shifted to the village of Rokkasho in Aomori Prefecture for construction of a commercial reprocessing plant. In April 1985 the governor of Aomori Prefecture and the mayor of Rokkasho Village accepted the Federation of Electric Power Companies’ request to construct three nuclear fuel cycle facilities in Rokkasho: a reprocessing plant, a uranium enrichment plant and a low-level radioactive waste disposal center (Aomori Prefecture 2012, pp. 97-98). A high-level waste storage center was also included with the reprocessing plant.

Japan Nuclear Fuel Ltd. (JNFL—a private company in which Japan’s electric power companies are the main shareholders) commenced construction of the reprocessing plant in 1993. When the plant was first approved it was supposed to be completed by

December 1997 (Citizens' Nuclear Information Center, Rokkasho page), but as of September 2014 it still has not begun commercial operations. The official completion date has been postponed over 20 times, and at a June 2014 press conference JNFL's President said he did not expect to meet the October 2014 target.<sup>536</sup> At the time the plant was undergoing a safety review as the final stage before commencing commercial operations.

Supposedly bringing the nuclear fuel cycle full circle is the fast breeder reactor (FBR). The concept is for a fleet of FBRs to consume the plutonium separated from spent nuclear fuel from Japan's light water reactors, at the same time as producing more plutonium than they use. Eventually, they would run on plutonium extracted from their own spent fuel and plutonium 'bred' in a uranium blanket placed around the reactor core. The intention of developing breeder reactors was articulated in the first *Long-Term Program*, issued in 1956. Research and development for the FBR program was started by the Japan Atomic Energy Research Institute (JAERI), but the role of developing fast breeder reactors as a national project was assigned to PNC<sup>537</sup> after its establishment in 1967 (Low, Nakayama & Yoshioka 1999, p. 79). The 1967 *Long-Term Program* envisaged that the first commercial FBRs would begin operating in the 1980s, but that schedule slipped further into the distance with each new *Long-Term Program*. The 2005 *Framework for Nuclear Energy Policy* envisaged that commercial FBRs would be operating in Japan by around 2050.

---

<sup>536</sup> President's monthly press conference, 27 June 2014 (English summary): <http://www.jnfl.co.jp/english/topics/140627-1.html>

<sup>537</sup> In 1998 PNC was reorganised to form the Japan Nuclear Cycle Development Institute (JNC). JNC was subsequently merged into Japan Atomic Energy Agency (JAEA) in 2005. The Ministry now responsible for JAEA is the Ministry of Education, Culture, Sports, Science and Technology (MEXT), but before a rearrangement of government agencies in 2001, JAEA's predecessor organisations were under the purview of the Science and Technology Agency (STA).

The experimental fast reactor *Joyo*, located at Oarai in Ibaraki Prefecture, achieved first criticality in April 1977, nearly a decade after light water reactors began commercial operation. ‘[I]n the 30 years between 1977 and 2007 *Joyo* operated approximately 27 percent of the time’ (Suzuki 2010). Based on this operating record, as an experimental reactor, it could neither be classified as a shining success, nor an abject failure. But advancing from the *Joyo* experimental reactor to the *Monju* prototype FBR (280 MWe,<sup>538</sup> located in Tsuruga, Fukui Prefecture) has proved to be a bridge too far. ‘The prototype fast breeder reactor *Monju* ... was developed in parallel with *Joyo*, but construction was delayed and it did not achieve criticality until 1994.’ (Suzuki 2010) A year later, in December 1995, it suffered a sodium leak and fire and, except for a brief period in 2010, has not operated since.

Without an FBR program to consume the plutonium produced in reprocessing plants in Tokai, Rokkasho and Europe, by the end of 2010 Japan’s plutonium stocks had grown to 45 tons, enough to make over 5,000 nuclear weapons.<sup>539</sup> In order to reduce this stockpile, and for the sake of claimed ‘resource efficiency’ benefits, Japan introduced a program of using MOX (mixed oxide of plutonium and uranium) fuel in light water reactors. This program was given the title ‘pluthermal’.<sup>540</sup> In fact, the failure of the FBR program was not the only reason for proceeding with the pluthermal program. Even if Japan’s FBR program had gone smoothly, for the foreseeable future it could not possibly have consumed all the plutonium extracted from Japan’s spent fuel, so an alternative means of consuming plutonium was required to justify operating the Rokkasho Reprocessing Plant. Japan had made an international promise not to

---

<sup>538</sup> *Joyo*’s output is given in megawatt thermal (MWt), whereas *Monju*’s output is given in megawatt electric (MWe). That is because *Monju* is designed to generate electricity. *Monju*’s thermal capacity is 714 MWt.

<sup>539</sup> Based on the International Atomic Energy Agency’s estimate of 8kg for a ‘significant quantity’ of plutonium (International Atomic Energy Agency 2001, p. 23).

<sup>540</sup> *Pluthermal*: ‘Plu’ stands for ‘plutonium’ and ‘thermal’ refers to the fact that light water reactors are based on fission reactions caused by ‘thermal’ neutrons (neutrons which have been slowed down by a moderator, in this case water), as opposed to ‘fast’ neutrons in fast breeder reactors.

accumulate ‘surplus plutonium’,<sup>541</sup> so, in order to begin operating the Rokkasho Reprocessing Plant, Japan had to show that the plutonium extracted would be used. After the *Monju* accident the pluthermal program became the front line alibi for proceeding with the reprocessing program. (See Yoshioka 2010 for a discussion of the history and rationale behind Japan's pluthermal program.)

However, the pluthermal program itself soon ran into serious problems. The 1994 *Long-Term Program* stated that 10 nuclear reactors would be operating on MOX fuel by 2000. Plutonium extracted from Japanese spent fuel in reprocessing plants in the UK and France was fabricated into MOX fuel at BNFL’s Sellafield plant and Cogema’s Melox plant and shipped to Japan in 1999, but just when implementation of pluthermal was due to start, it was revealed that BNFL had falsified quality control data for the MOX fuel to be loaded into KEPCO’s Takahama 3 and 4 reactors. The MOX fuel that had already been shipped to Japan was returned to the UK in 2002. The plans of Tokyo Electric Power Company (TEPCO), the other utility preparing to commence pluthermal at the time, were also put on hold following the BNFL scandal, even though its MOX fuel came from Cogema.

Over the next decade, the MOX program became more and more bogged down as a series of scandals, involving Tokyo Electric Power Company (TEPCO) in particular, came to light from 2002 onwards. In the end, neither Kansai Electric Power Company (KEPCO) nor TEPCO was first to implement pluthermal. Rather, it was smaller utilities, beginning with Kyushu Electric’s Genkai-3 plant (began using MOX fuel on 5

---

<sup>541</sup> See IAEA Information Circular, INFCIRC/549/Add.1, 31 March 1998: <http://www.iaea.org/Publications/Documents/Infcircs/1998/infcirc549a1.pdf>

See also footnote 8 in Katsuta and Sukuki (2006):

Japan Atomic Energy Commission, Subcommittee on Nuclear Fuel Recycling, “Nuclear Fuel Recycling in Japan,” 1991. It said, “It is a principle of Japan's policy that Japan will not possess plutonium more than it is needed”. In 1994, JAEC's *Long-Term Program* explicitly introduced a “no plutonium surplus” policy. In 2004, JAEC's White paper dropped the expression of “no surplus” while maintaining the principle of its original 1991 policy (Katsuta & Suzuki 2006).



November 2009), followed by Shikoku Electric's Ikata-3 (began using MOX fuel on 2 March 2010) that got the ball rolling over ten years later than originally planned. TEPCO eventually began using MOX fuel in its Fukushima Daiichi No. 3 reactor on 18 September 2010, but, as fate would have it, six months later the reactor suffered a melt down. (See Citizens' Nuclear Information Center, 'MOX and Plutothermal' page for data and articles about Japan's plutothermal program.)

The situation when the TEPCO Fukushima nuclear power plant accident occurred was that Japan's spent fuel reprocessing and plutonium utilisation programs were both at a standstill, except for the low level operation of plutothermal. The plutonium stockpile, part of which is held in Japan and part in Europe, remained at 45 tons. Fuel cycle proponents are desperate for the Rokkasho Reprocessing Plant to clear the active testing phase and commence commercial operations, but if it does so the plutonium stockpile will continue to grow. It would be very hard to reconcile that with Japan's 'no surplus plutonium' commitment, and officials within Japan's main ally the United States have expressed concern about reprocessing without a credible plutonium use program (Takubo & von Hippel 2013, p. 6).

### Front end

Besides developing the 'back end' of the nuclear fuel cycle, Japan also developed the 'front end', including uranium enrichment and fuel fabrication facilities. However its attempts to develop uranium resources within Japan were unsuccessful. A report by JNC researchers summarises Japan's uranium mining history as follows:

The activities for uranium mining and milling in Japan were carried out from 1956 to 1987, mainly in the Ningyo-toge area and the Tono area, by the Atomic Fuel Corporation and its successor, the Power Reactor and Nuclear Fuel Development Corporation (PNC), as a part of the domestic uranium exploration and exploitation (test mining and uranium refining). As the result, it was confirmed that the total ore reserve is about 7,000 tU<sub>3</sub>O<sub>8</sub> with average grade of

0.054% U<sub>3</sub>O<sub>8</sub> in two developed uranium mines in Japan, that is, the Ningyotoge mine and the Tono mine ... By the end of the activities, about 86tU of uranium was recovered from about 80,000 t of ore in total (Sato, K & Tokizawa 2003, pp. 1-2).

After losses through the enrichment process, that is not enough uranium to run a single reactor for half a year (World Nuclear Association).

Ningyo Toge was also the site of a pilot uranium enrichment plant (1979–1999) and a demonstration enrichment plant (1998–2001), which were owned and operated by PNC. In September 2001 PNC's successor organisation, Japan Nuclear Cycle Development Institute (JNC),<sup>542</sup> terminated development of uranium enrichment technology (Japan Nuclear Cycle Development Institute 2005). By then Japan had already begun enriching uranium on a commercial basis. JNFL's commercial uranium enrichment plant at Rokkasho Village commenced operations in 1992. It began with a capacity of 150 tSWU/y<sup>543</sup> and increased in 150 tSWU/y increments until October 1998, when the seventh cascade began operating. The operating capacity was then 1050 tSWU/y. That is theoretically enough to fuel eight or nine 1,000 MW-class reactors with enriched uranium for one year, but due to problems with the centrifuges the plant never operated at full capacity. The last of the original centrifuges in the final cascade stopped operating on 15 December 2010. JNFL developed a new design centrifuge and began replacing the old centrifuges with new ones from March 2010. The first of the new centrifuges began producing enriched uranium on 9 March 2012.<sup>544</sup> The plan is to increase the plant's capacity to 1,500 tSWU/y (Japan Nuclear Fuel Ltd. (Japanese web site); (English web site); Sawai & White 2011).

---

<sup>542</sup> In 1998 PNC was succeeded by JNC, which was in turn succeeded by the Japan Atomic Energy Agency (JAEA) in 2005.

<sup>543</sup> 'Ton separative work units per year': SWU is a standard measurement of uranium enrichment services.

<sup>544</sup> Page of JNFL's web site, 9 March 2012, 'Commencement of commercial operation of the first half of the initial installation for the centrifuge units renewal work at Rokkasho Uranium Enrichment Plant': <http://www.jnfl.co.jp/english/topics/120309-1.html>

Japan also has a number of commercial nuclear fuel fabrication plants. Mitsubishi Nuclear Fuel (MNF) has a plant in Tokai, Nuclear Fuel Industries (NFI) has plants in Tokai and Kumatori Town (Osaka Prefecture), and Global Nuclear Fuel (GNF) has a plant in Yokosuka City (Kanagawa Prefecture). The Japan Atomic Energy Agency (JAEA) has a MOX fuel fabrication facility in Tokai and JNFL began construction of a MOX fuel fabrication plant at Rokkasho on 28 October 2010. Japan also has uranium reconversion facilities (for reconversion to  $UO_2$ ): Mitsubishi Nuclear Fuel's Tokai plant and the now shut down JCO plant, also in Tokai and site of one of Japan's most serious nuclear accidents (Appendix 2.6). However it lacks a uranium conversion facility (for conversion to  $UF_6$  feed for uranium enrichment plants). That is the only gap in its otherwise technically complete front end of the fuel cycle.

## **5. Radioactive waste disposal**

Japan's first nuclear energy policy statement contained very little detail about radioactive waste, but as more and more radioactive waste was generated, increasing attention was paid to the issue. It has become one of the biggest challenges for Japan's nuclear energy program.

From the beginning the assumption was that spent nuclear fuel would be reprocessed, so it was not thought of as waste. The reprocessing process separates the spent fuel into plutonium and uranium (both classified as resources) and radioactive waste. The radioactive waste is classified as either high-level or low-level. There are references to intermediate-level radioactive waste in early documents, but this terminology no longer exists in the Japanese radioactive waste classification system.

*Long-Term Programs* from 1961 to 1982 expressed optimism that low-level radioactive waste could be dumped at sea, but the 1983 conference of the parties (COP 1983) to the

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) passed a resolution calling for a moratorium on dumping of radioactive waste at sea. Japan voted against the resolution and left the marine dumping option in its 1987 *Long-Term Program*. The parties to the London Convention then banned the practice altogether at their November 1993 meeting (COP 1993), with the ban becoming effective from 1 January 1996. Japan reflected the ban in its 1994 *Long-Term Program*, but stated that if political circumstances change it might reconsider the matter. The marine dumping option was not removed from the Reactor Regulation Act until 2005. Japan's attachment to the marine dumping option was surprising, given that its 1994 *Long-Term Program* also mentioned increasing concerns about Soviet/Russian dumping of radioactive waste in the Japan Sea (JAEC 1994).

The status of Japan's radioactive waste policy and practice at the time of the Fukushima nuclear accident is summarised below (based on Nishio 2010a). The multiplicity of radioactive waste classifications and regulations is testimony to the complexity of the problem.

- Radioactive waste generated at nuclear power plants and nuclear fuel cycle facilities is regulated under the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (Reactor Regulation Act), while radioisotopes (RIs) are regulated under the Act Concerning Prevention from Radiation Hazards due to Radioisotopes, etc.
- High-level radioactive waste (HLW) (vitrified canisters from reprocessing of spent fuel) is stored at reprocessing facilities (Rokkasho and Tokai) pending establishment of a permanent disposal site. The plan is that it will be 'geologically' disposed of at least 300 metres below ground.

- The 2000 Designated Radioactive Waste Final Disposal Act established the Nuclear Waste Management Organization of Japan (NUMO) to implement HLW disposal.
- Transuranic Waste (TRU) is technically classified as low-level, but under a June 2007 amendment to the Designated Radioactive Waste Final Disposal Act it will be collocated with HLW in a permanent geological disposal site.
- Low-level radioactive waste (LLW) is subdivided into ‘relatively high’, ‘relatively low’ and ‘extremely low’ level radioactive waste.
- ‘Relatively high-level’ LLW from decommissioning of nuclear power plants etc. will be put in drums, or large rectangular containers and buried between 50 and 100 meters underground (so called ‘disposal at depth’).
- ‘Relatively low-level’ waste from nuclear power plants is disposed of in shallow pits at the LLW Disposal Center at Rokkasho.
- ‘Relatively low-level’ waste from nuclear fuel cycle facilities is stored at the facilities where it was generated.
- RIs, if they are not stored where they were generated, are stored at either of two treatment and storage facilities (Tokai Village in Ibaraki Prefecture and Takizawa Village in Iwate Prefecture), or at one of nine other interim storage facilities.
- ‘Extremely low-level’ waste can be wrapped in plastic sheets and disposed of in trenches.
- Waste that is classified as less than ‘extremely low level’ is exempted from radioactive waste regulations under a ‘clearance’ system.
- The above categories relate only to solid waste. Gaseous wastes that are not caught in filters are released through the exhaust stacks of nuclear power plants etc. and liquid wastes that are not captured, in particular from reprocessing plants, are released via waste water pipes to sea.

Nishio (2010a, p. 14) describes Japan's radioactive waste policy as 'totally haphazard'. NUMO began seeking candidates for a HLW dump in 2002, but it has not even been able to find a town that will volunteer for an initial study, let alone offer itself as a candidate site. Japan Atomic Energy Agency (JAEA) is looking for a disposal site for radioactive waste from research and medical use, but it is not having much success either.<sup>545</sup> Large quantities of LLW have been generated, but only a fraction of it has been disposed of. As for HLW, at this stage most of it is in the form of vitrified canisters that have been returned from reprocessing plants in France and the UK and are currently stored at the Rokkasho Reprocessing Plant. A smaller quantity of HLW has been generated at Rokkasho and Tokai.

The inability of the nuclear industry to solve the radioactive waste problem enables critics to label nuclear energy as being like an apartment without a toilet. Policy reviews and public participation processes aimed at overcoming this problem are discussed in Chapter 5.2.1 and Appendix 5.

---

<sup>545</sup> When JAEA was formed in 2005, through the merger of JAERI and JNC, the option was created for JAEA to take responsibility for disposing not only of its own radioactive waste, but also that of other entities. In 2008 the JAEA Act was amended to specify the means of disposal as burial underground. The status is described as follows in the government's 2010 science and technology white paper:

At present, radioactive waste generated by research institutes and medical facilities is not disposed of, but rather is stored by individual entities; however, disposal of this waste is an important issue for the smooth promotion of research, development and utilization of nuclear energy in the future.

To this end, the "Act on the Japan Atomic Energy Agency" was partially revised in June 2008 (with enforcement in September 2008) to establish a system for JAEA to discard its own waste together with that released from other businesses. Based on the revision, the national government set forth the "Basic Policy on the Underground Waste Disposal Business [literal translation]" in December 2008, and the "Plan for the Underground Waste Disposal Business [literal translation]" prepared by the JAEA was approved in November 2009 (Ministry of Education Culture Sports Science and Technology 2010).

## 6. Response to safety failures and institutional problems

Many accidents and incidents had alerted the public to the potential dangers of nuclear energy long before the Fukushima nuclear accident. On some occasions administrative changes were made, but the responses were always too little too late.

Possibly the first nuclear incident to have a significant impact on the consciousness of the Japanese public was a radiation leak on the nuclear ship *Mutsu*. The 1956 *Long-Term Program* identified nuclear-powered ships as one of the applications of nuclear energy that Japan should develop. The government hoped that nuclear propulsion would enable Japan to build massive fast merchant ships to support its growing international trade-based economy, but that ambition was never realised. Japan's first nuclear ship *Mutsu* was its last. *Mutsu* suffered a radiation leak on its first experimental voyage in 1974. It did not undertake its next voyage until 1990 and was decommissioned in 1992.

The *Mutsu* incident seriously damaged the credibility of Japan's nuclear safety administration. Concerned about the loss of public trust and the growing influence of nuclear critics, in 1978 the government amended the Atomic Energy Basic Act, creating the Nuclear Safety Commission by hiving off the safety assurance role from the Atomic Energy Commission (Citizens' Nuclear Information Center 1978; Japan Atomic Energy Commission 1978). The incident also drew attention to two institutional issues that became recurring themes of Japan's nuclear program. One was an unwillingness to take outside advice and the other was an unwillingness to change policy, even when the policy was clearly failing. Nakao raises both issues in his analysis of the failures behind the *Mutsu* incident.

Radiation leaked from the shielding ring. The alarm went off as it detected fast neutrons leaking out of the reactor shielding (streaming). The faulty design of the reactor shield was due to lack of experience. Only few models of reactor shields had been designed in Japan at that time, and there were few experienced

reactor shield designers. The engineers made poor judgments about the capacity shielding with hard to calculate complex shapes. Although Westinghouse Electric Company (U.S.A.) had reviewed the design of the reactor shield as requested and had warned about the possibility of ‘streaming’, the designer made no correction to the original design ...

Looking back the history, the development of Mutsu was understandable considering the global trend at that time, the government acted too slowly to drop the nuclear powered ship program. Some may even say that Japan has a tendency to take no action even when it is necessary and we have no words to talk back to such criticism (Nakao).

The next major shake up of Japan’s nuclear energy administration followed a series of accidents associated with the nuclear fuel cycle. The first of these accidents was the 8 December 1995 *Monju* sodium leak and fire (Appendix 2.4). This accident led to the establishment of the Round Table Conference discussed in Chapter 3.3.

Critics identified similar institutional problems as in the *Mutsu* radiation link incident.

CNIC organized a Monju Committee to make an overall assessment of the accident from technological, legal/institutional and policy perspectives ... [W]ith respect to the government's plutonium policy the report said that no lessons were learned from fast breeder development in other countries and that the accident may well have been caused by the high priority placed on getting Monju operational as quickly as possible (White & Ban 2010).

In addition to the unwillingness to learn from others’ experience and adapt policy to changing circumstances, the *Monju* accident highlighted other institutional failings characteristic of Japan’s nuclear energy program. One of these was a penchant for covering up problems. This was dramatically illustrated by the revelation of video footage of the sodium leak showing far greater damage than PNC had previously acknowledged. PNC established an in-house team to investigate the cover up, but on 13 January 1996 one of the team leaders committed suicide. Proponents of nuclear energy



tended to downplay the seriousness of the accident itself, pointing instead to the poor handling of the accident from a public relations perspective.<sup>546</sup>

The *Monju* accident was followed in a relatively short period of time by two accidents which were more serious in terms of radiation exposure. A fire and explosion occurred on 11 March 1997 at a low-level liquid waste bituminization facility in PNC's Tokai Reprocessing Facility. Radiation was released into the environment and 37 workers were internally exposed (Ban 1997). Then two and a half years later, on 30 September 1999, Japan's most serious pre-Fukushima accident in terms of radiation exposure occurred.

A criticality accident occurred at the JCO uranium reconversion plant when workers used buckets to pour a solution of enriched uranium oxide into a container that had not been designed with 'geometrical control'<sup>547</sup> to prevent criticality. For Japan's nuclear industry it was an unthinkable accident at what was thought to be a low risk facility. No preparations had been made to cope with such an accident. It took 40 minutes for JCO to communicate to the Science and Technology Agency (STA) and the Nuclear Safety Commission (NSC) its suspicion that criticality had occurred and it was several hours before it was recognised that criticality was continuing. In the end, criticality continued for about 20 hours. Residents in a 350 m radius around the plant were evacuated and people within a 10 km radius were requested to stay indoors. Workers at the site, firefighters and residents in the surrounding area were exposed to radiation. Two of the three workers who were directly engaged in the process at the time received massive

---

<sup>546</sup> See for example comments by Keiji Kanda of Kyoto University at the 10 June 1996 (meeting 4) of the Round Table Conference:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960628.html>

<sup>547</sup> 'Geometrical control' means designing the dimensions of a container to prevent fissile material reaching a critical mass.

radiation doses and died horrible deaths after being kept alive artificially in a vegetable state for months (NHK TV “Tokaimura Criticality Accident” Crew 2008).

JCO (formerly Japan Nuclear Fuel Conversion Ltd.) was a subsidiary of Sumitomo Metal Mining Co. Ltd. It was located in Tokai Village, alongside much of Japan’s nuclear research and development infrastructure. At the time of the accident it was purifying uranium that had been enriched to 18.8%, much higher than JCO staff were used to working with. Usually JCO handled uranium enriched to 3–4% for use in LWRs, but on this occasion it was preparing uranium for use in JNC’s *Joyo* Experimental Fast Reactor. The method used by JCO was a gross breach of approved procedures. To save time, the workers by-passed some of the approved steps, manually dissolving the raw material in buckets at the beginning of the process and again using buckets to pour the solution directly into the precipitation tank at the end. It was at this final stage in the process that critical mass was reached.

While official reports laid direct blame on the workers and the company, critics highlighted the culpability of the safety regulators STA and NSC for lax application of their own safety guidelines, including licensing a plant which lacked adequate preventive measures against criticality events and which had no countermeasures to deal with a criticality emergency. They also pointed to conflicts of interest<sup>548</sup> and lack of adequate oversight by the regulator. Besides finding fault with the regulatory system, they also implicated the fuel cycle program itself, on the grounds that JNC and its predecessor PNC imposed tight work schedules on JCO and that this induced JCO to cut corners. Fundamental questions were also raised by the government’s own investigations, but the sincerity of the official investigations is questionable. A report by an accident investigation committee established by NSC stated, ‘We must discard the

---

<sup>548</sup> A PNC officer on loan to STA screened JCO’s application to amend its procedures for the process in question, even though the process was carried out under contract to PNC.

“myth of nuclear safety” and idealist slogans about “absolute safety” (Ban 2000a, p. 1). The question of whether the safety myth was in fact discarded became a major theme throughout the following decade. In light of the Fukushima Daichi nuclear accident, it is clear that it had not been. (For discussion of the above issues see Ban 2000a; Fujino 2004; Takagi & Citizens' Nuclear Information Center 2000.)

Following these three nuclear fuel cycle related accidents the government reorganised the nuclear administration. The changes were part of a major reorganisation of central government ministries, much of which had been in the pipeline for several years, but concerns about nuclear safety were a significant factor. For example, the independence of the Nuclear Safety Commission (NSC) was somewhat strengthened by giving it its own secretariat and separating it from STA, and the number of people assigned to nuclear safety regulation was increased. In addition, in the months following the JCO accident, emergency response and safety procedures were strengthened by passing the Act on Special Measures Concerning Nuclear Emergency Preparedness (Emergency Preparedness Act) and amending the Reactor Regulation Act. The new measures included a mandatory requirement for companies to prepare an emergency action plan and establish an ‘on-site organization for nuclear emergency preparedness’, and mandatory periodic inspections at all nuclear facilities. (Previously periodic inspections were only mandatory for nuclear power plants and reprocessing facilities.)

The administrative changes took effect on 6 January 2001. The Japan Atomic Energy Commission (JAEC) and NSC were located within the Cabinet Office, while STA’s other nuclear functions were split between the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (merging STA with the Ministry of Education) and the Ministry of Economy Trade and Industry (METI) (previously known as the Ministry for International Trade and Industry (MITI)). STA’s nuclear research and development

role went to MEXT, while safety regulation of the nuclear fuel cycle went to a new agency created within METI, known as the Nuclear and Industrial Safety Agency (NISA). NISA also became responsible for the regulation of nuclear power plants. Prior to the administrative changes, MITI's Agency for Natural Resources and Energy (ANRE) had been responsible for both the regulation and promotion of commercial nuclear power plants.

Under the new arrangements, the regulation and promotion roles were further concentrated within METI, which gained even more influence over the overall nuclear energy program as a result. The government's claim that the nuclear regulation function was independent was disputed by critics who saw NISA as being under the thumb of ANRE and of METI as a whole. The Democratic Party of Japan (DPJ) included creation of an independent regulator in its 2009 policy platform, but no progress was made on the matter after it took power in September 2009 up until the TEPCO Fukushima nuclear accident. (For a discussion in Japanese of the administrative changes and the issues involved see Ueda 2000.)

Scandals, accidents and earthquakes over the following decade or so kept nuclear safety in the headlines. Highlights (or lowlights) included the following:

- falsification of inspection reports by TEPCO (revealed in August 2002, this scandal led to the temporary shut down of all 17 of TEPCO's nuclear power plants);
- a pipe rupture in the secondary coolant system of the Mihama-3 nuclear power plant in Fukui Prefecture (occurred on 9 August 2004, five workers killed and six others injured); and

- the Chuetsu-oki Earthquake which struck the Kashiwazaki-Kariwa Nuclear Power Plant in Niigata Prefecture (occurred on 16 July 2007, all seven nuclear power plants shut down for two years or more).

These events did not lead to major institutional or regulatory changes. The official response took the form of tightened quality control and reporting requirements, even as the permitted interval between periodic inspections was extended to promote higher capacity factors (Kamisawa 2011).<sup>549</sup>

New seismic safety guidelines were issued in September 2006, although the motivation for the review that produced these guidelines was the Great Hanshin-Awaji Earthquake, which devastated Kobe in 1995, rather than an earthquake that struck a nuclear power plant. The fact that the fault which caused the Kobe earthquake was virtually unknown before the earthquake occurred called into question the seismic design standards applied to Japan's nuclear power plants. The limitations of the standards were exposed repeatedly in the decade and a half between the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake which caused the Fukushima nuclear accident. New active faults were found in the vicinity of nuclear power plants, known faults were shown to be longer than claimed, and several nuclear power plants were shaken by earthquakes exceeding their design basis. However the safety myth and the perceived interests of the electric power companies prevailed to prevent a fundamental review of safety regulations being conducted. (The above comments are based on articles on the Nuclear Safety page of Citizens' Nuclear Information Center's English web site.)

---

<sup>549</sup> The actual trend was for capacity factors to fall due to extended outages resulting from these same scandals, accidents and earthquakes.

## **7. Pre-Fukushima overall assessment**

One salient feature of the summary of Japan's pre-Fukushima nuclear energy program presented in sections 1 to 6 of this Appendix is that nuclear projects have been most successful where private industry has taken the lead. By contrast, programs run by PNC and its successor organisations have been a resounding failure. That includes the attempts by private company JNFL to take over fuel cycle projects where PNC left off. This distinction coincides closely with a division between imported technology and indigenously developed technology, the former being technology which industry expected to be profitable in the short term and the latter being less attractive to industry from a commercial perspective (Low, Nakayama & Yoshioka 1999, pp. 66-83; Samuels 1987, pp. 234-256). A pre-Fukushima assessment of the relative success of private industry's construction and operation of light water reactors must be qualified by recognition of the scandals, accidents and quality control problems that plagued the industry. A post-Fukushima assessment would, of course, be much harsher.

The other thing to take from the above account is that many of the issues raised in the wake of the Fukushima disaster have been around for a long time, for example the unwillingness to take outside advice or to change policy, the penchant for concealing problems, the lack of independence of the nuclear regulator, and the prevalence of the 'safety myth'. This leads one to question why these problems persisted for so long, despite the many warnings in the form of accidents and incidents. A part of the answer is that nuclear critics were marginalised from debates about nuclear energy. That is the conclusion of the discussion in Chapter 3 of public participation pre-Fukushima nuclear energy policy-making.

## **Appendix 3 : Round Table Conference Moderators' Recommendations**

The following are extracts from my translations of recommendations by the moderators of the Round Table Conference.

### **24 June 1996 Recommendations**

(Extract from moderator Sawa's comments at the end of 24 June 1996 meeting: <http://www.aec.go.jp/jicst/NC/iinkai/entaku/round-table/nc960718.html>)

We request that in future the Atomic Energy Commission take the necessary measures to promote the disclosure of information related to nuclear energy and citizens' participation in the policy decision-making process.

### **3 October 1996 Recommendations (summary)**

(<http://www.aec.go.jp/jicst/NC/iinkai/entaku/961003.htm>)

1. We fervently hope the government will create many forums for discussion with the public and raise public awareness to the greatest extent possible of the place of nuclear energy within energy supply.

2. Concerning the nuclear fuel cycle

(1) We strongly hope the government will seriously consider and take up the opinions expressed in these meetings in the development of the nuclear fuel cycle.

(2) In consultation with host sites, it is necessary for the government to quickly develop practical and rational solutions to the management of spent fuel.

(3) In regard to the use of plutonium in light water reactors (pluthermal), we hope the government will, to the greatest extent possible, disclose the objectives and details to the residents of the host communities and to the citizens as a whole and devote efforts to forming a consensus.

(4) Fast breeder reactors (FBR) are a key element of nuclear energy in future. We request the government to establish a forum for broad debate about the nature of future FBR development, including the handling of Monju.

(5) It is necessary to determine as quickly as possible a concrete policy about the disposal of high-level radioactive waste, including the establishment of procedures for implementation of geological disposal. We hope the government will take the lead in this and make maximum efforts to this end.

3. The government should establish a strong disaster prevention system, specifically clarifying the role of and method of coordination between relevant agencies.

4. It is important for the government to establish a doctrine concerning its response to host regions and to work out specific plans towards improved communication and open information channels between the government, host municipalities and residents. Also, we fervently hope that consumer regions which enjoy the benefits of nuclear energy will, through exchange and dialogue with host regions, adopt an attitude of actively understanding the situation of host regions.

5. On the understanding that it is neither possible nor effective to continue the Round Table Conference in its current form, we recommend that a new round of the Round Table Conference be conducted with the following contents:

(1) Make up: The meetings will be made up of moderators, members and a few temporary members.

(2) Choice of members: As moderators, members and temporary members, people with knowledge and interest in nuclear energy will be chosen from a broad range of the population.

(3) Management of meetings: The moderators will choose the agenda for each meeting and take responsibility for meeting proceedings. In principle, meetings will be held at regular intervals and may be called at any time depending on the circumstances.

(4) Recommendations: After a certain period of time the moderators will summarise the debate in the New Round Table Conference and make recommendations to the Atomic Energy Commission. After sufficient consideration of the recommendations within the nuclear administration, the Atomic Energy Commission will communicate its response to the New Round Table Conference.

### **31 March 1999 Recommendations (summary)**

(<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H10/proposal.html>)

1. Considering the variety of energy sources available, it cannot yet be said that there is sufficient public debate or awareness about the place nuclear energy should take within Japan's energy sources. We hope that the government and electric power companies will communicate such information to the public as accurately and quickly as possible. We also believe each citizen should make the effort to think about nuclear energy from this type of comprehensive perspective.

2. It goes without saying that the basis for the development of host regions is the voluntary efforts of the people of those regions, but along with that we fervently hope the government will, in line with the intentions of the local region, cooperate for broad area regional advancement and aim to respond more flexibly from a more long-term perspective.

3. In regard to future nuclear policy-making

(1) Policy about nuclear energy as a source of energy should always be discussed together with policy about other sources of energy, so the government should never fail to strive for their coordination. Furthermore, in the sense of reflecting the will of the people in energy policy, it is necessary for politicians, including Diet Members, the citizens' representatives, to debate energy policy in political forums from a comprehensive perspective in a form that is visible to the people.

(2) In regard to nuclear administration, in accordance with the basic doctrine of the Atomic Energy Basic Act, even greater care should be given in future to democratic management. When determining nuclear energy policy multiple options should be prepared. We hope that in choosing [from those options the government] will strive to reflect the voices of the people and that the process will be made public.

4. In regard to future governance, not just in the field of nuclear energy, external bodies should be established to evaluate the administration and make recommendations from a third party perspective and reference should be made to their opinions when making policy. In the current context, the Round Table Conference is one alternative in that direction. We fervently hope that the Round Table Conference will be held again next fiscal year, and that it will function to produce sufficient debate and recommendations based on that debate.



## 25 February 2000 Recommendations (summary)

(<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/teigen/teigen.html>)

1. The future of nuclear energy is inextricably connected to the future structure of energy supply and demand. We demand that the government clearly show these connections to the public in the form of future energy options and seek the citizens' views. We hope that concrete energy supply and demand scenarios will be produced—such as nuclear energy promoted like the current plan, constrained to a certain extent, or further held down to the current level—and that these scenarios along with their presuppositions be widely disseminated to the public.

At the same time, we fervently hope that through the information disclosed and the scenarios, each citizen will deepen their understanding of the real state of nuclear energy, and on this basis form their views about the future status of nuclear energy.

2. The JCO accident was a shocking accident which poured cold water on the growing public understanding of nuclear energy. We strongly hope that the government and nuclear related companies will make thorough efforts towards assurance of the safety of all nuclear energy related facilities, both front end and back end, and clarify responsibilities.

3. Energy is an important base supporting the lives of the citizens. With this awareness, we hope Diet Members, the citizens' representatives, will, in all sorts of forums within and outside of the Diet in a form visible to the people, deepen debate and consideration of the direction of energy including nuclear energy and that they will strive to reflect this in energy policy.

4. We believe that fundamentally self-help is important for the development of host regions and that the government's advancement programs should be designed to support this as effectively as possible. From this perspective, we hope that the government will review payments under the three electric power development laws so that subsidies will be in a form that is more useful for regional development than in the past.

5. In order to conduct rational debate about nuclear energy issues, it is necessary for many citizens to have a certain degree of knowledge of nuclear energy and energy. To that end, we strongly hope that thorough education about nuclear energy and the energy system of which it is a part will be conducted from an early stage, such as elementary school.

6. a. From the perspective of effective use of uranium resources, we believe the nuclear fuel cycle is one important future option and that research and development efforts should continue to be promoted.

b. *Monju* remains important as a means of research and development. Considering the high cost of maintaining *Monju*, making absolutely sure of the safety of operations, we hope people involved will make efforts towards the early restart of operations.

However, in regard to the dispensation of *Monju* after that, we hope that a selection will be made from among the following options:

i. make a judgment after carrying out research and development for a certain period of time;

ii. decommission the reactor after carrying out research and development for a certain period of time and gathering necessary data;

iii. in accordance with existing plans, restart the reactor and continue research and development.

7. We recommend that in future a committee on nuclear energy issues be established (tentative name: Nuclear Policy Communication Committee), which, like the Round Table Conference, is independent from other government agencies, and which has the functions of gathering and disseminating information and also of gathering public opinions and making policy recommendations.

## Appendix 4 : Round Table Conference (FY1999) – Views on Plutonium Use and High Level Waste and Spent Nuclear Fuel

Nuclear fuel cycle policy was discussed in meetings 1 and 2 of the FY1999 series of the Round Table Conference on Nuclear Power Policy. Meeting 1 focused on the nuclear fuel cycle in general and fast breeder reactors (FBR) in particular, while meeting 2 focused specifically on high-level radioactive waste (HLW), plutonium management and nuclear proliferation.

### Views on Plutonium Use: FY1999 Round Table Conference

	Positions	Reasons*
FBR	Support FBR & <i>Monju</i>	Effective use of resources, energy security, hedge against future uncertainty, international bargaining power, Japan's responsibility to the world to develop FBRs
	Support FBR but not <i>Monju</i> Support other types of FBR	<i>Monju</i> is unsafe Develop small metal fuel & molten salt reactors
	Oppose FBR in all forms	Proliferation-prone, unsafe, uneconomic, technologically unproven
FBR/Pluthermal	Support FBR and pluthermal	Effective use of resources, reducing plutonium stockpile reassures the rest of the world
	Support FBR but not pluthermal	MOX fuel is uneconomic, pluthermal is a waste of resources, keep plutonium for FBRs
	Oppose both FBR and pluthermal	Proliferation-prone, unsafe and uneconomic
Reprocessing	Support reprocessing	Basis of plutonium fuel cycle
	Support reprocessing, but there is no rush	Currently low plutonium demand, accumulation of plutonium gives rise to international concern
	Support reprocessing, but not for the sake of pluthermal Support pyroprocessing	Accumulation of plutonium gives rise to international concern Proliferation resistant, advantageous for safe metal fuel reactors
	Oppose reprocessing	Release of radioactivity into the environment, proliferation-prone, unsafe, uneconomic

\* This is an illustrative, not a comprehensive list of reasons.

## Views on High-Level Waste and Spent Nuclear Fuel: FY1999 Round Table Conference

	Positions	Reasons (for and against)*
HLW	Geological disposal	Existing policy Differing views about risks Uncertainty about deep geological conditions
	Retrievability	May reduce opposition to siting Similar concept to interim storage Implied but not explicitly stated in official documents
	Interim storage	Need time to find a permanent disposal site Wait for progress in disposal technology Consider what to do when total quantity is decided (= nuclear phase out)
	Transmutation	Reduce quantity of radioactive waste Technologically unproven
	International disposal	Difficult to find disposal site in Japan Unsuitable geology in Japan
	Stop producing it (= stop reprocessing)	Differing views about risks Differing views about pluses and minuses of the plutonium fuel cycle
	Spent Fuel	Reprocess all spent fuel
Reprocess some and dispose of the rest		Possible with interim storage Waste of resources Lack of research on direct disposal
Directly dispose of all spent fuel (= stop reprocessing)		Possible with interim storage Differing views about risks of reprocessing Waste of resources Lack of research on direct disposal
Interim storage		Reprocessing delayed Consider what to do when total quantity is decided (= nuclear phase out)
Stop producing it (= nuclear phase out)		Differing views about the risks of nuclear power

\* This is an illustrative, not a comprehensive list of reasons.

Meeting 1 (15 June 1999) transcript:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/1kokai/minute1.html>

Meeting 2 (13 July 1999) transcript:

<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/2kokai/minute2.pdf>

## **Appendix 5 : Committee into the Disposal of High-Level Radioactive Waste (*HLW Kondankai*)**

The Committee into the Disposal of High-Level Radioactive Waste (*HLW Kondankai*) (JAEC 1996–2000a)<sup>550</sup> began on 8 May 1996. The final report (Committee into the Disposal of High-Level Radioactive Waste 1998) became the basis of Japan’s HLW policy. Shortly after it was released, the Designated Radioactive Waste Final Disposal Act<sup>551</sup> was passed establishing the Nuclear Waste Management Organization of Japan (NUMO) to implement HLW disposal.

Like the 1997 *FBR Kondankai* (section 3.3.4), the *HLW Kondankai* was carried out under the auspices of JAEC. It included a more extensive public participation process than the *FBR Kondankai*, but, as with the *FBR Kondankai*, public input did not substantially influence the outcome.

After the release of a draft report on 18 July 1997, five public hearings were held in regional centers from 19 September 1997 to 14 January 1998 followed by a sixth in Tokyo on 24 February 1998. The hearings were similar in format to the Round Table Conference, but there was no moderator role. A document was published on the internet which included all public comments submitted in response to the draft report along with an account of how those comments were reflected in the final report.<sup>552</sup> According to this document, amendments were made reflecting 302 opinions, 441 opinions were already adequately covered in the original draft, and 573 opinions were judged to be ‘outside the scope of consideration’. Some comments contained multiple opinions, so the above numbers do not correspond to the number of public comments submitted, but

---

<sup>550</sup> *HLW Kondankai* web site:

<http://www.aec.go.jp/jicst/NC/senmon/old/waste-manage/menu.htm>

<sup>551</sup> Enacted 7 June 2000 and came into force 1 November 2000.

<sup>552</sup> Handout 6 of meeting 14, 26 May 1998:

<http://www.aec.go.jp/jicst/NC/senmon/old/waste-manage/siryu/high14/siryu06.htm>

in any case the figures are misleading. Modifications were made to the text in relation to the issues raised by 302 opinions, but in many cases the modifications were contrary to the intention of the opinions said to have been reflected. Likewise, many of the 441 opinions said to be adequately covered were in fact critical comments that were not accepted. Documents available on JAEC's web site are less explicit about how opinions expressed in the public hearings were reflected in the final report,<sup>553</sup> but reviewing the amendments made to the draft text it is clear that no substantial changes were made in response to the public comments or the public hearings. Changes were limited to clarification and additional explanation.

The most fundamental criticism of the *HLW Kondankai's* draft report was that the question of whether or not to continue to produce HLW should have been treated as prior to the question of what to do with HLW once it is produced, but committee members judged that this was outside their remit. This same point was raised again fourteen years later by the Science Council of Japan (SCJ) (section 5.2.1). It is also the same criticism that was made of the Canadian Waste Management Organization's national consultation process (section 1.2.2), so the issue is not a uniquely Japanese one.

---

<sup>553</sup> The following link to a document presented to meeting 13 (24 April 1998) summarises committee members' comments about how public comments and opinions expressed at the hearings should be reflected in the final report:  
<http://www.aec.go.jp/jicst/NC/senmon/old/waste-manage/siryu/high13/siryu4.htm>

## **Appendix 6 : Japan Atomic Energy Commission's Nuclear Fuel Cycle Policy Review – Scenarios and Evaluation Criteria (11 November 2004)**

The following details are taken from the Citizens' Nuclear Information Center's (CNIC) translation of the New Nuclear Policy-Planning Council's 12 November 2004 Interim Report Concerning the Nuclear Fuel Cycle Policy (Japan Atomic Energy Commission 2004).<sup>554</sup>

### **Scenarios**

Scenario 1: full reprocessing of all of Japan's spent nuclear fuel.

Scenario 2: reprocessing that portion that could be handled by the reprocessing plant being constructed at Rokkasho in Aomori Prefecture.

Scenario 3: direct disposal by deep burial.

Scenario 4: temporary storage and postponing the decision about reprocessing until a later date

### **Evaluation criteria**

Safety assurance

Resource conservation and stability of supply (energy security)

Environmental compatibility

Economic considerations

Nuclear non-proliferation

Technical viability

Social viability (social acceptability)

Assurance of choice (flexibility)

Issues associated with policy change

Overseas trends

---

<sup>554</sup> CNIC translation of the New Nuclear Policy-Planning Council's 12 November 2004 Interim Report Concerning the Nuclear Fuel Cycle Policy:

<http://www.cnic.jp/english/topics/policy/chokei/longterminterim.html>

Appendix: <http://www.cnic.jp/english/topics/policy/chokei/longterm4scenarios.html>

## Appendix 7 : Fundamental Issues Subcommittee Energy Mix Scenarios

The table below is my translation of table 1 on page 37 of the Draft Interim Report presented to meeting 26 of the Fundamental Issues Subcommittee (FIS), 5 June 2012 (FIS 2012).<sup>555</sup>

### Electricity Composition for Scenarios 1~3 in 2030

	Nuclear	Renew-ables	Thermal	Cogeneration	Energy saving (electricity saving)	Energy-related CO <sub>2</sub> emissions (electricity origin) [1990 comparison]
Scenario 1	≈ 0%	≈ 35%	≈ 50%	≈ 15%	[2010 comparison] energy saving: ≈ ▲ 20% (electricity saving: ≈ ▲ 10%) → ≈ 1 trillion kWh	▲ 16% (+5%)
Scenario 2	≈ 15%	≈ 30%	≈ 40%	≈ 15%		▲ 20% (▲ 8%)
Scenario 3	≈ 20% ~ ≈ 25%	≈ 25% ~ ≈ 30%	≈ 35%	≈ 15%		▲ 23% (▲ 15%)
Reference scenario	≈ 35%	≈ 25%	≈ 25%	≈ 15%		▲ 28% (▲ 33%)
Existing plan (2010)	45%	20%	27%	8%		▲ 31% (▲ 27%)
FY2010	26%	11%	60%	3%		+6% (+25%)

Each scenario was accompanied by a brief explanatory statement outlining the type of society aimed for, the basic thinking, the methods of achieving the aims, and issues that might arise. CO<sub>2</sub> emissions in the final column were calculated by the Agency for Natural Resources and Energy based on primary energy consumption derived from the estimated growth rate and energy saving measures and on the percentage of thermal energy in the mix of each scenario.<sup>556</sup> These figures were problematic in that they assumed the same total electricity consumption for each scenario.<sup>557</sup>

<sup>555</sup> Draft report 'Energy mix no sentakushi no gen'an ni tsuite', tabled at Fundamental Issues Subcommittee meeting 26, 5 June 2012:

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/026/pdf/26-1-2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/026/pdf/26-1-2.pdf)

<sup>556</sup> Meeting 18, 11 April 2012 (handout 4):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/018/pdf/18-4.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/018/pdf/18-4.pdf)

<sup>557</sup> Meeting 18, 11 April 2012 (handout 3, p. 4):

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/018/pdf/18-3.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/018/pdf/18-3.pdf)



## Appendix 8 : Cost Estimation and Review Committee

The Cost Estimation and Review Committee (Cost Committee) was established within the National Policy Unit's Energy and Environment Council (EEC) in response to EEC's July 2011 interim discussion points (EEC 2011a, p. 13). Basic Philosophy III, Principle 2 of this document stated that the energy policy review would 'verify objective data', and 'practically and objectively check out nuclear power generation cost as well as renewable energies introducible amount on the basis of data'. On 19 December 2011 the Cost Committee released a draft report comparing costs of various fuel sources (Cost Estimation and Review Committee 2011). As evidence of the objectivity of the Cost Committee's data, Tomohito Ihara, a bureaucrat in the National Policy Unit, emphasised the fact that the excel tables were published so that people could input different figures if they wished.<sup>558</sup>

The Cost Committee's work was challenged by Fundamental Issues Subcommittee (FIS) member Ryutaro Kono of BNP Paribas, who pointed out that the committee's calculations did not include capital cost<sup>559</sup> and that not including this cost made nuclear power plants appear considerably cheaper than they really were.<sup>560</sup> Similar comments were made by FIS member Tatsuo Hatta, an economist from Osaka University.<sup>561</sup>

This is of particular interest to me, because I made precisely the same point in a submission in response to a 'call for evidence' on the Cost Committee's report. Public comments were tabled and discussed at meeting 9 on 14 March 2012 after a three-

---

<sup>558</sup> Interview with Tomohiro Ihara, 10 January 2013

<sup>559</sup> Ryutaro Kono explained that by the term 'capital cost' he was referring to the cost of interest on finance, not the cost of construction.

<sup>560</sup> Ryutaro Kono, meeting 23, 21 May 2012 (transcript p. 61)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/023/pdf/gijiroku23th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/023/pdf/gijiroku23th.pdf)

<sup>561</sup> Tatsuo Hatta, meeting 22, 14 May 2012 (transcript p. 46)

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/022/pdf/gijiroku22th.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/022/pdf/gijiroku22th.pdf)

month response period.<sup>562</sup> Mine was one of just 16 submissions in all and one of just seven which the committee accepted. Most of the comments that were accepted, including mine, were added as references rather than alterations to the basic calculation.

In its response to my submission, the committee used an unrealistically low interest rate of 3 percent, the same as the discount rate used in the draft report. Even using that low rate the cost of nuclear energy increased marginally compared to thermal plants, but, as strongly pro-nuclear Keigo Akimoto of the Research Institute of Innovative Technology of the Earth (RITE) acknowledged during the seventh meeting (16 October 2013) of the Advisory Committee for Natural Resources and Energy's Strategic Policy Committee,<sup>563</sup> the discount rate would be 10 percent or more in a liberalised market.<sup>564</sup> Applying a 10 percent rate to the calculations in the draft report would in itself considerably increase the cost of nuclear energy compared to thermal plants. The relative cost of nuclear energy would increase even more if a capital cost of 10% were included.

In addition to the problems with the calculation itself, there was also a serious flaw in the process. Although public comments were called for and some submissions were accepted, no new report was ever published to reflect the public comments. Hence,

---

<sup>562</sup> My submission to the Cost Estimation and Review Committee:  
[http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120314/sankou1\\_04.pdf](http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120314/sankou1_04.pdf)  
Responses to public comments (response to my comment, p. 4):  
<http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120314/shiryo2-1.pdf>

<sup>563</sup> The Strategic Policy Committee is the committee that took over the task of preparing a new Basic Energy Policy from the Fundamental Issues Subcommittee after the LDP-Komei government took power (see section 4.4.2). Keigo Akimoto was a member of both this committee and the Cost Committee.

<sup>564</sup> Refer Keigo Akimoto's comments at meeting 7 (16 October 2013) of the Advisory Committee for Natural Resources and Energy's Strategic Policy Committee, transcript p. 34:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/007/pdf/007\\_011.pdf](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/007/pdf/007_011.pdf)

On 13 October 2013 the government passed an amendment to the Electricity Business Act, setting in train a process to reform Japan's electricity system that includes plans to liberalise the electricity market.

despite the various defects of the Cost Committee's calculations, the unamended draft report continues to be used as the authoritative source for cost comparisons.<sup>565</sup>

In light of the above criticisms, any claim that the Cost Committee 'verified objective data' should be taken with a grain of salt.

---

<sup>565</sup> For example, meeting 13 (13 December 2013) of the Advisory Committee for Natural Resources and Energy's Strategic Policy Committee. See Kazuhiro Ueta's comments on pages 31-32 of the transcript for a critique of this:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/013/pdf/013\\_008.pdf](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/013/pdf/013_008.pdf)

## **Appendix 9 : Japan Atomic Energy Commission’s Technical Subcommittee on the Nuclear Fuel Cycle (January–May 2012)**

Japan Atomic Energy Commission’s Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc. conducted an assessment of the nuclear fuel cycle from January to May 2012. The assessment followed a three-step process.

In **Step 1** the following five technical options were identified:

1. LWR (Light Water Reactor) once through
2. LWR-MOX limited recycle
3. LWR-MOX multiple recycle
4. LWR-FBR (Fast Breeder Reactor) actinide burner
5. FBR.

The merits of these technical options were assessed against the following six criteria:

1. technical feasibility
2. resource use efficiency
3. economics
4. safety
5. waste treatment and disposal
6. non-proliferation.<sup>566</sup>

In **Step 2** the following three policy options for dealing with spent nuclear fuel were chosen:

1. all spent fuel reprocessed
2. all spent fuel directly disposed of
3. a combination of reprocessing and direct disposal.

A ‘wait and see’ option was also considered. Also, during Step 2 the following seven assessment criteria were developed:

1. energy security and assurance of uranium supply
2. radioactive waste and management and storage of spent fuel
3. international aspects of the nuclear fuel cycle
4. flexibility
5. economics
6. social acceptability
7. issues associated with realization of, or change of policy.<sup>567</sup>

---

<sup>566</sup> Reports on Step 1 tabled at Technical Subcommittee meeting 9, 1 March 2012:

‘Kaku nenryō cycle no gijutsu sentakushi: Dai-1 step no matome’

<http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryō/siryō9/ssiryō1.pdf>

‘Kaku nenryō cycle no gijutsu sentakushi oyobi hyōka jiku ni tsuite (kaitei-ban)’

<http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryō/siryō9/ssiryō2.pdf>

<sup>567</sup> Document on Step 2 policy options tabled at Technical Subcommittee meeting 9, 1 March 2012, ‘Step 2 ni okeru seisaku sentakushi ni tsuite’:

<http://www.aec.go.jp/jicst/NC/tyoki/hatukaku/siryō/siryō9/siryō2.pdf>

In **Step 3** the three spent fuel policy options were cross-referenced with four energy mix scenarios based on the discussions being held in METI's Fundamental Issues Subcommittee (FIS) and assessed quantitatively and qualitatively against the seven criteria developed during Step 2. The four energy mix scenarios selected for consideration by the Technical Subcommittee were as follows:

1. zero percent
2. 15 percent
3. 20 percent
4. 35 percent nuclear energy.

These are different from the four scenarios submitted on 5 June 2012 by FIS to the Energy and Environment Council (FIS 2012),<sup>568</sup> because when JAEC's Technical Subcommittee was carrying out its Step 3 assessment FIS had not yet narrowed its scenarios down.

The Technical Subcommittee's chairman, JAEC Vice-Chair Tatsujiro Suzuki, submitted a report to JAEC's 5 June 2012 regular meeting (Suzuki, Tatsujiro 2012), but the report was never officially endorsed. The report outlined the advantages and disadvantages of the three policy options for each of the four energy mix scenarios in terms of the seven assessment criteria.

---

<sup>568</sup> FIS recommended the following four scenarios to the Energy and Environment Council (EEC) on 5 June 2012: (1) zero percent, (2) 15 percent nuclear energy, (3) 20~25 percent, (4) leave it to the market. It also included a reference scenario of 35 percent. Of these, EEC chose scenarios (1), (2) and (3) as the basis of the July-August 2012 national debate.

## **Appendix 10: Reform of the Japan Atomic Energy Commission**

The upshot of the Japan Atomic Energy Commission (JAEC) secret meetings scandal (section 4.2.3) was that the DPJ government promised in its *Innovative Strategy on Energy and the Environment* that a review of the Commission would be conducted ‘with its abolition and reorganization in mind’ (Energy and Environment Council 2012a, p. 5). The government duly established a review committee, which published a report on 18 December 2012 (Expert Review Committee into the Atomic Energy Commission 2012), two days after the national election which the DPJ government lost. After taking office the new government shelved the report and commenced a new review. The new committee’s report was released on 10 December 2013 (Expert Committee to review the form of the Atomic Energy Commission 2013).

The report recommended that JAEC continue to exist, but in a trimmed down form, with the number of commissioners reduced from five to three. Its most prominent recommendation was that JAEC no longer produce an overarching *Framework for Nuclear Energy Policy* (p. 9). This was thought to be adequately covered by the Basic Energy Plan and the Science and Technology Basic Plan. The report recommended that JAEC continue to provide perspectives on radioactive waste treatment and disposal, and on ‘peaceful use’ and nuclear non-proliferation, but that it no longer have the role of promoting nuclear power (p. 18). It indicated that legislative amendments could be required (p. 18), but did not specify what those amendments might be.

If JAEC is to be transformed into a neutral organisation which does not set the overall direction of nuclear energy policy, it would be desirable for amendments to be made to the Atomic Energy Basic Act, in particular to Article 1, which states that the purpose of the Act is ‘[to encourage] the research, development and utilization of nuclear energy’,

and Article 5(1), which states, ‘The Atomic Energy Commission shall plan, deliberate on and determine the matters related to the research, development and utilization of nuclear energy.’ However, at the time of writing, the Atomic Energy Basic Act had not been amended. An amendment to the Atomic Energy Commission Establishment Act passed on 20 June 2014 reduced the number of commissioners to three, but this did not address the issue of JAEC neutrality.

The Mainichi Shimbun reported that an LDP committee had decided that JAEC would be tasked with putting together a nuclear energy policy that would effectively have equivalent status to the *Framework for Nuclear Energy Policy* (Nakanishi, Kano & Okuyama 2014). It seems, then, that while JAEC has been further weakened, it has averted fundamental reform.

A bizarre proposal by the Radioactive Waste Working Group suggests one role for the reformed JAEC could be as an independent third party body to review the high-level radioactive waste (HLW) disposal business (Radioactive Waste Working Group 2014, p. 31). Even if the Radioactive Waste Working Group sees the new JAEC as independent, the public certainly will not. More than anything this proposal is testimony to the stubbornness and insensitivity of the nuclear administration. (Compare former Fukushima Governor Eisaku Sato’s observation that the nuclear administration advances ‘like a bulldozer’ (Sato, E 2009, p. 59).)

## Appendix 11: Nuclear Fuel Cycle Policy Options (2012)

Table taken from page 5 of the Japan Atomic Energy Commission's 21 June 2012 submission to the Energy and Environment Council (English translation) (JAEC 2012).

Option for nuclear energy reliance <sup>*1</sup>	Nuclear fuel cycle policy options		
	Basic policy of spent fuel treatment	Present policy promotion	FBR/FR <sup>*2</sup>
Option (a) Promptly establish zero nuclear power without building new or expanding existing nuclear plants (0% in 2030)	"Full direct disposal" is appropriate.	Decommissioning of Rokkasho Reprocessing Plant Long-term storage of spent fuel Commencement of work for direct disposal	Suspend R&D of "Monju", present the R&D results, and promote only basic R&D.
Option (b) Reduce nuclear reliance to 15% in 2030 in principle.	"Coexistence of reprocessing and direct disposal" is appropriate.	Proceed its plan to operation of Rokkasho Reprocessing Plant, etc. Spent fuel exceeding reprocessing is stored. Efforts for reprocessing and directly disposing of stored spent fuel should be both pursued.	Do not go to the demonstration reactor phase, and conduct R&D required to determine the potential for commercialization. Conduct performance tests and rated operation for "Monju" to ensure feasibility (in around five years).
Option (c) Lower than before but maintain certain level and reduce reliance to 20 - 25% in 2030.	"Coexistence of reprocessing and direct disposal" is a likely option. (if ensuring flexibility is important given its uncertainty)	Proceed its plan to operation of Rokkasho Reprocessing Plant, etc. Spent fuel exceeding reprocessing is stored. Efforts for reprocessing and directly disposing of stored spent fuel should be both pursued.	Do not go to the demonstration reactor phase, and conduct R&D required to determine the potential for commercialization. Conduct performance tests and rated operation for "Monju" to ensure feasibility (in around five years).
	"Full reprocessing" is appropriate likely option. (merit is greater under the option © than under the option (b))	Proceed its plan to full operation of Rokkasho Reprocessing Plant, etc. Spent fuel exceeding reprocessing is stored until further reprocessing. Efforts for preparation of future reprocessing plants.	Conduct R&D for commercialization, and go to the demonstration reactor phase. Achieve the intended goal for "Monju" by operation in around a decade.



## Appendix 12: E-shift's 10 Principles and 7 Pillars

E-shift's 8 December 2011 statement of principles and pillars for a 'Nuclear phase out / energy shift basic policy' (e-shift 2011).

Ten principles towards realisation of an energy shift:

- 1) assurance of safety and sense of security ('*anshin*')
- 2) achievement of sustainability
- 3) pursuit of true self-supply
- 4) curbing climate change
- 5) activation of local society by making the most of local resources
- 6) contribution to resolving world energy poverty
- 7) reconsideration of economic growth
- 8) nuclear non-proliferation
- 9) international peace
- 10) access to information and policy decision-making.

Seven pillars:

- 1) promote rapid progress in renewable energy and construct a distributed energy society
- 2) break free of high energy consumption society
- 3) decommission all nuclear power plants
- 4) break free of dependence on fossil fuels
- 5) nurture clean energy technology as an industry, export it and create employment at the same time
- 6) enable the public to participate in policy decision-making
- 7) aim for an energy system that places importance on social abundance.

## **Appendix 13: Electoral Politics and the Anti-Nuclear Energy Movement**

It is impossible to speak of public participation in the broad terms used in this thesis without at least mentioning the efforts of citizens' movements to exert influence through electoral politics. This thesis does not seek to address participation in electoral politics in detail, nor to analyse the outcome of specific elections. But in terms of impact on policy outcomes, the inability of the Japanese anti-nuclear movement to exert significant influence on electoral politics turned out to be its biggest downfall. It represents possibly the biggest contrast with the success of the German anti-nuclear movement, which, through the rise of the Green Party, was able to win a negotiated nuclear phase out (Rüdig 2000; Schreurs 2003, pp. 11-13; 2013, pp. 7-8).

Traditionally the Japanese anti-nuclear movement eschewed electoral politics at the national level, although some individuals campaigned for anti-nuclear candidates and there have always been informal connections between anti-nuclear NGOs and left wing political parties.<sup>569</sup> But in the December 2012 House of Representatives election and again in the June 2013 House of Councillors election the movement for a phase out of nuclear energy took a more active role than in the past. Tetsunari Iida, Executive Director of the Institute for Sustainable Energy Policies, became the deputy leader of the Tomorrow Party and Hiroyuki Kawai, a lawyer with a long history of involvement in nuclear lawsuits, played an important role in bringing together parties which shared a platform of phasing out nuclear energy. Kawai famously accompanied Ichiro Ozawa to Germany to observe Germany's nuclear phaseout and sustainable energy programs (Kajimura 2012; Kyodo 2012g). Also, people involved in the nuclear phase out

---

<sup>569</sup> Interview with Hiroyuki Kawai, 7 February 2013

movement surveyed candidates about their position on nuclear energy policy and web sites were established to report on the responses received.<sup>570</sup>

Despite these efforts, the party least favourable to a nuclear phaseout won both elections in landslides, and the Tomorrow Party, which was strongly supportive of a nuclear phase out, suffered heavy losses. Energy and nuclear energy policy turned out to be less salient than other issues in these elections. Voters passed judgment on what they perceived to have been an incompetent and incoherent DPJ government and expressed their distrust of newly cobbled together parties. The Tomorrow Party's decision to join forces with Ichiro Ozawa probably did not help its cause either (Kyodo 2013a; Mie 2012; Pekkanen 2012).

The election for Tokyo governor held on 9 February 2014 represented another failure of the anti-nuclear movement to capitalise on a golden opportunity to put pressure on the LDP-Komei government about nuclear energy policy. A nuclear phaseout was a key policy platform for two of the four leading candidates, but they were unable to combine forces behind a single candidate. The election attracted a great deal of attention because former Prime Minister Morihiro Hosokawa, backed by another former prime minister, Junichiro Koizumi, stood for the express purpose of promoting a nuclear phaseout. Given that the combined vote of Hosokawa and the other clearly anti-nuclear candidate, Kenji Utsunomiya, was less than the that of the winner, Yoichi Masuzoe, the failure to combine forces might not have been the difference between winning and losing, but it was another election that slipped through the fingers of the anti-nuclear camp. Masuzoe, who was supported by the governing parties, also claimed to favour a nuclear phaseout, but it was not a priority issue for him and the government interpreted his election as a

---

<sup>570</sup> For example, 'Datsu Gempatsu Tsūshinbo': <http://miraisenkyo.wordpress.com/2012/11/02/master/>

green light to release a new draft of the Basic Energy Policy (Tabuchi 2014; The Japan Times 2014).

## Appendix 14: Post-Election 2012

After the December 2012 election, several favourable decisions for the nuclear industry were made. One significant decision would not have pleased the electric power companies, but they are moving to neutralise the negative consequences for themselves of this decision. These decisions are summarised below.

Conspicuously favourable decisions include the following:

1) Status of nuclear energy

The goal in the DPJ government's *Innovate Strategy* of phasing out nuclear energy was withdrawn and nuclear energy was re-established as 'an important base-load power source' (Ministry of Economy Trade and Industry 2014c, p. 21).

2) Nuclear fuel cycle

Continuation of the nuclear fuel cycle and plutonium use was confirmed (Ministry of Economy Trade and Industry 2014c, pp. 53-54). This was already confirmed in the DPJ government's *Innovative Strategy*, but the contradiction in that document between the fuel cycle policy and the policy of phasing out nuclear power meant that the former policy was a stopgap measure which would have had to have been revised in due course. The reasoning suggested as much: the only reason given was a political one, namely the importance of honouring the government's promise to Aomori Prefecture. By contrast, the reasoning of the LDP-Komei government's Basic Energy Plan is directed towards the long term: effective use of resources and reduction of the quantity and potential harm of high-level radioactive waste.

### 3) Nuclear exports

Prime Minister Abe has taken on the role of top salesman for nuclear exports. Since the LDP-Komei government took power, an agreement was signed with Turkey to select the French/Japanese Atmea reactor supplied by Areva and MHI Industries as the preferred choice for its planned nuclear power station at Sinop on the Black Sea coast (Toyoda 2013). Also, bilateral nuclear cooperation agreements with Turkey and the United Arab Emirates have been ratified. Abe's predecessor, Prime Minister Noda, resumed negotiations on nuclear cooperation agreements suspended by Naoto Kan in July 2011 (Kyodo 2011b), but Abe has been more aggressive in his promotion of nuclear exports.

### 4) Status of TEPCO

While many people have called for the Tokyo Electric Power Company (TEPCO) to be forced into liquidation and broken up into separate companies dealing with the current company's various component roles (Iida 2012; Koga 2011, pp. 359-373; 2013, pp. 258-263; Mayors for a Nuclear Power Free Japan 2013),<sup>571</sup> the government has moved to protect the company.<sup>572</sup> It decided to greatly increase financial support for TEPCO. On 15 January 2014 the government approved an increase from 5 trillion yen to 9 trillion yen in the ceiling for interest-free loans the Nuclear Damage Liability Facilitation Fund<sup>573</sup> is allowed to give TEPCO.<sup>574</sup> The

---

<sup>571</sup> See also meeting 32 (21 November 2013) of Kokkai Energy Chōsakai Jumbikai (Preparatory Diet Committee on Energy) for presentations by Shuya Nomura (Chuo University), Shigeaki Koga (ex METI bureaucrat), and Masaru Kaneko (Keio University) on this issue: <http://www.ustream.tv/recorded/40962911>

<sup>572</sup> See, for example, the responses by Toshimitsu Motegi, Minister for Economy, Trade and Industry to questions by Masayuki Naoshima and Kota Matsuda in the House of Councillors Standing Committee on Economy and Industry on 7 October 2013.

<sup>573</sup> The Nuclear Damage Liability Facilitation Fund was established on 12 September 2011 by the DPJ government to ensure damages could be paid and a stable supply of electric power provided in the case of nuclear accidents. The Fukushima Daiichi nuclear accident was the direct reason, but the Fund's remit applies to nuclear damages in general (Nuclear Damage Liability Facilitation Fund 2013).

<sup>574</sup> Nuclear Damage Liability Facilitation Fund 15 January 2014 press release 'Sōgō tokubetsu jig'yō keikaku no henkō no nintei ni tsuite': <http://www.ndf.go.jp/press/at2014/20140115.html>

government will also cover some of the costs for dealing with the Fukushima Daiichi nuclear accident which under the original arrangements TEPCO would have had to pay (Kyodo 2014b; Mainichi Japan 2013a).

5) Decommissioning costs

The government amended the electric industry accounting rules under the Electricity Business Act to cover funding shortfalls in decommissioning costs due to early shutdowns, accidents, etc.<sup>575</sup> One consequence of this measure is to enable electric power companies to extend the period for collecting decommissioning funds from electricity rates by up to 10 years after nuclear power plants are shut down. Another consequence is to enable TEPCO to include in electricity rates depreciation costs for additional equipment purchased for the decommissioning of the Fukushima Daiichi Nuclear Power Station.

Ristumeikan University's Kenichi Oshima criticised the proposed changes while they were being drafted as follows:

It is strange that this system change is being seen as a change to the 'accounting system', when actually it is a change to the rates system....As a result the burden on the public will increase....It gives the [nuclear power plant] owner the false impression that there is no risk in nuclear power.<sup>576</sup>

6) HLW disposal

Attempts to link public debate about the disposal of high-level radioactive waste (HLW) to nuclear energy policy as a whole were thwarted. On 11 September 2012 the Science Council of Japan (SCJ) responded to a request by the Japan Atomic

---

<sup>575</sup> Refer Ministry of Economy, Trade and Industry's 1 October 2013 announcement 'Denki jigyo kaikei kisoku to no ichibu o kaisei suru shōrei o shikō shimashita': <http://www.meti.go.jp/press/2013/10/20131001002/20131001002.html>

<sup>576</sup> Tweets by Kenichi Oshima, 7 August 2013: <http://togetter.com/li/545273>

Kenichi Oshima is an environmental economist who is an expert on the cost of nuclear power and was a member of the Cost Estimation and Review Committee and the Fundamental Issues Subcommittee (refer Appendix 8 and section 4.2.2).

Energy Commission for an opinion about the high-level radioactive waste disposal program. In its report it stated,

[S]eeking agreement on the individual issue of selecting a final disposal site for high-level radioactive waste without first making sufficient effort to form agreement on the broader policy surrounding nuclear energy is an inappropriate procedurally back-to-front approach (SCJ 2012, p. iii).

However a 28 November 2013 report by the chairman of a working group reviewing Japan's high-level waste disposal basically followed existing policy (Masuda 2013).<sup>577</sup> The substance of his report was adopted more or less word for word in the Basic Energy Plan (Ministry of Economy Trade and Industry 2014c, pp. 51-52), but at the working group's next meeting members complained that the chairman's report had been misrepresented as a report endorsed by the whole working group.<sup>578</sup> The report referred obliquely to the abovementioned aspect of SCJ's advice, but the substance of the report continued to prioritise finding a final disposal site and consulting only the local community, not the whole nation (section 5.2.1). There was no reference to another important aspect of SCJ's advice, namely 'managing the total volume' of the waste (variously interpreted as 'setting a limit on the total volume', or 'controlling the increase') (SCJ 2012, p. 12).

---

<sup>577</sup> Although Masuda's proposal was reported as recommending a change in policy, it is doubtful whether it represented anything substantially new. The main thrust was that the central government would not wait for local governments to apply to be considered as candidate sites for a radioactive waste dump. Rather, it would identify scientifically feasible regions and approach local governments directly. In fact, this policy change had already been made as early as 2007, but it had not been implemented—no local governments had been formally approached. Refer page 14 of the document 'Kō-level hōshasei haikibutsu shobun ni tsuite' presented at the committee's first meeting (28 May 2013):

[http://www.meti.go.jp/committee/sougouenergy/denkijigyuu/houshasei\\_haikibutsu/pdf/25\\_01\\_02\\_00.pdf](http://www.meti.go.jp/committee/sougouenergy/denkijigyuu/houshasei_haikibutsu/pdf/25_01_02_00.pdf)

<sup>578</sup> Submissions by Kohta Juraku and Hideyuki Ban to meeting 7 (19 December 2013) of the Radioactive Waste Working Group of the Advisory Committee for Natural Resources and Energy:

[http://www.meti.go.jp/committee/sougouenergy/denryoku\\_gas/genshiryoku/houshasei\\_haikibutsu\\_wg/pdf/007\\_s03\\_02.pdf](http://www.meti.go.jp/committee/sougouenergy/denryoku_gas/genshiryoku/houshasei_haikibutsu_wg/pdf/007_s03_02.pdf)

[http://www.meti.go.jp/committee/sougouenergy/denryoku\\_gas/genshiryoku/houshasei\\_haikibutsu\\_wg/pdf/007\\_s03\\_03.pdf](http://www.meti.go.jp/committee/sougouenergy/denryoku_gas/genshiryoku/houshasei_haikibutsu_wg/pdf/007_s03_03.pdf)



Clearly the government intends to try to prevent the unresolved radioactive waste problem from interfering with the promotion of nuclear energy per se.

These moves provide financial and policy support to the nuclear industry at a time when its future is under a cloud. Relating them to three post-3.11 change narratives identified by Samuels (2013, pp. x-xi, 110-150), they suggest that the LDP-Komei government has chosen to ‘stay the course’. However, in one important area Samuel’s second narrative, ‘put it in gear and go in a new direction’, may prevail. As discussed below, this is unlikely to please the electric power companies.

A revision to the Electricity Business Act passed on 13 November 2013 set in train a process that will, if carried to completion, result in reform and full liberalisation of the electric power system.<sup>579</sup> The reform, which was proposed by the DPJ government and taken up by the LDP-Komei government, has three pillars:

1. Expanding operations of wide-area electricity grids,
2. Fully liberalizing the retail market and power generation, and
3. Further securing neutrality of the power transmission/distribution sector through the legal structural separation method.<sup>580</sup>

In theory, if these reforms are carried out, all Japanese will be able to choose where they purchase their electricity from and obstacles currently faced by independent electricity producers, in particular restricted access to the grid, will be removed. As shown in the

---

<sup>579</sup> Previous attempts at liberalisation of the electricity system were partial and in 2011 the percentage of the electricity market taken by players other than the regional monopoly electric power companies was just 3.6 percent (Electricity System Reform Expert Subcommittee 2013, p. 5).

<sup>580</sup> Ministry of Economy, Trade and Industry (Agency for Natural Resources and Energy) English press release about the 15 October 2013 Cabinet Decision to proceed with the reform ‘Cabinet Decision on the Bill for the Act for Partial Revision of the Electricity Business Act’: [http://www.meti.go.jp/english/press/2013/1015\\_03.html](http://www.meti.go.jp/english/press/2013/1015_03.html)

table below, the passage of the amendment in November 2013 was just the first step. Legislation relating the second phase was passed on 11 June 2014.<sup>581</sup> More legislation has to be passed over the next few years before the full scope of the reform is secured.

**Cabinet Decision on the Bill for the Act for Partial Revision of the Electricity Business Act<sup>582</sup>**

	<b>Schedule for implementing the measures</b>	<b>Schedule for submitting the bill</b>
<b>1st phase:</b> Establishing the Organization for Nationwide Coordination of Transmission Operators (tentative title)	In about 2015	To this extraordinary session of the Diet again after the bill was discarded during the ordinary session of the Diet in 2013 (formulating provisions for implementing the reform of the 2nd and 3rd phases)
<b>2nd phase:</b> Fully liberalizing the electricity retail market into which retail entities are able to enter	In about 2016	To the ordinary Diet session in 2014
<b>3rd phase:</b> Further securing the neutrality of the power transmission/distribution sector through legal structural separation; fully liberalizing electricity rates	By about 2018–2020	The Government of Japan shall aim to submit the bill to the ordinary Diet session in 2015.

Chairman of the Federation of Electric Power Companies (FEPC), Makoto Yagi, said, ‘the electric power companies are committed to actively cooperating with the detailed reviews to create an electric power system that truly benefits the users’,<sup>583</sup> but Hiroshi Takahashi of Fujitsu Research Institute, who was a member of the Electric Power System Reform Expert Subcommittee which produced the report on which the reforms

<sup>581</sup> The Agency for Natural Resources and Energy’s 11 June 2014 press release “Denki jigyō hō tō no ichibu o kaisei suru hōritsu” (dai 2 dan kaisei) (Heisei 26 nen 6 gatsu 11 nichi seiritsu) ni tsuite’:

[http://www.enecho.meti.go.jp/category/electricity\\_and\\_gas/electric/system\\_reform004/](http://www.enecho.meti.go.jp/category/electricity_and_gas/electric/system_reform004/)

<sup>582</sup> Extract from Agency for Natural Resources and Energy’s English summary of 15 October 2013 ‘Cabinet Decision on the Bill for the Act for Partial Revision of the Electricity Business Act’: [http://www.meti.go.jp/english/press/2013/1015\\_03.html](http://www.meti.go.jp/english/press/2013/1015_03.html)

<sup>583</sup> ‘Summary of Press Conference Comments Made by Makoto Yagi, FEPC Chairman, on November 15, 2013’:

[http://www.fepec.or.jp/english/news/conference/\\_icsFiles/afieldfile/2013/11/20/kaiken\\_e\\_20131115.pdf](http://www.fepec.or.jp/english/news/conference/_icsFiles/afieldfile/2013/11/20/kaiken_e_20131115.pdf)

are based, says that the electric power industry continues to oppose the legal unbundling of distribution and transmission.<sup>584</sup> The electric power industry must view these reforms with some trepidation. Nuclear power has struggled in those states of the United States that have liberalised their electricity market (Cooper 2013), and it can be expected to struggle to compete in Japan too.

Yagi continued by quoting from his presentation to the 12 November 2013 meeting of the Advisory Committee for Natural Resources and Energy's Strategic Policy Committee:

To continue to run the nuclear power business which has been promoted under a government policy, we ask the government to take this opportunity to redefine the roles of the private and public sectors, and to clarify that it is necessary to improve the business environment for private businesses to be responsible for nuclear power generation.<sup>585</sup>

This suggests that FEPC has in mind some kind of support for nuclear power to make it viable within the context of a liberalised electricity system. In a novel about the nuclear village written by a senior bureaucrat under a pen name,<sup>586</sup> electricity reform is depicted as the electric power industry's biggest nightmare. The novel suggests that industry, along with its supporters in the bureaucracy, would try to neutralise it in the details

---

<sup>584</sup> Interview with Hiroshi Takahashi on 12 March 2013. The legal unbundling method (*'hōteki bunri'*) involves separating the generation and transmission functions into different legal companies, but allowing them to stay under the same ownership. Electric power companies are even more opposed to separating ownership.

<sup>585</sup> 'Summary of Press Conference Comments Made by Makoto Yagi, FEPC Chairman, on November 15, 2013': [http://www.fepc.or.jp/english/news/conference/\\_icsFiles/afieldfile/2013/11/20/kaiken\\_e\\_20131115.pdf](http://www.fepc.or.jp/english/news/conference/_icsFiles/afieldfile/2013/11/20/kaiken_e_20131115.pdf)

See also the Japanese version of Makoto Yagi's (FEPC) presentation to meeting 9 (12 November 2013) of the Advisory Committee for Natural Resources and Energy's Strategic Policy Committee (p. 7): [http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/009/pdf/009\\_001.pdf](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/009/pdf/009_001.pdf)

<sup>586</sup> Mainichi Shimbun refers to the author as an 'elite bureaucrat' (Yamada 2013). The novel purports to be an accurate picture of the relationships between the electric power industry, the bureaucracy and politicians. It is set in the period following the July 2013 House of Councillors election and refers to places and individuals by names that are slightly altered, but immediately recognisable.

(Wakasugi 2013, pp. 22-23, 30-31, 81-83, 219-221). It remains to be seen whether they will do as this author predicts, but the new Basic Energy Plan shows that the government is willing to consider the electric power companies' concerns:

Referring to overseas examples, the government will conduct investigations into the nature of the business environment, so that nuclear companies can respond to such issues even under an environment where competition has advanced due to reform of the electric power system (Ministry of Economy Trade and Industry 2014c, p. 43).<sup>587</sup>

From the above discussion it can be seen that the political circumstances under the LDP-Komei government have improved significantly for the nuclear industry, but that the reform of the electric power system creates uncertainties with the potential to threaten the long-term viability of nuclear power in Japan.

---

<sup>587</sup> A committee considering measures necessary for the implementation of the nuclear aspects of the Basic Energy Plan has shown an interest in the UK government's 'contract for difference' policy, which would guarantee a base rate ('strike price') for electricity generated by nuclear power plants. See handouts on the web site for meeting 5 (21 August 2014) of the Nuclear Energy Subcommittee of the Advisory Committee for Natural Resources and Energy (Sōgō Shigen Energy Chōsakai, Denryoku-Gas Jigyō Bunkakai, Genshiryoku Shō-Iinkai): [http://www.meti.go.jp/committee/sougouenergy/denkijigyou/genshiryoku/005\\_haifu.html](http://www.meti.go.jp/committee/sougouenergy/denkijigyou/genshiryoku/005_haifu.html) In particular, refer page 22 of document 4: [http://www.meti.go.jp/committee/sougouenergy/denkijigyou/genshiryoku/pdf/005\\_04\\_00.pdf](http://www.meti.go.jp/committee/sougouenergy/denkijigyou/genshiryoku/pdf/005_04_00.pdf) Also refer to a presentation to the subcommittee on electricity market reform by Liz Keenaghan-Clark of the UK's Department of Energy and Climate Change (document 3): [http://www.meti.go.jp/committee/sougouenergy/denkijigyou/genshiryoku/pdf/005\\_03\\_00.pdf](http://www.meti.go.jp/committee/sougouenergy/denkijigyou/genshiryoku/pdf/005_03_00.pdf)

## Bibliography

Abelson, J, Forest, P-G, Eyles, J, Smith, P, Martin, E & Gauvin, F-P 2003, 'Deliberations about deliberative methods: issues in the design and evaluation of public participation processes', *Social Science & Medicine*, vol. 57, no. 2, pp. 239-251.

Advisory Committee for Natural Resources and Energy – Coordination Subcommittee / Supply and Demand Subcommittee (Sōgō Shigen Energy Chōsa Kai Sōgō Bukai / Jukyū Bukai) 2001, *Kongo no energi seisaku ni tsuite* (Concerning future energy policy July 2001), Tokyo:  
<http://www.meti.go.jp/report/downloadfiles/g30425c09j.pdf>

Agency for Natural Resources and Energy, *Kotei kakaku kaitori seido web site* (Feed in tariff system):  
[http://www.enecho.meti.go.jp/category/saving\\_and\\_new/saiene/kaitori/index.html](http://www.enecho.meti.go.jp/category/saving_and_new/saiene/kaitori/index.html)

— 2009~, *Sōhōkō symposium: dō suru kō-level hōshasei haikibutsu web site* (Two-way symposium: what shall we do about high-level radioactive waste?):  
[http://www.enecho.meti.go.jp/category/electricity\\_and\\_gas/nuclear/rw/sohoko/](http://www.enecho.meti.go.jp/category/electricity_and_gas/nuclear/rw/sohoko/)

— 2011-2012, *Fundamental Issues Subcommittee web site*:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/)

— 2013a, *Energy Kihon Keikaku ni tsuite* (Concerning the Strategic Energy Plan of Japan), Sōgō Shigen Energy Chōsakai, Sōgō Bukai (Advisory Committee for Natural Resources and Energy, Coordination Subcommittee), 15 March 2013:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/past/001/pdf/001\\_000.pdf](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/past/001/pdf/001_000.pdf)

— 2013b, *Strategic Policy Committee web site*:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_policy\\_subcommittee/](http://www.enecho.meti.go.jp/committee/council/basic_policy_subcommittee/)

Aldrich, DP 2008, *Site fights: divisive facilities and civil society in Japan and the West*, Cornell University Press, Ithaca.

— 2014, 'Revisiting the limits of flexible and adaptive institutions: the Japanese government's role in nuclear power plant siting over the post-war period', in J Kingston (ed.), *Critical issues in contemporary Japan*, Routledge, Oxford and New York, pp. 79-91.

Alford, J & O'Neill, D (eds) 1994, *The contract state: public management and the Kennett government*, Centre for Applied Social Research, Deakin University.

Amenta, E & Caren, N 2004, 'The legislative, organizational, and beneficiary consequences of state-oriented challengers', in DA Snow, SA Soule & H Kriesi (eds), *The Blackwell companion to social movements*, Blackwell Publishing, pp. 461-488.

Aomori Prefecture 2012, *Aomori-ken no genshiryoku gyōsei* (Aomori Prefecture's nuclear energy administration), January 2012:  
[http://www.pref.aomori.lg.jp/soshiki/energy/g-richi/files/23\\_gyosei.pdf](http://www.pref.aomori.lg.jp/soshiki/energy/g-richi/files/23_gyosei.pdf)

Aritomi, M 2013, '2030 nendai ni genshiryoku hatsuden o zero ni mezasu tame ni wa' (In order to aim for zero nuclear energy by the 2030s), *Energy Review*, January 2013, pp. 42-45.

Arnstein, SR 1969, 'A ladder of citizen participation', *Journal of the American Institute of Planners*, vol. 35, no. 4, pp. 216-224.

Avenell, SA 2011, 'Beyond protest: proposal-style citizens' movements in 1970s and 80s Japan', *Understanding Contemporary Japan: proceedings of International Symposium in Indonesia 2010*.

Bachrach, P & Baratz, MS 1970, *Power and poverty: theory and practice*, Oxford University Press, New York.

Ban, H 1997, 'Fire and explosion at PNC's tokai bituminization facility', *Nuke Info Tokyo*, no. 58, March/April 1997, pp. 1-3:  
<http://cnic.jp/english/newsletter/pdffiles/nit58.pdf>

— 2000a, 'Few safety improvements seen since JCO accident', *Nuke Info Tokyo*, no. 80, November/December 2000, pp. 1-3:  
<http://cnic.jp/english/newsletter/nit80/articles/nit80jco.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit80.pdf>

— 2000b, 'MOX program postponed: nuclear industry hit hard by dishonesty', *Nuke Info Tokyo*, no. 75, January/February 2000, pp. 1-3:  
<http://www.cnic.jp/english/newsletter/pdffiles/nit75.pdf>

— 2003, 'Saishori o meguru kōkai tōron kai o kaisai' (Open debate held regarding reprocessing), *Genshiryoku Shiryō Jōhōshitu Tsūshin (Citizens' Nuclear Information Center Newsletter)*, no. 353, 1 November 2003, pp. 1-4.

— 2004, 'Open debate held re fuel reprocessing', *Nuke Info Tokyo*, no. 98, February 2004, pp. 7-8:  
<http://www.cnic.jp/english/newsletter/nit98/nit98articles/nit98debate.html>  
<http://www.cnic.jp/english/newsletter/pdffiles/nit98.pdf>

— 2006, *Genshiryoku Seisaku Taikō hihan (Critique of the Framework for Nuclear Energy Policy)*, Nanatsumori Shokan, Tokyo.

Barnaby, F & Burnie, S 2005, 'Thinking the unthinkable: Japanese nuclear power and proliferation in East Asia', August 2005:  
<http://www.cnic.jp/english/publications/orgjapanprolif.html>  
<http://www.cnic.jp/english/publications/pdffiles/ThinkingTheUnthinkable.pdf>

Beck, U 1992, *Risk society: towards a new modernity*, (*Risikogesellschaft: auf dem Weg in eine andere Moderne (1986)*), Sage.

Beetham, D 1991, *The legitimation of power*, Macmillan, Basingstoke.

Benhabib, S 1996, 'Toward a deliberative model of democratic legitimacy', in S Benhabib (ed.), *Democracy and difference: Contesting the boundaries of the political*, Princeton University Press, Princeton, pp. 67-94.

Bishop, P & Davis, G 2002, 'Mapping public participation in policy choices', *Australian Journal of Public Administration*, vol. 61, no. 1, March 2002, pp. 14–29.

Boswell, J, Niemeyer, S & Hendriks, CM 2013, 'Julia Gillard's Citizens' Assembly proposal for Australia: a deliberative democratic analysis', *Australian Journal of Political Science*, vol. 48, no. 2, pp. 164-178.

Brzezinski, Z 1977, *Memorandum for President Jimmy Carter, 13 August 1977*, Jimmy Carter Library, Washington D.C.

Bucchi, M & Neresini, F 2008, 'Science and public participation', in EJ Hackett, O Amsterdamska, M Lynch & J Wajcman (eds), *The Handbook of Science and Technology Studies*, Third edn, MIT Press, Cambridge Mass, London England, pp. 449-472.

Cabinet Office Government of Japan, *New Public Commons English web site*:  
<http://www5.cao.go.jp/npc/index-e/index-e.html>

——, *Yoron chōsa: Zenkoku chōsa hyōji* (Public opinion polls: All Japan register):  
<http://www8.cao.go.jp/survey/index-all.html>

Carcasson, M, Black, LW & Sink, ES 2010, 'Communication studies and deliberative democracy: current contributions and future possibilities', *Journal of Public Deliberation*, vol. 6, no. 1, Article 8, 30 August 2010.

Carson, L 2001, 'Innovative consultation processes and the changing role of activism', *Third Sector Review*, vol. 7, no. 1, pp. 7-22.

Catt, H 1999, *Democracy in practice*, Routledge, London & New York.

Center for Deliberative Democracy 2012, *National, Japan deliberative poll, August 2012. Report: initial results, representativeness*, Stanford University, viewed 18 September 2012:  
<http://cdd.stanford.edu/polls/japan/2012/jp-energy-representativeness.pdf>

Center for Deliberative Democracy, *Web site*, Stanford University:  
<http://cdd.stanford.edu>

Chiikikan Renkeisen Tō no Kyōka ni kan suru Master Plan Kenkyūkai (Study committee on a master plan for strengthening inter-regional connector lines) 2012, *Chūkan hōkokusho* (Interim report), Ministry of Economy, Trade and Industry, April 2012, viewed 18 August 2014.

Notice:

<http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/report01.html>

Report:

[http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/pdf/report01\\_02\\_00.pdf](http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/pdf/report01_02_00.pdf)

References (sankō shiryō)

[http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/pdf/report01\\_03\\_01.pdf](http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/pdf/report01_03_01.pdf)

[http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/pdf/report01\\_03\\_02.pdf](http://www.meti.go.jp/committee/sougouenergy/sougou/chiikikanrenkeisen/pdf/report01_03_02.pdf)

Citizen's Choice: Energy and Environmental Strategy Executive Committee (Energy/kankyō senryaku shimin tōgi jikkō iinkai) 2012, *Energy/kankyō senryaku shimin tōgi hōkokusho (Citizen's Choice: Energy and Environmental Strategy: report)*, Citizen's choice: Energy and environmental strategy executive committee, 17 August 2012:

<http://www.zenkoku-net.org/ene-kan-kikin24/news04.html>

[http://www.zenkoku-net.org/ene-kan-kikin24/pdf/120817\\_02.pdf](http://www.zenkoku-net.org/ene-kan-kikin24/pdf/120817_02.pdf)

Citizens' Commission on Nuclear Energy, *Web site*, <<http://www.ccnejapan.com>>

— 2013a, *Gempatsu zero shakai e no michi: Atarashii kōron keisei no tame no chūkan hōkoku (Our path to a nuclear-free Japan: an interim report)*, October 2013:

[http://www.ccnejapan.com/20131007\\_CCNE\\_report\\_01.pdf](http://www.ccnejapan.com/20131007_CCNE_report_01.pdf)

[http://www.ccnejapan.com/CCNE\\_ExecutiveSummary\\_OurpathtoNuclearFreeJapan.pdf](http://www.ccnejapan.com/CCNE_ExecutiveSummary_OurpathtoNuclearFreeJapan.pdf)

[http://www.ccnejapan.com/CCNE\\_Introduction\\_OurpathtoNuclearFreeJapan.pdf](http://www.ccnejapan.com/CCNE_Introduction_OurpathtoNuclearFreeJapan.pdf)

— 2013b, *Our path to a nuclear-free Japan: an interim report - Executive summary*, October 2013:

[http://www.ccnejapan.com/CCNE\\_ExecutiveSummary\\_OurpathtoNuclearFreeJapan.pdf](http://www.ccnejapan.com/CCNE_ExecutiveSummary_OurpathtoNuclearFreeJapan.pdf)

— 2013c, *Our path to a nuclear-free Japan: an interim report - Introduction*, October 2013:

[http://www.ccnejapan.com/CCNE\\_Introduction\\_OurpathtoNuclearFreeJapan.pdf](http://www.ccnejapan.com/CCNE_Introduction_OurpathtoNuclearFreeJapan.pdf)

— 2014, *Gempatsu zero shakai e no michi: shimin ga tsukuru datsu genshiryoku seisaku taikō (Our path to a nuclear-free Japan: citizens' policy outline for a nuclear phaseout)*, 12 April 2014:

[http://www.ccnejapan.com/?page\\_id=3000](http://www.ccnejapan.com/?page_id=3000)

[http://www.ccnejapan.com/20140412\\_CCNE.pdf](http://www.ccnejapan.com/20140412_CCNE.pdf)

Citizens' Committee for the 10 Million People's Petition to say Goodbye to Nuclear Power Plants, *Web site*, <<http://sayonara-nukes.org/english/>>

Citizens' Discussion Promotion Network, *Web site*, viewed 9 August 2014:

<http://cdpn.jp>

Citizens' Nuclear Information Center, *English web site*, <<http://cnic.jp/english/>>

—, *MOX and pluthermal*, Citizens' Nuclear Information Center, Tokyo, viewed 18 September 2014, <<http://cnic.jp/english/topics/cycle/MOX/index.html>>

—, *Nuclear safety*, Citizens' Nuclear Information Center, Tokyo, viewed 18 September 2014, <<http://cnic.jp/english/topics/safety/index.html>>

—, *Rokkasho Reprocessing Plant and other nuclear facilities*, Citizens' Nuclear Information Center, Tokyo, viewed 18 September 2014:

<http://cnic.jp/english/topics/cycle/rokkasho/rokkashodata.html>



— 1978, 'Genshiryoku Kihonhō Tō no kaiseihōan o shūsei kaketsu' (Passage of amended bill to revise the Atomic Energy Basic Act), *Citizens' Nuclear Information Center Japanese Newsletter* (原発斗争情報), no. 46, 30 May 1978, pp. 5-6.

— 1993, 'From PA (Public Acceptance) to PD (Public Decision)', *Nuke Info Tokyo*, no. 38, November/December 1993, pp. 6-7:  
[http://cnic.jp/english/newsletter/pdffiles/nit38\\_.pdf](http://cnic.jp/english/newsletter/pdffiles/nit38_.pdf)

— 1994a, 'Aomori International Symposium on Reprocessing held', *Nuke Info Tokyo*, no. 42, July/August 1994, pp. 1-3  
[http://cnic.jp/english/newsletter/pdffiles/nit42\\_.pdf](http://cnic.jp/english/newsletter/pdffiles/nit42_.pdf)

— 1994b, 'First public hearing held', *Nuke Info Tokyo*, no. 40, March/April 1994, p. 3, <[http://cnic.jp/english/newsletter/pdffiles/nit40\\_.pdf](http://cnic.jp/english/newsletter/pdffiles/nit40_.pdf)>

— 1995a, 'Kyoto round table talks held on plutonium policy', *Nuke Info Tokyo*, no. 46, March/April 1995, p. 9:  
[http://cnic.jp/english/newsletter/pdffiles/nit46\\_.pdf](http://cnic.jp/english/newsletter/pdffiles/nit46_.pdf)

— 1995b, 'Referendum to stop N-plant construction', *Nuke Info Tokyo*, no. 47, May/June 1995, p. 9:  
[http://www.cnic.jp/english/newsletter/pdffiles/nit47\\_.pdf](http://www.cnic.jp/english/newsletter/pdffiles/nit47_.pdf)

— 1996, 'New referendum ordinance adopted', *Nuke Info Tokyo*, no. 51, January/February 1996, p. 10:  
<http://www.cnic.jp/english/newsletter/pdffiles/nit51.pdf>

— 2002, 'News watch', *Nuke Info Tokyo*, no. 87, January/February 2002, p. 11:  
<http://www.cnic.jp/english/newsletter/pdffiles/nit87.pdf>

— 2003a, 'All 17 of TEPCO's units shut down', *Nuke Info Tokyo*, no. 94, March/April 2003, p. 5:  
<http://www.cnic.jp/english/newsletter/nit94/nit94articles/nit94tepc.html>  
<http://www.cnic.jp/english/newsletter/pdffiles/nit94.pdf>

— 2003b, 'Major victory to blow nuclear fuel cycle policy: the ground-breaking ruling on the Monju fast breeder reactor', *Nuke Info Tokyo*, no. 93, January/February 2003, pp. 1-4:  
<http://www.cnic.jp/english/newsletter/nit93/nit93articles/nit93monju.html>  
<http://www.cnic.jp/english/newsletter/pdffiles/nit93.pdf>

City of Sapporo, *Sapporo-shi Energy Vision web site* (City of Sapporo Energy Vision):  
<http://www.city.sapporo.jp/energy/vision/>

—, *Sapporo-shi Kankyō Shingikai web site* (Sapporo Environment Advisory Council):  
[http://www.city.sapporo.jp/KANKYO/shingikai/kankyo\\_shingikai/index.html](http://www.city.sapporo.jp/KANKYO/shingikai/kankyo_shingikai/index.html)

Cohen, J 1989, 'Deliberation and democratic legitimacy', in A Hamlin & P Pettit (eds), *The good polity. Normative analysis of the State*, Blackwell, Cambridge, pp. 17-34.

Committee into the Disposal of High-Level Radioactive Waste (Kō-level Hōshasei Haikibutsu Shobun Kondankai) 1998, *Kō-level hōshasei haikibutsu shobun ni mukete no kihonteki kangaekata ni tsuite* (Concerning the basic concept towards disposal of high-level radioactive waste), Japan Atomic Energy Commission, Tokyo, 29 May 1998:

<http://www.aec.go.jp/jicst/NC/senmon/old/waste-manage/sonota/sonota12/siryo1.htm>

Cooper, M 2013, 'Renaissance in reverse: competition pushes aging U.S. nuclear reactors to the brink of economic abandonment', 18 July 2013:

<http://will.illinois.edu/nfs/RenaissanceinReverse7.18.2013.pdf>

Cost Estimation and Review Committee 2011, *Cost Tō Kenshō linkai hōkokusho* (Cost Estimation and Review Committee report), Energy and Environment Council, National Policy Unit, Cabinet Secretariat, Government of Japan, 19 December 2011: <http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20111221/hokoku.pdf>

Dahl, RA 1989, *Democracy and its critics*, Yale University.

Dawson, JI & Darst, RG 2006, 'Meeting the challenge of permanent nuclear waste disposal in an expanding Europe: transparency, trust and democracy', *Environmental Politics*, vol. 15, no. 4, pp. 610-627.

DeWit, A 2013a, 'An emerging Fukushima model?', *The Asia-Pacific Journal*, vol. 11, no. 19, No. 1, 13 May 2013, <<http://japanfocus.org/-Andrew-DeWit/3936>>

— 2013b, 'Just gas? Smart power and Koizumi's anti-nuclear challenge', *The Asia-Pacific Journal*, vol. 11, Issue 50, No.3, 16 December 2013: <http://japanfocus.org/-Andrew-DeWit/4049>

— 2014, 'Japan's renewable power prospects', in J Kingston (ed.), *Critical issues in contemporary Japan*, Routledge, Oxford and New York, pp. 120-133.

Diaz, A & Gilchrist, SH 2010, 'Dialogue on campus: An overview of promising practices', *Journal of Public Deliberation*, vol. 6, no. 1, Article 9, 30 August 2010.

Direct Democracy Information Center (Kokumin Tōhyō / Jūmin Tōhyō Jōhōshitsu), *Web Site*, <<http://www.ref-info.net>>

Dryzek, JS 2010, *Foundations and frontiers of deliberative governance*, Oxford University Press, Oxford ; New York.

Duffield, JS & Woodall, B 2011, 'Japan's new basic energy plan', *Energy Policy*, vol. 39, no. 6, June 2011, pp. 3741-3749.

e-Gov, *Web Site*, Ministry of Internal Affairs and Communications: <http://www.e-gov.go.jp>

e-shift, *Web site*, <<http://e-shift.org>>

— 2011, *Datsu gempatsu / energy shift no kihon hōshin* (Nuclear phase out / energy shift basic policy), 8 December 2011: <http://e-shift.org/?p=1452>

<http://e-shift.org/wp/wp-content/uploads/2011/12/111208AlternativeBasicPolicy.pdf>

—— 2012a, *Datsu gempatsu / energy shift no kihon keikaku: shimin no 'energy kihon keikaku' an* (Nuclear phase out / energy shift basic plan: 'citizens' energy basic plan' proposal), 29 August 2012:

<http://e-shift.org/?p=2301> - more-2301

[http://e-shift.org/wp/wp-content/uploads/2012/08/120829\\_eshift\\_TheAlternativePlan.pdf](http://e-shift.org/wp/wp-content/uploads/2012/08/120829_eshift_TheAlternativePlan.pdf)

—— 2012b, *Energy seisaku minaoshi process ni tai suru teigen: energy/kankyō kaigi e no iken* (Proposal regarding energy policy review process: opinion to the Energy and Environment Council), 13 June 2012

<http://e-shift.org/?p=2081> - more-2081

[http://e-shift.org/wp/wp-content/uploads/2012/06/120613\\_e\\_シフト声明\\_プロセス.pdf](http://e-shift.org/wp/wp-content/uploads/2012/06/120613_e_シフト声明_プロセス.pdf)

—— 2012c, *'Energy/kankyō ni kan suru sentakushi' no 'kokuminteki giron' ni mukete: gempatsu zero + shō ene / sai ene kyōka de jizoku kanōna shakai o* (Towards a 'national debate' about 'energy/environment options': a sustainable society through zero nuclear + strengthening energy conservation / renewable energy), 6 July 2012:

<http://e-shift.org/?p=2119>

[http://e-shift.org/wp/wp-content/uploads/2012/07/120706\\_eshift\\_sentakushi.pdf](http://e-shift.org/wp/wp-content/uploads/2012/07/120706_eshift_sentakushi.pdf)

—— 2012d, *'Gempatsu zero' no tanaage wa yurusarenai! Shiyōzumi nenryō saishori o hōki shi, 'gempatsu zero' no sōki, kakujitsuna jitsugen o!* (Shelving 'zero nuclear' must not be permitted! Abandon reprocessing of spent fuel, and quickly and assuredly achieve 'zero nuclear!'), 24 September 2012:

<http://e-shift.org/?p=2435>

[http://e-shift.org/wp/wp-content/uploads/2012/09/120924\\_e\\_シフト声明.pdf](http://e-shift.org/wp/wp-content/uploads/2012/09/120924_e_シフト声明.pdf)

—— 2012e, *Pub kome de mirai o kaeyou: 'energy/kankyō ni kan suru sentakushi' ni tsuite no guidebook* (Change the future through public comments: 'energy/environment options' guidebook):

<http://e-shift.org/?p=2131> - more-2131

[http://e-shift.org/wp/wp-content/uploads/2012/07/選択肢ガイドブック\\_4.pdf](http://e-shift.org/wp/wp-content/uploads/2012/07/選択肢ガイドブック_4.pdf)

—— 2012f, *Shiitekina 'Energy mix sentakushi' - Sōgō Shigen Energy Chōsakai Kihon Mondai Iinkai e no iken* (Arbitrary 'Energy mix options' - Opinion to the Advisory Committee for Natural Resources and Energy's Fundamental Issues Subcommittee), 24 May 2012:

<http://e-shift.org/?p=1936>

[http://e-shift.org/wp/wp-content/uploads/2012/05/120524\\_e\\_シフト声明\\_基本問題委員会\\_2.pdf](http://e-shift.org/wp/wp-content/uploads/2012/05/120524_e_シフト声明_基本問題委員会_2.pdf)

—— 2013a, *Energy seisaku minaoshi: Kokuminteki Giron mushi a yurusarenai* (Energy policy review: ignoring the National Debate is unacceptable), 25 October 2013:

<http://e-shift.org/?p=2822>

[http://e-shift.org/wp/wp-content/uploads/2013/10/131025\\_eshift.pdf](http://e-shift.org/wp/wp-content/uploads/2013/10/131025_eshift.pdf)

— 2013b, *Seimei: genshiryoku/energy seisaku 'Kokuminteki Giron' mushi wa yurusarenai* (Appeal: ignoring nuclear energy/energy policy 'National Debate' is unacceptable), 9 April 2013:

<http://e-shift.org/?p=2616>

[http://e-shift.org/wp/wp-content/uploads/2013/04/130409\\_eshift.pdf](http://e-shift.org/wp/wp-content/uploads/2013/04/130409_eshift.pdf)

Edahiro, J 2013, 'Genshiryoku/energy no mirai wa kokumin to no taiwa ni yotte kimaru (The future of nuclear power and energy will be decided through dialogue with citizens)', *ATOMOΣ* (Nihon Genshiryoku Gakkaishi), vol. 55, no. 1, pp. 10-11.

— 2014, 'Energy Kihon Keikaku no public comment no 9-wari ga 'datsu gempatsu' o motomeru' (90 percent public comments on Basic Energy Plan demand a nuclear phase out), *Enviro-News from Junko Edahiro*, no. 2382, 15 November 2014:

[http://www.es-inc.jp/library/mailnews/2014/libnews\\_id005476.html](http://www.es-inc.jp/library/mailnews/2014/libnews_id005476.html)

Edano, Y 2012, *Tatakaretemo iwaneba naranai koto* (Things that must be said, even if I am criticised), Toyo Keizai Inc, Tokyo.

Eisenhower, DD 1953, "*Atoms for peace*" address before the General Assembly of the United Nations on peaceful uses of atomic energy, New York City, December 8th, 1953, The Dwight D. Eisenhower Presidential Library and Museum.

Electricity System Reform Expert Subcommittee 2013, *Report of the Electricity System Reform Expert Subcommittee*, Ministry of Economy, Trade and Industry, February 2013:

[http://www.meti.go.jp/english/policy/energy\\_environment/electricity\\_system\\_reform/pdf/201302Report\\_of\\_Expert\\_Subcommittee.pdf](http://www.meti.go.jp/english/policy/energy_environment/electricity_system_reform/pdf/201302Report_of_Expert_Subcommittee.pdf)

Energy and Environment Council 2011a, *Interim compilation of discussion points for the formulation of "Innovative Strategy for Energy and the Environment"*, Cabinet Secretariat, Government of Japan, 29 July 2011.

— 2011b, *Kihon hōshin: energy kankyō senryaku ni kan suru sentakushi no teiji ni mukete* (Basic principles: towards a proposal defining options for a strategy for energy and the environment), Cabinet Secretariat, Government of Japan, 21 December 2011:

[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/008/pdf/8-22.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/008/pdf/8-22.pdf)

<http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20111221/siryō2.pdf>

— 2011–2012, *Cost Estimation and Review Committee web site*:

<http://www.cas.go.jp/jp/seisaku/npu/policy09/archive02.html>

— 2012a, *Innovative Strategy for Energy and the Environment*, Government of Japan, 14 September 2012.

— 2012b, *Options for energy and the environment*, Cabinet Secretariat, Government of Japan, 29 June 2012.

Energy and Environment Council (Energy Kankyō Kaigi) 2011–2012, *Web site*:

<http://www.cas.go.jp/jp/seisaku/npu/policy09/archive01.html>

Energy and Environment Research Committee (Energy Kankyō Chōsa Kai) 2012, '*Gempatsu zero shakai' o mezashite: kokumin to tomoni, daitan katsu genjitsutekina kaikaku o susumeru* (Aim for a 'zero nuclear society': together with the citizens, promote bold but realistic reform), Democratic Party of Japan, 6 September 2012.

EP Report 1998a, 'Fumō na giron ni shūshi shita shin-genshiryoku entaku kaigi: Nihonjin no tōron heta o rotei shita dai-1-kai kaigi' (Round Table Conference ends in sterile discussion: first meeting displays Japanese weakness at debate), 21 September 1998.

— 1998b, 'Shin-entaku kaigi de genshiryoku o "tettei debate": mitsudo koi tōron de genshiryoku kaihatsu no breakthrough o kitai' ("Thorough debate" of nuclear energy at new Round Table Conference: hoping for a breakthrough in nuclear development through in-depth debate), 1 September 1998.

Ercan, SA & Hendriks, CM 2013, 'The democratic challenges and potential of localism: insights from deliberative democracy', *Policy Studies*, vol. 34, no. 4, pp. 422-440.

Expert Committee to review the form of the Atomic Energy Commission (Genshiryoku Iinkai no arikata minaoshi no tame no Yūshikisha Kaigi) 2013, *Genshiryoku Iinkai no arikata minaoshi ni tsuite* (Concerning the review the form of the Atomic Energy Commission), Cabinet Secretariat, 10 December 2013: [http://www.cas.go.jp/jp/seisaku/genshiryoku\\_kaigi/pdf/houkoku.pdf](http://www.cas.go.jp/jp/seisaku/genshiryoku_kaigi/pdf/houkoku.pdf)

Expert Review Committee into the Atomic Energy Commission (Genshiryoku Iinkai Minaoshi no tame no Yūshikisha Kaigi) 2012, *Genshiryoku Iinkai no minaoshi ni atatte no kihontekina kangaekata ni tsuite* (Basic thinking regarding the review of the Atomic Energy Commission), National Policy Union, 18 December 2012: <http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20121218/kangaekata.pdf>

Feldhoff, T 2013, 'New challenges after fukushima: nuclear energy, critical junctures and regional development policies in Japan', *electronic journal of contemporary japanese studies*, vol. 13.1, 24 May 2013: <http://www.japanesestudies.org.uk/ejcs/vol13/iss1/feldhoff.html>

Fishkin, JS 1991, *Democracy and deliberation: new directions for democratic reform*, Yale University Press, New Haven ; London.

— 2012, *Energy/kankyō no sentakushi ni kan suru tōrongata yoron chōsa: kanshū iinkai hōkokusho* (Deliberative poll concerning energy and environment options: report of the supervisory committee), National Policy Unit, Cabinet Secretariat: [http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_03.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_03.pdf)  
<http://cdd.stanford.edu/polls/japan/2012/jp-energy-executive-summary.pdf>

Flynn, J 2004, 'Communicative power in Habermas's theory of democracy', *European Journal of Political Theory*, vol. 3, no. 4, pp. 433-454.

Fotouhi, AF 'Atoms for Peace Exhibition (Chapter XX)', Extract from unpublished memoirs.

Frewer, LJ & Rowe, G 2005, 'Evaluating public participation exercises: strategic and practical issues', in OECD (ed.), *Evaluating public participation in policy making*, OECD Publishing, pp. 85-108.

Friedman, SM 2011, 'Three Mile Island, Chernobyl, and Fukushima: an analysis of traditional and new media coverage of nuclear accidents and radiation', *The Bulletin of the Atomic Scientists*, vol. 67, no. 5, 19 September 2011, DOI 10.1177/0096340211421587:  
<http://gabe.palomares.com.au/uni/66905310 - Copy.pdf>

Fuji Johnson, G 2009, 'The darker side of deliberative democracy: the Canadian Nuclear Waste Management Organization's national consultation process', in D Durant & G Fuji Johnson (eds), *Nuclear waste management in Canada: critical issues, critical perspectives*, UBC Press, Vancouver, pp. 90-106.

Fujino, S 2004, 'JCO criticality accident: five years on', *Nuke Info Tokyo*, no. 102, September/October 2004, pp. 8-9:  
<http://cnic.jp/english/newsletter/nit102/nit102articles/jco5years.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit102.pdf>

Fujisaki, M & Nakagawa, T 2013, 'Local communities rush to set up micro power companies', *The Asahi Shimbun*, 17 August 2013:  
<http://ajw.asahi.com/article/economy/business/AJ201308170031>

Fujito, S 1983, 'Kubokawa-chō genshiryoku hatsudensho secchi ni tsuite no chōmin tōhyō ni kan suru jōrei' (Ordinance concerning a local referendum on the installation of a nuclear power plant in Kubokawa Town), *Juristo*, no. 800, 15 October 1983, pp. 30-31:  
[http://www.yuhikaku.co.jp/static\\_files/shinsai/jurist/J0800030.pdf](http://www.yuhikaku.co.jp/static_files/shinsai/jurist/J0800030.pdf)

Fukui Shimbun 2000, 'Kokumin no koe han'ei wazuka - Genshiryoku Chōkei saishū an matomaru - kakunenryō cycle suishin' (Citizens' voices barely reflected - Nuclear Long-Term Program drafted - promotes nuclear fuel cycle), 21 November 2000.

Fukushima Minpō 2012, '3-Ken Chiji irei no teigen: seisaku zenpan no minaoshi ni shugan (3 governors' unprecedented proposal: aiming for a total policy review)', 17 June 2012:  
[http://www.minpo.jp/pub/topics/jishin2011/2012/06/post\\_4231.html](http://www.minpo.jp/pub/topics/jishin2011/2012/06/post_4231.html)

Fukushima Prefecture 2001–2010, *Fukushima-ken Energy Seisaku Kentōkai (Fukushima Prefecture Energy Policy Study Group) web sites*:  
<http://www.pref.fukushima.lg.jp/sec/11025c/energy3.html>  
<http://www.pref.fukushima.lg.jp/sec/11025c/energy48.html>

— 2005, *Record of the International Symposium on Nuclear Fuel Cycle (Kokusai Symposium 'Kaku Nenryō Cycle wo Kangaeru' kaisai kiroku)*, 4 September 2005:  
<http://www.pref.fukushima.lg.jp/sec/11025c/energy50.html>  
<http://www.pref.fukushima.lg.jp/uploaded/attachment/14703.pdf>

Fukushima-ken Energy Seisaku Kentōkai (Fukushima Prefecture Energy Policy Study Group) 2002a, *Chūkan torimatome (Interim report)*, September 2002:  
<http://www.pref.fukushima.lg.jp/uploaded/attachment/14591.pdf>

<http://www.pref.fukushima.lg.jp/uploaded/attachment/14592.pdf>  
<http://www.pref.fukushima.lg.jp/uploaded/attachment/14593.pdf>

— 2002b, *Genshiryoku seisaku tō no ugoki to Fukushima-ken* (Nuclear energy policy moves and Fukushima Prefecture), Meeting 20, 5 August 2002, handout no. 2:  
<http://www.pref.fukushima.lg.jp/uploaded/attachment/14605.pdf>

Funabashi, H 2012, 'Why the Fukushima nuclear disaster is a man-made calamity', *International Journal of Japanese Sociology*, vol. 21, no. 1, pp. 65-75.

Fundamental Issues Subcommittee 2012, *Energy mix no sentakushi no gen'an ni tsuite: kokumin ni teiji suru energy mix no sentakushi no sakutei ni mukete (An)* (Concerning draft energy mix options: towards production of energy mix options to be presented to the public (Draft)), Ministry of Economy, Trade and Industry, 5 June 2012:  
[http://www.enecho.meti.go.jp/committee/council/basic\\_problem\\_committee/026/pdf/26-1-2.pdf](http://www.enecho.meti.go.jp/committee/council/basic_problem_committee/026/pdf/26-1-2.pdf)

Gastil, J & Black, LW 2008, 'Public deliberation as the organizing principle of political communication research', *Journal of Public Deliberation*, vol. 4, no. 1, Article 3, 14 December 2007.

Gaventa, J & Cornwall, A 2008, 'Power and knowledge', in P Reason & H Bradbury (eds), *The Sage handbook of action research: participative inquiry and practice*, 2nd edn, Sage, Los Angeles, London, pp. 172-189.

Gempatsu Zero no Kai (No Nukes Committee), *Web site*:  
<http://genpatsuzero.sblo.jp>

Genshiryoku Gyōsei Kondankai 1976, *Genshiryoku gyōsei taisei no kaikaku, kyōka ni kan suru iken* (Opinion concerning reform and strengthening of the atomic energy administration system), Japan Atomic Energy Commission, Tokyo:  
<http://www.aec.go.jp/jicst/NC/about/ugoki/geppou/V21/N07/197621V21N07.html>

Genshiryoku Seisaku Entaku Kaigi 2010 (Nuclear Energy Policy Roundtable 2010), *Web site*, <<http://www.nuketable2010.org/>>

Goodin, RE 2008, *Innovating democracy: democratic theory and practice after the deliberative turn*, Oxford University Press, Oxford.

Gough, I 1998, 'What are human needs?', in J Franklin (ed.), *Social policy and social justice*, Polity Press, Cambridge, UK, pp. 50-56.

Government of Japan 2012, *Future policies for energy and the environment: Cabinet Decision (provisional translation)*, 19 September 2012.

Habermas, J 1996, *Between facts and norms: contributions to a discourse theory of law and democracy*, (Faktizität und Geltung: Beiträge zur Diskurstheorie des Rechts und des demokratischen Rechtsstaats, 1992), trans. W Rehg, Polity Press, Cambridge.

- Hagi, K 2013, 'Interview - Eiji Oguma: Despite poll results, anti-nuke protests have changed society', *The Asahi Shimbun*, 1 January 2013:  
<http://ajw.asahi.com/article/views/AJ201301010038>
- Hamada, S & Yagishita, M 2011, 'Stakeholder ni yoru jukugi no imi ni tsuite no kōsatsu: EST stakeholder kaigi no jissen' (Consideration on deliberation in stakeholders' dialogue: through the practical of "EST stakeholders conference"), *Sociotechnica (Shakai Gijutsu Kenkyū Ronbunshū)*, vol. 8, April 2011, pp. 170-181.
- Hamamatsu City 2013, *Hamamatsu-shi Energy Vision (Hamamatsu City Energy Vision)*, March 2013, viewed 22 November 2013:  
[http://www.city.hamamatsu.shizuoka.jp/shin-ene/new\\_ene/index.html](http://www.city.hamamatsu.shizuoka.jp/shin-ene/new_ene/index.html)  
[http://www.city.hamamatsu.shizuoka.jp/shin-ene/new\\_ene/documents/energy\\_vision.pdf](http://www.city.hamamatsu.shizuoka.jp/shin-ene/new_ene/documents/energy_vision.pdf)
- Hara, A & Yoshiwara, T 2012, 'Atarashii energy shakai o kyōdō no chikara de' ([Create] a new energy society with the power of cooperation), *Sekai*, November 2012, pp. 211-218.
- Harlan, C 2011, 'Noda weighs public's nuclear fears, firms' export ambitions: Government looks to cut atomic energy, land lucrative foreign deals', *The Japan Times*, 23 November 2011:  
<http://www.japantimes.co.jp/news/2011/11/23/news/noda-weighs-publics-nuclear-fears-firms-export-ambitions/>
- Hartz-Karp, J 2012, 'Laying the groundwork for participatory budgeting – developing a deliberative community and collaborative governance: Greater Geraldton, Western Australia', *International Journal of Public Participation*, vol. 8, no. 2.
- Head, BW 2007, 'Community engagement: participation on whose terms?', *Australian Journal of Political Science*, vol. 42, no. 3, pp. 441-454.
- Headquarters for Economic Revitalization 2013, *Japan Revitalization Strategy: Japan is Back*, Prime Minister of Japan and his Cabinet, 14 June 2013:  
[http://www.kantei.go.jp/jp/singi/keizaisaisei/pdf/en\\_saikou\\_jpn\\_hon.pdf](http://www.kantei.go.jp/jp/singi/keizaisaisei/pdf/en_saikou_jpn_hon.pdf)
- Hendriks, CM 2006, 'Integrated deliberation: reconciling civil society's dual role in deliberative democracy', *Political Studies*, vol. 54, pp. 486-508.
- 2008, 'On inclusion and network governance: the democratic disconnect of Dutch energy transitions', *Public Administration*, vol. 86, no. 4, pp. 1009-1031.
- Hendriks, CM, Dryzek, JS & Hunold, C 2007, 'Turning up the heat: partisanship in deliberative innovation', *Political Studies*, vol. 55, no. 2, pp. 362-383.
- Iida City 2012, *Iida-shi Gikai Yōran (Iida City Council Outline)*, June 2012,  
[http://www.city.iida.lg.jp/uploaded/life/13529\\_29868\\_misc.pdf](http://www.city.iida.lg.jp/uploaded/life/13529_29868_misc.pdf)
- Iida, T 2011, 'Nihon no energy seisaku no minshuka o' (Democratizing Japan's energy policy), *Sekai*, July 2011, pp. 34-44.



— 2012, 'What is required for a new society and politics: the potential of Japanese civil society', *The Asia-Pacific Journal*, vol. 10, Issue 45, No. 1, 12 November 2012: <http://www.japanfocus.org/-Iida-Tetsunari/3852>

Iizuka, M 2014, 'Nuke-shy firms launch green energy initiatives', *The Japan Times*, 3 March 2014: <http://www.japantimes.co.jp/news/2014/03/03/national/nuke-shy-firms-launch-green-energy-initiatives/>

Imai, H 2011, *Gempatsu kokumin tōhyō* (Nuclear energy referendum), Shueisha, Tokyo.

Institute for Sustainable Energy Policies, *Web site*, <<http://www.isep.or.jp/en/>>

— 2014, *Renewables Japan status report 2014: Executive summary (Japanese)*, 31 January 2014: <http://www.isep.or.jp/jsr2014>  
[http://www.isep.or.jp/wp-content/uploads/2014/01/JSR2014\\_Summary2.pdf](http://www.isep.or.jp/wp-content/uploads/2014/01/JSR2014_Summary2.pdf)

International Association for Public Participation, *International Association for Public Participation Australasia web site*, <<http://www.iap2.org.au>>

International Atomic Energy Agency 2001, *IAEA safeguards glossary*, International Nuclear Verification Series No. 3, 2001 edn, International Atomic Energy Agency, Vienna.

— 2009, *Nuclear fuel cycle information system: a directory of nuclear fuel cycle facilities*, April 2009, IAEA, Vienna, IAEA-TECDOC-1613: [http://www-pub.iaea.org/mtcd/publications/pdf/te\\_1613\\_web.pdf](http://www-pub.iaea.org/mtcd/publications/pdf/te_1613_web.pdf)

International Critical Review Committee on the Long-Term Nuclear Program 2005, *ICRC Report*, The Takagi Fund for Citizen Science, 16 September 2005: [http://www.takagifund.org/activity/icrc/report/en\\_report.pdf](http://www.takagifund.org/activity/icrc/report/en_report.pdf)  
<http://www.takagifund.org/activity/icrc/006.html>

Ishino, S 1999, 'Nuclear engineering education - history, current status and future needs', *Proceedings of the 4th Nuclear Energy Symposium Taipei, 15-16 March 1999*, Taipei, pp. 145-161.

Ito, M 2011, 'Kan under fire from his own team: Cabinet gets apology for flip-flop on reactor restart', *The Japan Times*, 9 July 2011: <http://www.japantimes.co.jp/news/2011/07/09/news/kan-under-fire-from-his-own-team/>

— 2012, 'Noda to meet protesters, to hear from both sides of nuclear divide', *The Japan Times*, 4 August 2012: <http://www.japantimes.co.jp/news/2012/08/04/news/noda-to-meet-protesters-to-hear-from-both-sides-of-nuclear-divide/>

Ito, T 2012, 'Sōgo rikai no tame ni wa taiwa ga hitsuyō' (Dialogue is necessary for mutual understanding: interview with Takahiko Ito, President of Japan Atomic Energy Relations Organization), *Energy Review*, October 2012, p. 1.

Jain, P 2011, 'Japan's subnational government: toward greater decentralization and participatory democracy', in T Inoguchi & P Jain (eds), *Japanese politics today: from karaoke to kabuki democracy*, Palgrave Macmillan, New York, pp. 163-182.

Japan Association for Techno-innovation in Agriculture Forestry and Fisheries 2001, *Idenshi kumikae nōsakubutsu o kangaeru consensus kaigi hōkokusho* (Consensus conference concerning genetically modified agricultural products), January 2001.

Japan Association of New Economy, *Web site*, <<http://jane.or.jp/english/>>

Japan Atomic Energy Agency 2012, *Tōkai Saishori Shisetsu no jōkyō (shūhō)* (Tokai Reprocessing Facility status (weekly report)), Japan Atomic Energy Agency, viewed 25 March 2012:  
<http://www.jaea.go.jp/04/ztokai/repro/week/itiran.html>

Japan Atomic Energy Commission 1978, *Genshiryoku no Kenkyū Kaihatsu oyobi Riyō ni kan suru Chōki Keikaku* (Long-Term Program for Research, Development and Utilization of Nuclear Energy), Japan Atomic Energy Commission, Tokyo:  
<http://www.aec.go.jp/jicst/NC/tyoki/tyoki1978/chokei.htm>

— 1994, *Genshiryoku no Kenkyū, Kaihatsu, oyobi Riyō ni kan suru Chōki Keikaku* (Long-Term Program for Research, Development and Utilization of Nuclear Energy), 24 June 1994:  
<http://www.aec.go.jp/jicst/NC/tyoki/tyoki1994/chokei.htm>

— 1996–2000a, *Kō-level Hōshasei Haikibutsu Shobun Kondankai web site* (Committee into the Disposal of High-Level Radioactive Waste):  
<http://www.aec.go.jp/jicst/NC/senmon/old/waste-manage/menu.htm>

— 1996–2000b, *Round-Table Conference on Nuclear Power Policy: web site*:  
[http://www.aec.go.jp/jicst/NC/iinkai/entaku/index\\_e.htm](http://www.aec.go.jp/jicst/NC/iinkai/entaku/index_e.htm)

— 1997a, *Kōsoku Zōshokuro Kondankai Web Site* (Fast Breeder Reactor Committee):  
<http://www.aec.go.jp/jicst/NC/senmon/old/koso/menu.htm>

— 1997b, *Kōsoku zōshoku ro kaihatsu no arikata ni tsuite* (The status of future fast breeder reactor development), 5 December 1997:  
<http://www.aec.go.jp/jicst/NC/senmon/old/koso/sonota/sonota03/so-si03.htm>

— 1998, *Genshiryoku Seisaku Entaku Kaigi no mokuteki* (The purpose of the Round Table Conference on Nuclear Energy Policy), 14 August 1998:  
<http://www.aec.go.jp/jicst/NC/iinkai/entaku/H11/regulation/purpose.html>

— 2000, *Long-Term Program for Research, Development and Utilization of Nuclear Energy (unofficial translation)*, viewed November 2000:  
[http://www.aec.go.jp/jicst/NC/tyoki/siryotyoki\\_e/siryoe.htm](http://www.aec.go.jp/jicst/NC/tyoki/siryotyoki_e/siryoe.htm)  
[http://www.aec.go.jp/jicst/NC/tyoki/siryotyoki\\_e/pdf.htm](http://www.aec.go.jp/jicst/NC/tyoki/siryotyoki_e/pdf.htm)

— 2001–2009, *Conference for Public Participation and Decision Making for Nuclear Energy Policy: web sites:*

Japanese

<http://www.aec.go.jp/jicst/NC/simin/index.htm>

English

[http://www.aec.go.jp/jicst/NC/simin/index\\_e.htm](http://www.aec.go.jp/jicst/NC/simin/index_e.htm)

[http://www.aec.go.jp/jicst/NC/simin/sankon/coremember\\_e.htm](http://www.aec.go.jp/jicst/NC/simin/sankon/coremember_e.htm)

[http://www.aec.go.jp/jicst/NC/simin/sankon/index\\_e.htm](http://www.aec.go.jp/jicst/NC/simin/sankon/index_e.htm)

— 2004, *Kaku nenryō cycle seisaku ni tsuite no chūkan torimatome* (Interim report on nuclear fuel cycle), 12 November 2004:

<http://www.aec.go.jp/jicst/NC/tyoki/sakutei2004/ronten/20041112.pdf>

— 2004–2005, *New Nuclear Policy-Planning Council web site:*

[http://www.aec.go.jp/jicst/NC/tyoki/tyoki\\_saku.htm](http://www.aec.go.jp/jicst/NC/tyoki/tyoki_saku.htm)

— 2005, *Framework for Nuclear Energy Policy:*

[http://www.aec.go.jp/jicst/NC/tyoki/tyoki\\_e.htm](http://www.aec.go.jp/jicst/NC/tyoki/tyoki_e.htm)

[http://www.aec.go.jp/jicst/NC/tyoki/taikou/kettei/eng\\_ver.pdf](http://www.aec.go.jp/jicst/NC/tyoki/taikou/kettei/eng_ver.pdf)

— 2011, *Estimation of nuclear fuel cycle cost and accident risk cost (Statement)*, 10 November 2011:

[http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_e.pdf)

[http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110\\_1\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_1_e.pdf)

[http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110\\_2\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/seimei/111110_2_e.pdf)

— 2011–2012a, *Council for a New Framework for Nuclear Energy Policy web site:*

[http://www.aec.go.jp/jicst/NC/tyoki/tyoki\\_sakutei.htm](http://www.aec.go.jp/jicst/NC/tyoki/tyoki_sakutei.htm)

— 2011–2012b, *Genshiryoku Hatsuden / Kaku Nenryō Cycle Gijutsu tō Kentō Shō linkai web site* (Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc):

[http://www.aec.go.jp/jicst/NC/tyoki/tyoki\\_hatsukaku.htm](http://www.aec.go.jp/jicst/NC/tyoki/tyoki_hatsukaku.htm)

— 2012, *Nuclear fuel cycle policy options*, 21 June 2012:

[http://www.aec.go.jp/jicst/NC/about/kettei/kettei120718\\_e.pdf](http://www.aec.go.jp/jicst/NC/about/kettei/kettei120718_e.pdf)

Japan Nuclear Cycle Development Institute, *Japan Nuclear Cycle Development Institute: Introduction*, Japan Atomic Energy Agency, Tokyo, viewed 24 March 2012:

<http://www.jaea.go.jp/jnc/jncweb/>

— 2005, *History of Japan Nuclear Cycle Development Institute*, September 2005, Japan Nuclear Cycle Development Institute, Tokyo.

Japan Nuclear Fuel Ltd., *Rokkasho Uran Nōshuku Kōjō* (Rokkaho Uranium Enrichment Plant), Japan Nuclear Fuel Ltd., Rokkasho, Aomori Prefecture, viewed 17 April 2012:

[http://www.jnfl.co.jp/business-cycle/1\\_nousyuku/nousyuku\\_03/nousyuku\\_03\\_02.html](http://www.jnfl.co.jp/business-cycle/1_nousyuku/nousyuku_03/nousyuku_03_02.html)

—, *Uranium Enrichment Plant*, Japan Nuclear Fuel Ltd., Rokkasho, Aomori Prefecture, viewed 17 April 2012:  
<http://www.jnfl.co.jp/english/business/uran.html>

Japan Press Weekly 2011, 'Espionage behind Japan's first nuclear reactor', *Japan Press Weekly*, vol. June 8, 2011, viewed 8 June 2011:  
<http://www.japan-press.co.jp/modules/news/index.php?id=1926>

Japan Renewable Energy Foundation, *Web site*, <<http://jref.or.jp/en/index.php>>

Jiji 2012, 'U.S. energy official voices concern over zero nuclear energy target', *The Japan Times*, 14 September 2012.

Johnson, J 1998, 'Arguing for deliberation: some skeptical considerations', in J Elster (ed.), *Deliberative democracy*, Cambridge University Press, Cambridge, U.K. ; New York, pp. 161-184.

Juraku, K, Suzuki, T & Sakura, O 2007, 'Social decision-making processes in local contexts: an STS case study on nuclear power plant siting in Japan', *East Asian Science, Technology and Society: an International Journal*, vol. 1, no. 1, pp. 53-75.

Kahane, D, Loptson, K, Herriman, J & Hardy, M 2013, 'Stakeholder and citizen roles in public deliberation', *Journal of Public Deliberation*, vol. 9, no. 2, Article 2, viewed 25 October 2013, <<http://www.publicdeliberation.net/jpd/vol9/iss2/art2>>

Kaido, Y 2011, *Gempatsu soshō (Nuclear lawsuits)*, Iwanami Shinsho, Iwanami Shoten, Tokyo.

Kajimura, T 2012, 'Shiro neko demo kuro neko demo datsu gempatsu hō shiji wa yoi neko: Ozawa Ichiro to Kawai Hiroyuki bengoshi no Doitsu shisatsu' (It doesn't matter if it's a white cat or a black cat, if it supports the nuclear phaseout law it's a good cat: Ichiro Ozawa and Hiroyuki Kawai's Germany tour), *明日うらしま*, 18/20 October 2012:  
<http://tkajimura.blogspot.de/2012/10/blog-post.html>  
[http://tkajimura.blogspot.de/2012/10/blog-post\\_20.html](http://tkajimura.blogspot.de/2012/10/blog-post_20.html)

Kamisawa, C 2011, 'Problems with extending the time between periodic inspections', *Nuke Info Tokyo*, no. 140, January/February 2011, pp. 6-7:  
<http://www.cnic.jp/english/newsletter/nit140/nit140articles/opextend.html>  
<http://www.cnic.jp/english/newsletter/pdf/nit140.pdf>

Kashiwazaki Nippō 2002, 'Ricchiten shokaisai ni 100 nin: hantai-ha wa shusseki kyohi' (100 attend first host site meeting: opponents boycott), *Kashiwazaki Nippō*, 16 January 2002.

Katsuta, T & Suzuki, T 2006, *Japan's spent fuel and plutonium management challenges*, International Panel on Fissile Materials, Princeton, NJ.

Kawamoto, H & Shiga, H 2012, 'Most Japan newspapers oppose nuclear power, some critical of disaster coverage', *The Asahi Shimbun*, 3 October 2012:  
<http://ajw.asahi.com/article/0311disaster/analysis/AJ201210030048>

Kawasaki, A 2013, 'Hopes and traps on the path to a nuclear-free Japan: the Fukushima disaster and civil society', *Asian Perspective*, vol. 37, Issue 4, pp. 593-614.

Kelman, PG 2001, 'Protesting the national identity: the cultures of protest in 1960s Japan', Faculty of Arts, PhD thesis, University of Sydney:  
<http://hdl.handle.net/2123/2443>  
<http://ses.library.usyd.edu.au/handle/2123/2443>

Kingston, J 2014, 'Japan's nuclear village: power and resilience', in J Kingston (ed.), *Critical issues in contemporary Japan*, Routledge, Oxford and New York, pp. 107-119.

Kobari, K 2012, 'Shimin tōgikai no kadai to kanōsei' (Issues and potential for citizens' discussions), *Chiiki Kaihatsu*, vol. 574, July 2012, pp. 34-39.

Kobayashi, S, Ota, S & Tanaka, R 2012, 'Genshiryoku i ga gian kakushi' (Japan Atomic Energy Commission conceals agenda item), *Mainichi Shimbun*, 8 May 2012.

Kobayashi, T 2005, 'Techno-democracy and public participation: Japanese experience since 1990', paper presented at International Conference on Deliberative Democracy, Taiwan.

— 2012, 'Kokuminteki giron to wa nan datta no ka: Gempatsu o meguru shimin sanko no arikata' (The reality of Japan's "National Debate": citizen participation and the nuclear energy issue), *Asteion*, vol. 77, 10 November 2012.

Koga, S 2011, *Nihon chūsū no hōkai* (The collapse of Japan's centre), Kodansha, Tokyo.

— 2013, *Riken no fukkatsu* (Resurrection of vested interests), PHP Interface, PHP Shinsho 891, Tokyo.

Komori, A 2014, 'Abe administration ignored massive public opposition to nuclear power', *The Asahi Shimbun*, 25 May 2014:  
[http://ajw.asahi.com/article/behind\\_news/politics/AJ201405250023](http://ajw.asahi.com/article/behind_news/politics/AJ201405250023)

Kondo, S 2010, *Kō level hōshasei haikibutsu no shobun ni kan suru torikumi ni tsuite (irai)* (Concerning arrangements for disposal of high-level radioactive waste (request) - letter dated 7 September 2010 to Ichiro Kanazawa, President of the Science Council of Japan), Tokyo:  
<http://www.aec.go.jp/jicst/NC/about/kettei/seimei/100907.pdf>

Kōsoku Zōshokuro Kondankai (Fast Breeder Reactor Committee) 1997, *Kōsoku zōshokuro no kenkyū kaihatsu no arikata* (Status of fast breeder reactor research and development), Japan Atomic Energy Commission, Tokyo, 1 December 1997:  
<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryō97/siryō76/siryō11.htm>

Kuno, Y & Tanaka, S 2013, 'Shinkokuka suru plutonium chikuseki no kenen ni dō taisho subeki ka' (How to respond to growing concerns about plutonium accumulation), *Energy Forum*, March 2013, pp. 112-115.

Kuznick, P 2011, 'Japan's nuclear history in perspective: Eisenhower and atoms for war and peace', *Bulletin of the Atomic Scientists*, 13 April 2011:  
<http://thebulletin.org/web-edition/features/japans-nuclear-history-perspective-eisenhower-and-atoms-war-and-peace>

Kyodo 2011a, 'Foes in METI tried to nix nuclear fuel cycle', *The Japan Times*, 30 July 2011:

<http://www.japantimes.co.jp/news/2011/07/30/news/foes-in-meti-tried-to-nix-nuclear-fuel-cycle/>

— 2011b, 'Gov't to suspend nuclear cooperation talks after Kan's nuclear remarks', *Mainichi Japan*, 15 July 2013.

— 2012a, 'Atomic Energy Commission held undocumented, closed-door meetings for more than a decade', *The Japan Times*, 9 July 2012.

— 2012b, 'Hosono favors 15% share', *The Japan Times*, 26 May 2012:

[http://www.japantimes.co.jp/news/2012/05/26/news/hosono-favors-15-share/-Uf3qTRZZ\\_ww](http://www.japantimes.co.jp/news/2012/05/26/news/hosono-favors-15-share/-Uf3qTRZZ_ww)

— 2012c, 'Industry ministry opposes change to nuclear fuel recycling policy', *Mainichi Japan*, 9 September 2012.

— 2012d, 'Japan nuke-free for first time since '70', *The Japan Times*, 6 May 2012.

— 2012e, 'Kan, other DPJ members to launch group to seek exit from nuclear power', *Mainichi Japan*, 29 March 2012.

— 2012f, 'Nuclear power most common topic in Twitter messages on election', *The Japan Times*, 12 December 2012:

<http://www.japantimes.co.jp/text/nn20121212b2.html>

— 2012g, 'Ozawa likes Germany's nuke stance', *The Japan Times*, 19 October 2012.

— 2013a, 'Activists against atomic plants soul-search over why like-minded parties were trounced', *The Japan Times*, 12 January 2013.

— 2013b, 'Japan without nuclear power for 2nd time since Fukushima crisis', *Mainichi Japan*, 16 September 2013.

— 2013c, 'Renewable energy push blunted as ad-hoc rules stymie private upstarts', *The Japan Times*, 15 September 2013:

<http://www.japantimes.co.jp/news/2013/09/15/national/renewable-energy-push-blunted-as-ad-hoc-rules-stymie-private-upstarts/>

— 2014a, 'Anti-nuclear ex-leader seeks Koizumi's backing: Hosokawa gears up for Tokyo race', *The Japan Times*, 9 January 2014.

— 2014b, 'Gov't OKs new business turnaround plan for TEPCO, to give more aid', *Mainichi Japan*, 16 January 2014.

— 2014c, 'Utilities lobbying LDP to support new nuclear plants', *The Japan Times*, 31 January 2014.

Laes, E, D'haeseleer, W & Weiler, R 2005, 'Addressing uncertainty and inequality in nuclear policy', *Journal of Enterprise Information Management*, vol. 18, no. 3, pp. 357-376.

Leighninger, M 2010, 'Teaching democracy in public administration: trends and future prospects', *Journal of Public Deliberation*, vol. 6, no. 1, Article 2, 31 August 2010.

Lesbirel, SH 1998, *Nimby politics in Japan: energy siting and the management of environmental conflict*, Cornell University Press, Ithaca and London.

Let's Decide Together Committee (Minna de Kimera Kai) 2013, *Hōkokusho: Tōkyō Denryoku Kashiwazaki-Kariwa Genshiryoku Hatsudensho no kadō ni kan suru Niigata-kenmin tōhyō jōrei no seitei o motomeru chokusetsu seikyū oyobi sono shingi ni tsuite* (Report: Concerning the direct petition and deliberation for the establishment of an ordinance for a prefectural referendum on the operation of Tokyo Electric Power Company's Kashiwazaki-Kariwa Nuclear Power Plant ), April 2013, <<http://ng311.info/assets/report.pdf>>

Let's Decide Together / Citizen-initiated National Referendum on Nuclear Power, *Web site*:

<http://kokumintohyo.com/english>

<http://kokumintohyo.com>

Low, M, Nakayama, S & Yoshioka, H 1999, *Science, technology and society in contemporary Japan*, Cambridge University Press, Cambridge.

Luskin, RC, Fishkin, JS & Plane, DL 1999, *Deliberative polling and policy outcomes: electric utility issues in Texas*, Prepared for delivery at the Annual Meeting of the Association for Public Policy Analysis and Management, Washington, DC, November 4-7, 1999, viewed 22 October 2013: [http://cdd.stanford.edu/research/papers/2000/utility\\_paper.pdf](http://cdd.stanford.edu/research/papers/2000/utility_paper.pdf)

Maeda, H & Onuma, S 2013, *Energy senryaku ni tsuite no tōrongata yoron chōsa ni tsuite no kokumin no hyōka to shakaiteki juyō ni tsuite no shakai chōsa* (Social study concerning public assessment and social acceptance of a deliberative poll on energy strategy), Gaming wo mochiita shimin sankagata kaigi ni yoru kankyō keikaku: sakutei no kaigō keisei to shakaiteki juyō ni kan suru kenkyū (Environmental planning by public participation meetings using gaming: study into formation of drafting committees and social acceptance), Zaidan Hōjin Kagaku Gijutsu Yūgō Shinkō Zaidan Itaku Kenkyū: Heisei 23, 24 Nendo Kenkyū Seika Hōkokusho.

Mainichi Japan 2011a, 'TEPCO director opposed nuclear fuel recycling at industry body meeting', *Mainichi Shimbun English web site*, 3 December 2011.

— 2011b, 'TEPCO, industry ministry secretly agreed to abandon nuclear reprocessing plant in 2002', *Mainichi Shimbun English web site*, 2 December 2011.

- 2011c, 'Wary of criticism, officials shelved withdrawal from nuclear reprocessing business', *Mainichi Shimbun English web site*, 2 December 2011.
- 2012a, 'Aomori Prefecture rejects nuclear waste, eyes continued reprocessing', *Mainichi Shimbun English web site*, 14 September 2012.
- 2012b, 'Cabinet Office official deleted emails on secret meetings of pro-nuclear parties', *Mainichi Shimbun English web site*, 27 July 2012.
- 2012c, 'Discontent amongst DPJ members grows over restart of Oi nuclear power plant', *Mainichi Shimbun English web site*, 17 April 2012.
- 2012d, 'Editorial: Gov't must respect public's readiness for zero dependence on nuclear power', *Mainichi Shimbun English web site*, 24 August 2012.
- 2012e, 'JAEC had secret 'study meeting' of nuclear advocates to draft reprocessing policy report', *Mainichi Shimbun English web site*, 24 May 2012.
- 2012f, 'Japan to maintain plan to seek spent fuel reprocessing at Rokkasho', *Mainichi Shimbun English web site*, 13 September 2012.
- 2012g, 'Mainichi uncovers more secret nuclear commission meetings', *Mainichi Shimbun English web site*, 26 May 2012.
- 2012h, 'Political tug-of-war continues over timing of zero-nuclear strategy', *Mainichi Shimbun English web site*, 5 September 2012.
- 2012i, 'Road to zero-nuclear Japan a rocky one', *Mainichi Shimbun English web site*, 13 September 2012.
- 2012j, 'Secret meeting' on fuel cycle was like gathering of 'nuclear villagers'', *Mainichi Shimbun English web site*, 24 May 2012.
- 2013a, 'Gov't to spend 47 bil. yen to fight Fukushima toxic water', *Mainichi Shimbun English web site*, 3 September 2013.
- 2013b, 'Kyushu Electric made 150 insiders attend public hearing on nuclear policy in 2005', *Mainichi Shimbun English web site*, 28 March 2013.
- 2014, 'Gov't to delay Cabinet decision on new energy policy', *Mainichi Shimbun English web site*, 11 January 2014.

Mainichi Shimbun 2013, 'Hito: Ihara Tomohito-san - Bio-nenryō venture kigyō ni tenshoku no kanryō' (People: Ihara Tomohito - Bureaucrat who changed jobs to biofuel venture), *Mainichi Shimbun Japanese web site*, 9 April 2013.

Mansbridge, J 1999, 'Everyday talk in the deliberative system', in S Macedo (ed.), *Deliberative politics: essays on democracy and disagreement*, Oxford University Press, New York, pp. 211-239.



Masuda, H 2013, *Hōshasei Haikibutsu WG no kentō jōkyō ni tsuite (hōkoku)* (Report on the status of the deliberations of the Radioactive Waste Working Group), Ministry of Economy, Trade and Industry web site, 28 November 2013: [http://www.meti.go.jp/committee/sougouenergy/denryoku\\_gas/genshiryoku/hoshasei\\_haikibutsu\\_wg/pdf/007\\_01\\_01.pdf](http://www.meti.go.jp/committee/sougouenergy/denryoku_gas/genshiryoku/hoshasei_haikibutsu_wg/pdf/007_01_01.pdf)

Matsubara, H 2013, *Community power revolution spreads in Japan*, Japan for Sustainability, 3 June 2013: [http://www.japanfs.org/en/news/archives/news\\_id032838.html](http://www.japanfs.org/en/news/archives/news_id032838.html)

Matsumoto, K 2012, 'Anti-nuclear protests continue on theme of nonviolence', *The Asahi Shimbun*, 22 December 2012: [http://ajw.asahi.com/article/behind\\_news/social\\_affairs/AJ201212220007](http://ajw.asahi.com/article/behind_news/social_affairs/AJ201212220007)

Matsuura, S 2013, 'Industry ministry behind private panel's push for reactor restarts', *The Asahi Shimbun*, 19 May 2013: [http://ajw.asahi.com/article/behind\\_news/social\\_affairs/AJ201305190024](http://ajw.asahi.com/article/behind_news/social_affairs/AJ201305190024)

Max-Neef, MA 1991, *Human scale development: conception, application and further reflections*, The Apex Press, New York and London.

Mayors for a Nuclear Power Free Japan, *Web site*, <<http://mayors.npfree.jp>>

— 2013, *Resolution to liquidate TEPCO and demand that the government take full responsibility for dealing with the aftermath, and providing compensation for the nuclear power plant disaster, such as taking measures to control the contaminated water*, 15 December 2013: [http://mayors.npfree.jp/wp-content/uploads/2014/01/20131215\\_Resolution\\_b.pdf](http://mayors.npfree.jp/wp-content/uploads/2014/01/20131215_Resolution_b.pdf)

McCurry, J 2011, 'Japan's Naoto Kan survives no-confidence vote', *The Guardian*, 3 June 2011: <http://www.guardian.co.uk/world/2011/jun/02/japan-naoto-kan-no-confidence-vote>

McKean, MA 1981, *Environmental protest and citizen politics in Japan*, University of California Press, Berkeley; London.

Mendonça, RF & Ercan, SA forthcoming, 'Deliberation and protest: strange bedfellows? Revealing the deliberative potential of 2013 protests in Turkey and Brazil', *Policy Studies*.

Metropolitan Coalition Against Nukes (Shutoken Hangempatsu Rengō), *Web site*: <http://coalitionagainstnukes.jp>

— 2012, *9.7 Ohi Gempatsu o teishi seyo 'Shuto Kantei mae kōgi'* (9.7 Stop Ohi Nuclear Power Plant protest outside the Prime Minister's Office), 7 September 2012 Press Release.

Mie, A 2012, 'Economy, split of antinuclear vote, aided LDP', *The Japan Times*, 18 December 2012, <<http://www.japantimes.co.jp/text/nn20121218b1.html>>

- Mikami, N 2012, 'Consensus kaigi: shimin ni yoru kagaku gijutsu no control' (Consensus conferences: control of science and technology by citizens), in H Shinohara (ed.), *Tōgi democracy no chōsen: mini-publics ga hiraku atarashii seiji* (Deliberative democracy challenge: mini-publics opening up new politics), Iwanami Shoten, Tokyo, pp. 35-60.
- Minami, A, Oshima, T, Takata, H & Yamakawa, I 2012, 'Western allies concerned about Japan's no-nuke energy policy', *The Asahi Shimbun*, 14 September 2012: <http://ajw.asahi.com/article/0311disaster/fukushima/AJ201209140081>
- Minister for National Policy (Kokka Senryaku Tantō Daijin) 2012a, *Kokuminteki Giron ni kan suru Kenshō Kaigō no kentō kekka ni tsuite* (Concerning results of the investigations of the National Debate Verification Panel), National Policy Unit, Cabinet Secretariat, 4 September 2012: <http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120904/shiryo1-2.pdf>
- 2012b, *Senryaku sakutei ni mukete - Kokuminteki Giron ga sashi shimesu mono* (Towards production of the strategy: what the National Debate shows), National Policy Unit, Cabinet Secretariat, 4 September 2012: <http://www.cas.go.jp/jp/seisaku/npu/policy09/pdf/20120904/shiryo1-1.pdf>
- Ministry of Economy Trade and Industry 2003, *Energy Kihon Keikaku* (The Strategic Energy Plan), Tokyo, October 2003: [http://www.enecho.meti.go.jp/category/others/basic\\_plan/pdf/0301007energy.pdf](http://www.enecho.meti.go.jp/category/others/basic_plan/pdf/0301007energy.pdf)
- 2010a, *Energy kihon keikaku* (The strategic energy plan of Japan), Tokyo, 18 June 2010: <http://www.meti.go.jp/committee/summary/0004657/energy.html>  
<http://www.meti.go.jp/committee/summary/0004657/energy.pdf>  
[http://www.enecho.meti.go.jp/category/others/basic\\_plan/pdf/100618honbun.pdf](http://www.enecho.meti.go.jp/category/others/basic_plan/pdf/100618honbun.pdf)
- 2010b, *The Strategic Energy Plan of Japan (Summary)*, Tokyo, 18 June 2010: [http://www.meti.go.jp/english/press/data/20100618\\_08.html](http://www.meti.go.jp/english/press/data/20100618_08.html)  
[http://www.meti.go.jp/english/press/data/pdf/20100618\\_08a.pdf](http://www.meti.go.jp/english/press/data/pdf/20100618_08a.pdf)
- 2014a, *Energy Kihon Keikaku* (Strategic Energy Plan), Tokyo, 11 April 2014: <http://www.meti.go.jp/press/2014/04/20140411001/20140411001.html>  
<http://www.meti.go.jp/press/2014/04/20140411001/20140411001-1.pdf>
- 2014b, *Saisei kanō energy hatsuden setsubi no dōnyū jōkyō o kōhyō shimasu (Heisei 26 nen 3 gatsu matsu jiten)* (Announcement regarding status of introduction of renewable energy generation facilities as at March 2014), 17 June 2014: <http://www.meti.go.jp/press/2014/06/20140617003/20140617003.html>
- 2014c, *Strategic Energy Plan*, Tokyo, 11 April 2014, English provisional translation released 26 May 2014: [http://www.enecho.meti.go.jp/en/category/others/basic\\_plan/pdf/4th\\_strategic\\_energy\\_plan.pdf](http://www.enecho.meti.go.jp/en/category/others/basic_plan/pdf/4th_strategic_energy_plan.pdf)

Ministry of Education Culture Sports Science and Technology 2010, *White Paper on Science and Technology 2010, Part 2, Chapter 2*, Ministry of Education, Culture, Sports, Science and Technology, Tokyo:  
<http://www.mext.go.jp/english/whitepaper/1302537.htm>

Ministry of Internal Affairs and Communications 2000, *Cabinet Decision: Public comment procedure for formulating, amending or repealing a regulation*, 23 March 1999, revised 26 December 2000, viewed 28 August 2014:  
[http://www.soumu.go.jp/main\\_sosiki/gyoukan/kanri/tetsuzukihou/iken\\_teisyutsu.html](http://www.soumu.go.jp/main_sosiki/gyoukan/kanri/tetsuzukihou/iken_teisyutsu.html)  
[http://www.soumu.go.jp/main\\_sosiki/gyoukan/kanri/pdf,word/iken/PublicCommentProcedure.pdf](http://www.soumu.go.jp/main_sosiki/gyoukan/kanri/pdf,word/iken/PublicCommentProcedure.pdf)

Ministry of Justice, *Japanese Law Translation web site*, Japanese Law Translation Database System, <<http://www.japaneselawtranslation.go.jp/law/>>

Minna-no Energy and Environment Conference, *Web site*, viewed 31 December 2012, (URL no longer active).

Monju Research Plan Working Group (Monju kenkyū keikaku sagyō buhai) 2013, *Monju kenkyū keikaku* (Monju research plan), Ministry of Education Culture Sports Science and Technology, 30 September 2013, Tokyo:  
[http://www.mext.go.jp/b\\_menu/shingi/gijyutu/gijyutu2/061/houkoku/1344598.htm](http://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu2/061/houkoku/1344598.htm)  
[http://www.mext.go.jp/component/b\\_menu/shingi/toushin/\\_icsFiles/afieldfile/2014/02/25/1344598\\_1\\_1.pdf](http://www.mext.go.jp/component/b_menu/shingi/toushin/_icsFiles/afieldfile/2014/02/25/1344598_1_1.pdf)  
[http://www.mext.go.jp/component/b\\_menu/shingi/toushin/\\_icsFiles/afieldfile/2014/02/25/1344598\\_2\\_1.pdf](http://www.mext.go.jp/component/b_menu/shingi/toushin/_icsFiles/afieldfile/2014/02/25/1344598_2_1.pdf)

Moro, G 2005, 'Citizens' evaluation of public participation', in OECD (ed.), *Evaluating public participation in policy making*, OECD Publishing, pp. 109-126.

Murata, T 1997, 'Monju jiko no kyōkun to genshiryoku no shōrai: kokumin gōi keisei no arikata to wa - Entaku Kaigi o furikaette' (Lessons of the Monju accident and the future of nuclear energy: how to form public agreement - reviewing the Round Table Conferences), *Energy Review*, no. 1997-1, January 1997, pp. 6-9.

Nagata, K 2012, 'Antinuclear demonstrators meet with lawmakers, seek talks with Noda', *The Japan Times*, 1 August 2012:  
<http://www.japantimes.co.jp/text/nn20120801a5.html>

— 2013, 'Antinuclear drive in search of new strategies: reactor foes risk burnout unless LDP stonewalling can be overcome', *The Japan Times*, 4 May 2013:  
<http://www.japantimes.co.jp/news/2013/05/04/national/antinuclear-drive-in-search-of-new-strategies/>

— 2014, 'Renewable energy's future rosy if grids ever get updated', *The Japan Times*, 10 February 2014:  
<http://www.japantimes.co.jp/news/2014/02/10/reference/renewable-energys-future-rosy-if-grids-ever-get-updated/>

Nakagawa, K 1996, 'Minshushugi no genten ni tachikaetta Maki-machi: gempatsu jūmin tōhyō' (Maki Town returns to the roots of democracy: nuclear energy local referendum), *Sekai*, no. 8, August 2006, pp. 68-72.

Nakagawa, T 1993, 'Referendum to decide on nuclear plan', *Nuke Info Tokyo*, no. 34, March/April 1993, pp. 4-5:  
[http://www.cnic.jp/english/newsletter/pdffiles/nit34\\_.pdf](http://www.cnic.jp/english/newsletter/pdffiles/nit34_.pdf)

Nakanishi, T, Kano, T & Okuyama, T 2014, 'Genshiryoku i: Genshiryoku Taikō fukkatsu ka' (Atomic Energy Commissioners: Will they resurrect the Framework for Nuclear Energy Policy?), *The Mainichi Shimbun*, 12 April 2014.

Nakao, M, *Radiation leaks from nuclear power ship "Mutsu"*, Hatamura Institute for the Advancement of Technology, viewed 21 April 2012:  
<http://www.sozogaku.com/fkd/en/cfen/CA1000615.html>  
<http://www.sozogaku.com/fkd/en/hfen/HA1000615.pdf>

National Policy Unit 2012, *National Debate web site* (Hanasou "Energy to kankō no mirai"), Cabinet Secretariat:  
<http://www.cas.go.jp/jp/seisaku/npu/policy09/sentakushi/index.html>

Network of Business Leaders and Entrepreneurs for a Sustainable Business and Energy Future, *Web site*, <<https://enekei.jp>>

NHK TV "Tokaimura Criticality Accident" Crew 2008, *A slow death: 83 days of radiation sickness*, Vertical Inc, New York.

Nikkei Shimbun 2011, 'Zenkoku shiku no keiei kakushindo chōsa' (Survey of the degree of management innovation in municipal districts throughout Japan), *日経グローバル (Nikkei Global)*, vol. 186, 19 December 2011.

Nishio, B 2000, 'Plans for nuclear power plant at Ashihama dropped', *Nuke Info Tokyo*, no. 76, March/April 2000, p. 3:  
<http://cnic.jp/english/newsletter/pdffiles/nit76.pdf>

— 2005, 'Nuclear court cases in Japan', *Nuke Info Tokyo*, no. 104, January/February 2005, pp. 5-7:  
<http://cnic.jp/english/newsletter/nit104/nit104articles/nit104court.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit104.pdf>

— 2009, 'Hangempatsu Shimbun and the National Network Against Nuclear Energy', *Nuke Info Tokyo*, no. 129, March/April 2009:  
<http://cnic.jp/english/newsletter/nit129/nit129articles/group129.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit129.pdf>

— 2010a, 'Japan's policy on disposal of radioactive waste', *Nuke Info Tokyo*, no. 138, September/October 2010, pp. 11-14:  
<http://cnic.jp/english/newsletter/nit138/nit138articles/waste.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit138.pdf>

— 2010b, 'Public involvement in Japan's nuclear power licensing system', *Nuke Info Tokyo*, no. 135, March/April 2010, pp. 6-8:

<http://cnic.jp/english/newsletter/nit135/nit135articles/licensing.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit135.pdf>

— 2014, 'Energy Kihon Keikaku no osomatsu' (The sloppiness of the Basic Energy Plan), *Citizens' Nuclear Information Center Japanese Newsletter* (Genshiryoku Shiryo Jōhōshitsu Tsūshin), 1 February 2014.

Nishiyama, G 2012, 'Anti-nuclear Tokyo mayor challenges big utilities', *The Wall Street Journal*, 6 February 2012:  
<http://blogs.wsj.com/japanrealtime/2012/02/06/anti-nuclear-tokyo-mayor-challenges-big-utilities/>

Noda, Y 2011, *Policy speech by Prime Minister Yoshihiko Noda to the 178th Session of the Diet*, Cabinet Secretariat, Cabinet Public Relations Office, 13 September 2011:  
[http://www.kantei.go.jp/foreign/noda/statement/201109/13syosin\\_e.html](http://www.kantei.go.jp/foreign/noda/statement/201109/13syosin_e.html)  
<http://www.kantei.go.jp/jp/noda/statement2/20110913syosin.html>

NPO Genki Net for Creating a Sustainable Society, *Web site*:  
<http://www.genki-net.jp/sub4.htm>

NPO Genron, *Web site*, <<http://www.genron-npo.net/english/>>

Nuclear Damage Liability Facilitation Fund 2013, *Songai Baishō Shien Kikō no jigyo ni tsuite* (About the business of the Nuclear Damage Liability Facilitation Fund):  
<http://www.ndf.go.jp/soshiki/pamph.pdf>

Nuclear Energy Subcommittee of the Advisory Committee for Natural Resources and Energy 2006, *Genshiryoku Shigen Energy Chōsakai Denki Jigyō Bunkakai Genshiryoku Bukai Hōkokusho: 'Genshiryoku Rikkoku Keikaku'* (Nuclear Energy National Plan: A report of the Nuclear Energy Subcommittee of the Advisory Committee for Natural Resources and Energy's Electricity Industry Committee), Ministry of Economy, Trade and Industry, 8 August 2006:  
[http://www.enecho.meti.go.jp/committee/council/nuclear\\_subcommittee/pdf/nuclear\\_subcommittee\\_002.pdf](http://www.enecho.meti.go.jp/committee/council/nuclear_subcommittee/pdf/nuclear_subcommittee_002.pdf)

Nuclear Future Research Group (Genshiryoku Mirai Kenkyūkai), *Web site*, viewed 23 November 2011, (URL no longer active).

Nuclear Waste Management Organization 2005, *Choosing a way forward: The future management of Canada's used nuclear fuel*, November 2005, Ottawa.

Obayashi, M 2013, 'Keizai saisei no shuppatsu ten--hassōden bunri: denki jigyo no sai kiseika e' (The starting point for economic renewal--separation of generation and transmission: towards re-regulation of electricity business), *Kagaku (Science Journal)*, vol. 83, no. 6, June 2013, pp. 666-667.

Obe, M & Dawson, C 2012, 'Nuclear-restart plans divide Japan', *The Wall Street Journal*.

OECD (ed.) 2005, *Evaluating public participation in policy making*, OECD Publishing.

Oguma, E (ed.) 2013, *Gempatsu o tomeru hitobito: 3.11 kara kantei mae made* (The people who stop nuclear power: from 3.11 to outside the Prime Minister's residence), Bungeishunju, Tokyo.

Ohisama Shimpō Energy, *Web site*, <<http://www.ohisama-energy.co.jp>>

Onai, T 2007, 'Nihon ni okeru "jukugi = sankā democracy" no hōga: genshiryoku seiji katei o tōshite' (Sprouting of "deliberation = participatory democracy" in Japan: via nuclear energy policy process), in A Ogawa (ed.), *Post daihyōsei no hikaku seiji: jukugi to sankā no democracy* (Post representative comparative politics: deliberative and participatory democracy), Waseda University Press, Tokyo, pp. 79-104.

— 2014, 'Jukugi minshushugi' (Deliberative democracy), in H Honda & T Horie (eds), *Datsu gempatsu no hikaku seijigaku* (Comparative politics of nuclear phaseout), Hosei University Press, Tokyo, pp. 109-128.

Osaka Prefecture/City Energy Strategy Committee (Osaka Fu-Shi Energy Senryaku Kaigi) 2013, *Osaka Fu-Shi energy senryaku no teigen* (Osaka Prefecture/City Energy Strategy Proposal), 31 May 2013:  
<http://www.city.osaka.lg.jp/kankyo/page/0000224225.html>

Oshima, H 1996, 'Monju saikai o kobamu chiiki no chikara' (Local power blocking Monju restart), *Sekai*, no. 6, June 2006, pp. 237-242.

Oyama, K 1999, 'Genshiryoku to shakai no kankei o meguru gyōsei gaku' (The study of public administration as it relates to nuclear energy and society), *Journal of the Atomic Energy Society of Japan* (Nihon Genshiryoku Gakkaishi), vol. 41, no. 3, pp. 167-173.

Parkinson, J 2003, 'Legitimacy problems in deliberative democracy', *Political Studies*, vol. 51, no. 1, March 2003, pp. 180-196.

— 2006, *Deliberating in the real world: problems of legitimacy in deliberative democracy*, Oxford University Press, Oxford.

— 2007, 'Localism and deliberative democracy', *The Good Society*, vol. 16, no. 1, pp. 23-29.

Pekkanen, R 2012, 'The 2012 Japanese election paradox: how the LDP lost voters and won the election', *The National Bureau of Asian Research*, 18 December 2012:  
<http://nbr.org/research/activity.aspx?id=297>

Putnam, RD 2000, *Bowling alone. The collapse and revival of American community*, Simon&Schuster Inc, New York.

Radioactive Waste Working Group (Sōgō Shigen Energy Chōsakai Denryoku-Gas Jigyō Bunkakai Genshiryoku Shō-iinkai Hōshasei Haikibutsu Working Group) 2014, *Hōshasei Haikibutsu Working Group Chūkan Torimatome* (Radioactive Waste Working Group Interim Report), Advisory Committee for Natural Energy and Resources, May 2014:

[http://www.meti.go.jp/committee/sougouenergy/denryoku\\_gas/genshiryoku/houushasei\\_haikibutsu\\_wg/report\\_001.html](http://www.meti.go.jp/committee/sougouenergy/denryoku_gas/genshiryoku/houushasei_haikibutsu_wg/report_001.html)

[http://www.meti.go.jp/committee/sougouenergy/denryoku\\_gas/genshiryoku/houushasei\\_haikibutsu\\_wg/report\\_001.pdf](http://www.meti.go.jp/committee/sougouenergy/denryoku_gas/genshiryoku/houushasei_haikibutsu_wg/report_001.pdf)

Ramana, MV 2013, 'Shifting strategies and precarious progress: nuclear waste management in Canada', *Energy Policy*, vol. 61, pp. 196-206.

Renga Tsūshin blog 2012, 20 July 2012:

[http://rengetushin.at.webry.info/201207/article\\_9.html](http://rengetushin.at.webry.info/201207/article_9.html)

Roberts, NC 2008, *The age of direct citizen participation*, ME Sharpe Inc.

Rowe, G & Frewer, LJ 2000, 'Public participation methods: a framework for evaluation', *Science, Technology & Human Values*, vol. 25, no. 1, pp. 3-29.

Rüdiger, W 2000, 'Phasing out nuclear energy in Germany', *German Politics*, vol. 9, no. 3, pp. 43-80.

Sakano, T 2012, 'Tōgigata yoron chōsa (DP): min'i no henyō o yoron chōsa de tashikameru' (Deliberative polls: confirming changes in public will with opinion polls), in H Shinohara (ed.), *Tōgi democracy no chōsen: mini-publics ga hiraku atarashii seiji* (Deliberative democracy challenge: mini-publics opening up new politics), Iwanami Shoten, Tokyo, pp. 3-31.

Samuels, RJ 1987, *The business of the Japanese state: energy markets in comparative and historical perspective*, Ithaca, London.

— 2013, *3.11: disaster and change in Japan*, Cornell University Press, Ithaca.

Sato, E 2009, *Chiji massatsu (Obliterating the governor)*, Heibonsha, Tokyo.

Sato, K & Tokizawa, T 2003, 'Current status and reclamation plan of former uranium mining and milling facilities at Ningyo-Toge in Japan', paper presented at Waste Management 2003 Symposium, Tucson, Arizona, 23-27 February 2003.

Sawai, M 2001, 'Kariwa referendum: a new blow to the nuclear program', *Nuke Info Tokyo*, no. 85, September/October 2001, pp. 1-5:

<http://www.cnic.jp/english/newsletter/pdf/nit85.pdf>

— 2005, 'Uranium trials begin at Rokkasho', *Nuke Info Tokyo*, no. 104, January/February 2005:

<http://www.cnic.jp/english/newsletter/nit104/nit104articles/nit104rokky.html>

<http://www.cnic.jp/english/newsletter/pdf/nit104.pdf>

Sawai, M & White, P 2011, 'Uranium enrichment plant turns into a big waste dump', *Nuke Info Tokyo*, no. 140, January/February 2011:

<http://cnic.jp/english/newsletter/nit140/nit140articles/uranenrich.html>

<http://cnic.jp/english/newsletter/pdf/nit140.pdf>

Schreurs, MA 2003, 'Divergent paths: environmental policy in Germany, the United States, and Japan', *Environment*, vol. 45, no. 8, October 2003, pp. 9-17.

— 2013, 'The international reaction to the Fukushima nuclear accident and implications for Japan', in MA Schreurs & F Yoshida (eds), *Fukushima: a political economic analysis of a nuclear disaster*, Hokkaido University, Sapporo.

Science Council of Japan 2012, *Kō level hōshasei haikibutsu no shobun ni tsuite* (Concerning disposal of high-level radioactive waste), Japan Atomic Energy Commission, Regular Meeting 11 September 2012, Tokyo:  
<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryō2012/siryō39/siryō1-2-2.pdf>

Sengoku, Y & Sone, Y 2012, 'News ronsō: jukugi to min'i' (News debate: deliberation and public will), *The Mainichi Shimbun*, 20 February 2012.

Setagaya City, *Saisei kanō energy no fukyū sokushin web site* (Spread and promotion of renewable energy):  
<http://www.city.setagaya.lg.jp/kurashi/102/126/829/index.html>

Shimizu, K & Matsuya, J 2012, 'Gian sentei kiwadatte futōmei' (Selection of agenda items extremely opaque), *Mainichi Shimbun*, 8 May 2012.

Shimomura, K 2013, *Shushō Kantei de hataraitte hajimete wakatta koto* (Things I learnt working in the Prime Minister's Office), Asahi Shinsho 397, Asahi Shimbun Publications.

Shinohara, H 2004, *Shimin no seijigaku: tōgi democracy to wa nani ka* (Political science for citizens: what is deliberative democracy?), Iwanami Shinsho 872.

Shinoto, A 2012a, 'Keikaku saibō kaigi: member o irekaenagara no shōninzū tōgi' (Planning cells: deliberation in small groups with changing members), in H Shinohara (ed.), *Tōgi democracy no chōsen: mini-publics ga hiraku atarashii seiji* (Deliberative democracy challenge: mini-publics opening up new politics), Iwanami Shoten, Tokyo, pp. 61-79.

— 2012b, 'Shimin tōgikai: Nihon no seiji bunka o hiraku' (Citizens' conferences: opening up Japan's political culture), in H Shinohara (ed.), *Tōgi democracy no chōsen: mini-publics ga hiraku atarashii seiji* (Deliberative democracy challenge: mini-publics opening up new politics), Iwanami Shoten, Tokyo, pp. 99-115.

Shitei Toshi Shizen Energy Kyōgikai, *Web site*, <<http://www.enekyo-city.jp>>

Shizen Energy Kyōgikai, *Web site*, <<http://www.enekyo.jp>>

Shizuoka Shimbun 2014, 'Hamaoka Gempatsu saikadō 'Jisshitsu dekinai': teishi 3 nen de Shizuoka Ken Chiji' (Hamaoka Nuclear Power Plant 'Essentially cannot be restarted: Shizuoka Governor 3 years after shut down)', 11 May 2014.

Smith, G 2011, *Nuclear roulette: the case against a nuclear renaissance*, International Forum on Globalization, 11 June 2011:  
[http://ifg.org/v2/wp-content/uploads/2014/04/Nuclear\\_Roulette\\_book.pdf](http://ifg.org/v2/wp-content/uploads/2014/04/Nuclear_Roulette_book.pdf)

Sone, Y 2012, 'What did the deliberative poll reveal on Energy and Environmental Options?', *Tokyo-jin*, no. November 2012:  
<http://cdd.stanford.edu/polls/japan/2012/tokyo-jin-nov3-en.pdf>  
<http://cdd.stanford.edu/polls/japan/2012/tokyo-jin-nov3.pdf>



Sone, Y, Yanase, N, Uekihara, H & Shimada, K 2013, *Manabu, kangaeru, hanashiau: tōron gata yoron chōsa* (Learn, think, talk: deliberative poll), Sotokoto, Tokyo.

Suzuki, T 2000, 'Energy security and the role of nuclear power in Japan', paper presented at Regional Collaboration for Energy Futures and Energy Security in China and Northeast Asia, 14-15 June 2000.

— 2010, 'Japan's plutonium breeder reactor and its fuel cycle', *Fast breeder reactor programs: history and status*, International Panel on Fissile Materials, Princeton, NJ, pp. 53-61.

Suzuki, T 2012, 'DPJ to set up research commission on future nuclear energy policy', *The Asahi Shimbun*, 13 August 2012:  
<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201208130063>

Suzuki, T 2012, *Kaku nenryō cycle seisaku no sentakushi ni kan suru kentō kekka ni tsuite* (Concerning results of the investigation into nuclear fuel cycle policy options: report of the Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc), Japan Atomic Energy Commission, 5 June 2012:  
<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryō2012/siryō22/index.htm>  
<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryō2012/siryō22/siryō1-1.pdf>  
<http://www.aec.go.jp/jicst/NC/iinkai/teirei/siryō2012/siryō22/siryō1-2.pdf>

Tabuchi, H 2011, 'Japan asks another nuclear plant to shut down its reactors', *The New York Times*, 6 May 2011:  
<http://www.nytimes.com/2011/05/07/world/asia/07japan.html>

— 2014, 'Reversing course, Japan makes push to restart dormant nuclear plants', 25 February 2014:  
<http://www.nytimes.com/2014/02/26/world/asia/japan-pushes-to-revive-moribund-nuclear-energy-sector.html>

Tabusa, K 1992, 'Nuclear politics: exploring the nexus between citizens' movements and public policy in Japan', PhD thesis, Columbia University.

Takagi, J 1994, 'Proposal for moratorium on plutonium utilization program', *Nuke Info Tokyo*, no. 40, March/April 1994, pp. 4, 5:  
[http://cnic.jp/english/newsletter/pdf/nit40\\_.pdf](http://cnic.jp/english/newsletter/pdf/nit40_.pdf)

— 1996, 'Sengo shakai to kagaku gijutsu to jibun' (Post-war society, science and technology, and myself), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 57, July 1996, pp. 3-8.

Takagi, J & Citizens' Nuclear Information Center 2000, *Criticality accident at Tokaimura: 1 mg of uranium that shattered Japan's nuclear myth*, Citizens' Nuclear Information Center, Tokyo.

Takahashi, M 2012, *Shizen energy kakumei o hajimeyou* (Let's begin a natural energy revolution), Otsuki Shoten, Tokyo.

Takahashi, R & Nakagome, Y 2005, 'Genshiryoku kokuminteki gōi keisei ni muketa taiwa ni kan suru kōsatsu' (Consideration on the dialogue for national consensus of the nuclear energy policy), *Transactions of the Atomic Energy Society of Japan* (Nihon Genshiryoku Gakkai Wabun Rombunshi), vol. 4, no. 3.

Takakusagi, K (ed.) 2011, *Sen-kyūhyaku-rokujū-nendai: mirai e tsuzuku shisō* (The 1960s: ideology continuing into the future), Iwanami Books, Tokyo.

Takemori, K 2012, 'Niigata Minamata Disease and Showa Denko', *Sangyō Keizai Kenkyūjo Kiyō, Chubu University*, vol. 22, March 2012.

Takemoto, K 2001, 'Nuclear subsidies in Japan in light of Kariwa Village's Rapika incident', *Nuke Info Tokyo*, no. 86, Nov./Dec. 2001, pp. 8-9:  
<http://www.cnic.jp/english/newsletter/pdffiles/nit86.pdf>

Taki, J 2013, 'Genshiryoku anzen no ronri ni tsuite fukai giron o (Deep discussion about the logic of nuclear safety)', *ATOMO Σ* (Nihon Genshiryoku Gakkaishi), vol. 55, no. 1, pp. 63-64.

Takubo, M & von Hippel, F 2013, 'Ending plutonium separation: an alternative approach to managing Japan's spent nuclear fuel', *Asahi Shimbun*, August 2013:  
[http://www.asahi.com/special/nuclear\\_peace/academic/August2013\\_english.pdf](http://www.asahi.com/special/nuclear_peace/academic/August2013_english.pdf)

Tanaka, Y & Kuznick, P 2011, 'Japan, the atomic bomb, and the 'peaceful uses of nuclear power'', *The Asia-Pacific Journal*, vol. 9, no. 18 No 1, 2 May 2011.

Tasaka, H 2012, *Kantei kara mita gempatsu jiko no shinjitsu: kore kara hajimaru makoto no kiki* (The truth of the nuclear accident: the real crisis is about to begin), Shinsho 558, Kōbunsha, Tokyo.

Technical Subcommittee Investigation Team (Genshiryoku Iinkai Genshiryoku Hatsuden Kaku Nenryō Cycle Gijutsu Tō Kentō Shō-iinkai de no kentō ni kan suru kenshō team) 2012a, *Genshiryoku Iinkai Genshiryoku Hatsuden, Kaku Nenryō Cycle Gijutsu Tō Kentō Shō-iinkai de no kentō ni kan suru kenshō hōkokusho* (Report of the investigation into the deliberations of Japan Atomic Energy Commission's Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc) August 2012:  
<http://www.cao.go.jp/others/soumu/kensyou/kensyou.html>  
<http://www.cao.go.jp/others/soumu/kensyou/pdf/houkokusho.pdf>

— 2012b, *Genshiryoku Iinkai Genshiryoku Hatsuden, Kaku Nenryō Cycle Gijutsu Tō Kentō Shō-iinkai de no kentō ni kan suru kenshō hōkokusho no gaiyō* (Summary report of the investigation into the deliberations of Japan Atomic Energy Commission's Technical Subcommittee on Nuclear Power, Nuclear Fuel Cycle, etc) August 2012:  
<http://www.cao.go.jp/others/soumu/kensyou/kensyou.html>  
<http://www.cao.go.jp/others/soumu/kensyou/pdf/gaiyou.pdf>

The Asahi Shimbun 2004a, 'Kaku nenryō cycle hiyō waridaka no shisan, kōhyō sezu: Keisanshō, 10 nenkan sonzai hitei' (High nuclear fuel cycle cost calculation not made public: METI denied its existence for 10 years), *The Asahi Shimbun*, 3 July 2004.

- 2004b, 'Keizaisei, yuragu shinrai: kaku nenryō cycle waridaka shisan (jiji kokukoku) ' (Economics, wavering trust: increased cost estimate for nuclear fuel cycle ([changing] every moment)), *The Asahi Shimbun*, 3 July 2004.
- 2012a, 'Anti-nuclear protesters put heat on Noda', *The Asahi Shimbun English web site*, 14 July 2012:  
<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201207140056>
- 2012b, 'Britain, France seek Japan's promise to accept nuclear waste', *The Asahi Shimbun English web site*, 13 September 2012:  
<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201209130090>
- 2012c, 'EDITORIAL: More ways must be found to reflect public opinion in policy', *The Asahi Shimbun English web site*, 15 October 2012:  
<http://ajw.asahi.com/article/views/editorial/AJ201210150076>
- 2012d, 'EDITORIAL: New system needed to ensure public input on nuclear power', *The Asahi Shimbun English web site*, 6 May 2012:  
<http://ajw.asahi.com/article/views/editorial/AJ201205060029>
- 2012e, 'Pro-nuclear bureaucrats back in the picture under Abe', *The Asahi Shimbun English web site*, 29 December 2012:  
[http://ajw.asahi.com/article/behind\\_news/politics/AJ201212290056](http://ajw.asahi.com/article/behind_news/politics/AJ201212290056)
- 2012f, '(Shassetsu) Energy seisaku: gempatsu zero no jiki meiji o' (Editorial: Energy policy: specify the time for zero nuclear), *The Asahi Shimbun*, 31 August 2012.
- 2012g, 'TEPCO union head threatens DPJ lawmakers betraying members', *The Asahi Shimbun English web site*, 30 May 2012:  
[http://ajw.asahi.com/article/behind\\_news/politics/AJ201205300043](http://ajw.asahi.com/article/behind_news/politics/AJ201205300043)
- 2014a, 'EDITORIAL: Governor's doubts about nuclear safety should be addressed', *The Asahi Shimbun English web site*, 24 April 2014:  
<http://ajw.asahi.com/article/views/editorial/AJ201404240037>
- 2014b, 'Study: Nearly one-third of localities call for end to nuclear power', *The Asahi Shimbun English web site*, 19 January 2014:  
<http://ajw.asahi.com/article/0311disaster/fukushima/AJ201401190021>
- The Center for Deliberative Poll, *Web site*, Keio University:  
<http://keiodp.sfc.keio.ac.jp>
- The Danish Board of Technology, *Web site*:  
<http://www.tekno.dk/subpage.php3?page=forside.php3&language=uk>
- The Fukushima Nuclear Accident Independent Investigation Commission 2012, *The official report of The Fukushima Nuclear Accident Independent Investigation Commission: Executive Summary* The National Diet of Japan, viewed 22 September 2014:  
<http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naaic.go.jp/en/report/>

[http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naiic.go.jp/wp-content/uploads/2012/09/NAIIC\\_report\\_lo\\_res10.pdf](http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naiic.go.jp/wp-content/uploads/2012/09/NAIIC_report_lo_res10.pdf)  
[http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naiic.go.jp/wp-content/uploads/2012/09/NAIIC\\_report\\_hi\\_res10.pdf](http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naiic.go.jp/wp-content/uploads/2012/09/NAIIC_report_hi_res10.pdf)

The Japan Times 2012, 'Helping people help NPOs', *The Japan Times web site*, 18 May 2012, <<http://www.japantimes.co.jp/text/ed20120518a2.html>>

— 2014, 'Nuclear power remains an issue', *The Japan Times web site*, 10 February 2014:  
<http://www.japantimes.co.jp/opinion/2014/02/10/editorials/nuclear-power-remains-an-issue/>

The newDemocracy Foundation, *newDemocracy web site*, Sydney, viewed 23 August 2012, <<http://www.newdemocracy.com.au>>

The Yomiuri Shimbun 2012a, 'Don't rely on surveys as reason to end use of nuclear power', *Yomiuri Shimbun English web site*, 31 August 2012, (from 30 August 2012 Japanese edition).

— 2012b, 'Don't take results of nuclear power surveys too seriously', *The Yomiuri Shimbun's English web site*, 27 August 2012.

— 2013, 'Abe: New N-plants to be built', *The Yomiuri Shimbun's English web site*, 1 January 2013.

Third Party Verification Committee into the Deliberative Poll on Energy and Environment Options (Energy/Kankyō no Sentakushi ni kan suru Tōrongata Yoron Chōsa Daisansha Kenshō Iinkai) 2012, *Energy/Kankyō no Sentakushi ni kan suru Tōrongata Yoron Chōsa Kenshō Hōkokusho* (Deliberative Poll on Energy and Environment Options Verification Report), Cabinet Secretariat, Government of Japan, 13 August 2012:  
[http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822\\_04.pdf](http://www.cas.go.jp/jp/seisaku/npu/kokumingiron/dp/120822_04.pdf)

Timmerman, P 2009, 'The long haul: ethics in the Canadian nuclear waste debate', in D Durant & G Fuji Johnson (eds), *Nuclear waste management in Canada: critical issues, critical perspectives*, UBC Press, Vancouver, pp. 52-68.

Tindall, DB, Cormier, J & Diani, M 2012, 'Network social capital as an outcome of social movement mobilization: using the position generator as an indicator of social network diversity', *Social Networks*, vol. 34, no. 4, pp. 387-395.

Tokyo Shimbun 2012, 'Gempatsu zero 'henkō yochi nokose' kakugi kettei kaihi bei ga yōkyū' (Retain the option of changing the zero nuclear [target]: the US demands that a Cabinet Decision be avoided), 22 September 2012:  
<http://www.tokyo-np.co.jp/article/feature/nucerror/list/CK2012092202100003.html>

Toyoda, C 2013, 'Japan, Turkey ink N-plant accord', *The Japan News*, The Yomiuri Shimbun, 31 October 2013.

Ueda, T 2000, 'Ichi kara wakaruru genshiryoku anzen taisei' (Basics of nuclear safety regime), *Asahi Shimbun*, 2 October 2000.

Ueta, K 2013, *Midori no energy genron* (Green energy principles), Iwanami Shoten, Tokyo.

Ui, J 1992, *Industrial pollution in Japan*, United Nations University Press, Tokyo:  
<http://archive.unu.edu/unupress/unupbooks/uu35ie/uu35ie00.htm>

United Nations Development Programme 2011, *Human development report 2011 - sustainability and equity: a better future for all*, United Nations Development Programme, New York.

United Nations General Assembly 2000, *United Nations Millennium Declaration*, 18 September 2000, United Nations.

Upham, FK 1976, 'Litigation and moral consciousness in Japan: an interpretive analysis of four Japanese pollution suits', *Law & Society Review*, vol. 10, no. 4, Summer, 1976, pp. 579-619.

Wakamatsu, Y 1993, 'Denmark no consensus kaigi: kagaku to shakai o dō tsunagu ka' (Denmark's consensus conference: how to connect science and society), *Shakai to Kagaku Journal* (Science and Technology Journal), vol. 2, no. 2, pp. 22-24.

— 2003, "'Kagaku gijutsu e no shimin sankā" o tembō suru: consensus kaigi no kokoromi o rei ni' (Prospects of citizen participation in science and technology: the consensus conference model as a case), *The journal of Science Policy and Research Management*, vol. 15, no. 3/4, 6 August 2003, pp. 168-182.

— 2005, 'Consensus kaigi to sono Nihon de no kokoromi' (Trying out consensus conferences in Japan), *PI Forum (Gōi Keisei Forum)*, vol. 1, no. 2, Summer 2005.

Wakasugi, R 2013, *Gempatsu whiteout (Nuclear power whiteout)*, Kodansha, Tokyo.

Watling, J, Maxwell, J, Saxena, N & Taschereau, S 2004, *Responsible action: citizens' dialogue on the long-term management of used nuclear fuel*, Research Report P04, July 2004, Ottawa, <[http://www.cprn.org/documents/30862\\_en.pdf](http://www.cprn.org/documents/30862_en.pdf)>

Weiler, J 1999, *The Constitution of Europe: 'Do the new clothes have an Emperor?' and other essays on European integration*, Cambridge University Press, New York.

Weinberg, AM 1972, 'Science and trans-science', *Minerva*, vol. 10, no. 2, April 1972, pp. 209-222.

White, P 2005, 'New Nuclear Policy-Planning Council', *Nuke Info Tokyo*, no. 108, Sep./Oct. 2005, pp. 1-3:  
<http://www.cnrc.jp/english/newsletter/nit108/nit108articles/nit108nucpol.html>  
<http://www.cnrc.jp/english/newsletter/pdf/nit108.pdf>

— 2014, 'Japan goes back to the future to affirm energy "foundation"', *The Japan Times*, 12 January 2014:

<http://www.japantimes.co.jp/opinion/2014/01/12/commentary/japan-goes-back-to-the-future-to-affirm-energy-foundation/>

White, P & Ban, H 2010, 'Restarting Monju - like playing Russian roulette', *Nuke Info Tokyo*, no. 134, January/February 2010, pp. 1-7:  
<http://cnic.jp/english/newsletter/nit134/nit134articles/monju.html>  
<http://cnic.jp/english/newsletter/pdffiles/nit134.pdf>

Wolin, R 2006, 'What is global democracy?', in R Wolin (ed.), *The Frankfurt School revisited and other essays on politics and society*, Routledge, New York, pp. 211-226.

World Nuclear Association, *The Nuclear Fuel Cycle*, web page, viewed 14 October 2014:  
<http://www.world-nuclear.org/info/Nuclear-Fuel-Cycle/Introduction/Nuclear-Fuel-Cycle-Overview/>

Yagi, E 2013, 'Energy seisaku ni okeru Kokumin-teki Giron to wa nan datta no ka' (What was the energy policy National Debate all about?), *ATOMO Σ* (Nihon Genshiryoku Gakkaishi), vol. 55, no. 1, pp. 29-34.

Yagi, E, Takahashi, M & Kitamura, M 2007a, 'Shitsuteki kenkyū ni motozuku atarashii genshiryoku communication scheme no teian' (A proposal of new nuclear communication scheme based on qualitative research), *Transactions of the Atomic Energy Society of Japan* (Nihon Genshiryoku Gakkai Wabun Rombunshi), vol. 6, no. 4, pp. 444-459.

— 2007b, 'Taiwa forum' jissen ni yoru genshiryoku risk ninchi kōzō no kaimei' (Clarification of nuclear risk recognition scheme through dialogue forum), *Transactions of the Atomic Energy Society of Japan* (Nihon Genshiryoku Gakkai Wabun Rombunshi), vol. 6, no. 2, pp. 126-140.

Yagishita, M (ed.) 2014, *Tettei tōron: Nihon no energy kankyō senryaku* (Public debate on the Innovative Strategy for Energy and the Environment), Sophia University Press, Tokyo.

Yamada, T 2013, 'Anonymous bureaucrat exposes truths about nuclear policy', *Mainichi Shimbun English web site*, 14 October 2013:  
<http://mainichi.jp/english/english/perspectives/news/20131014p2a00m0na007000c.html>

Yamaguchi, Y 2005, 'Nuclear energy is not a controllable technology: from Hiroshima and Nagasaki to the elimination of nuclear energy', *Nuke Info Tokyo*, no. 108, Sep./Oct. 2005, pp. 4-5:  
<http://www.cnic.jp/english/newsletter/nit108/nit108articles/nit108abomb60.html>  
<http://www.cnic.jp/english/newsletter/pdffiles/nit108.pdf>

— 2009, 'KK Nuclear Power Station 2 years after the Chuetsu-oki Earthquake', *Nuke Info Tokyo*, no. 131, July/August 2009, pp. 8-9:  
<http://www.cnic.jp/english/newsletter/nit131/nit131articles/kk.html>  
<http://www.cnic.jp/english/newsletter/pdffiles/nit131.pdf>

— 2011, 'Redesign the Niigata method: close down the Kashiwazaki-Kariwa Nuclear Power Station', *Nuke Info Tokyo*, no. 145, November/December 2011, pp. 3-4:

<http://www.cnic.jp/english/newsletter/nit145/nit145articles/kk.html>

<http://www.cnic.jp/english/newsletter/pdffiles/nit145.pdf>

— 2013, 'No future for Kashiwazaki-Kariwa except gradual decommissioning', *Nuke Info Tokyo*, no. 157, November/December 2013, pp. 1-4:

[http://www.cnic.jp/english/newsletter/nit157/nit157articles/01\\_KKNPS.html](http://www.cnic.jp/english/newsletter/nit157/nit157articles/01_KKNPS.html)

<http://www.cnic.jp/english/newsletter/pdffiles/nit157.pdf>

Yamaji, K 2000, 'Genshiryoku seisaku saikentō' (Reconsideration of nuclear energy policy), *Asia chiiki no anzen hoshō to genshiryoku heiwa riyō* (Security of the Asian region and the peaceful use of nuclear energy), Council for Nuclear Fuel Cycle:

<http://www.cnfc.or.jp/j/proposal/asia00/yamaji.html>

<http://www.cnfc.or.jp/j/proposal/asia00/index.html>

Yamauchi, R & Arimitsu, H 2012, 'Zero N-plant strategy rife with contradictions / Govt's plan to shut down N-plants by 2030s draws criticism from businesses, Aomori Prefecture, U.S.', *Yomiuri Shimbun English web site*, 16 September 2012.

Yanase, N 2013, 'Kōkyō seisaku no keisei e no minshuteki tōgi no ba no jissō: energy kankyō no sentakushi ni kan suru tōron-gata yoron chōsa no jisshi no gaikyō' (Implementation of forum for democratic deliberation in public policy formation: condition of implementation of Deliberative Poll on Energy and Environment Policy Options), *Komazawa Daigaku Hōgakubu Kenkyū Kiyō* (Komazawa University Faculty of Law Journal), no. 71, March 2013, pp. 53-186.

Yazawa, T 2012, 'Nihon no gempatsu zero hōshin: Bei 'Daitōryō ga saikō yōsei': kakufukakusan ya heiwa riyō kyōryoku, wakugumi hōkai o kenen' (Japan's zero nuclear policy: US President requests reconsideration: fears of disintegration of framework for cooperation on nuclear non-proliferation and peaceful use), *Nikkei Shimbun*, 25 September 2012:

[http://www.nikkei.com/article/DGXDasGM2300C\\_U2A920C1FF2000/](http://www.nikkei.com/article/DGXDasGM2300C_U2A920C1FF2000/)

Yoshida, F 2013, 'The Fukushima nuclear disaster: one of the world's worst-ever cases of pollution', *Economic Journal of Hokkaido University*, vol. 41, 8 Mar 2013, pp. 1-38:

<http://eprints.lib.hokudai.ac.jp/dspace/handle/2115/52218>

[http://eprints.lib.hokudai.ac.jp/dspace/bitstream/2115/52218/1/EJHU\\_41\\_1.pdf](http://eprints.lib.hokudai.ac.jp/dspace/bitstream/2115/52218/1/EJHU_41_1.pdf)

Yoshioka, H 1997, 'Kagaku gijutsu seisaku ni kan suru bibōroku 1996 nen' (Memorandum on science and technology policy, 1996), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 60, March 1997, pp. 2-21.

— 1999, 'Kagaku gijutsu seisaku ni kan suru bibōroku 1998 nen' (Memorandum on science and technology policy, 1998), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 68, March 1999, pp. 3-22.

— 2001, 'Kagaku gijutsu seisaku ni kan suru bibōroku 2000 nen' (Memorandum on science and technology policy, 2000), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 76, March 2001, pp. 3-29.

— 2002, 'Kagaku gijutsu seisaku ni kan suru bibōroku 2001 nen' (Memorandum on science and technology policy, 2001), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 80, March 2002, pp. 3-29.

— 2005a, 'Forming a nuclear regime and introducing commercial reactors', in S Nakayama (ed.), *A social history of science and technology in contemporary Japan*, vol. 2, Road to Self-reliance 1952-1959, Trans Pacific Press, Melbourne, pp. 80-103.

— 2005b, 'Kagaku gijutsu seisaku ni kan suru bibōroku 2004 nen' (Memorandum on science and technology policy, 2004), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 92, March 2005, pp. 3-26.

— 2006a, 'The development of nuclear fuel-cycle technology', in S Nakayama & H Yoshioka (eds), *A social history of science and technology in contemporary Japan*, vol. 4, Transformation Period 1970-79, Trans Pacific Press, Melbourne, pp. 233-255.

— 2006b, 'Kagaku gijutsu seisaku ni kan suru bibōroku 2005 nen' (Memorandum on science and technology policy, 2005), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 96, March 2006, pp. 3-27.

— 2007, 'Kagaku gijutsu seisaku ni kan suru bibōroku 2006 nen' (Memorandum on science and technology policy, 2006), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 100, March 2007, pp. 3-24.

— 2010, 'Pluthermal no ronten: keisuiro de no MOX riyō keikaku o rekishiteki shiten kara kenshō suru' (Pluthermal discussion points: plan for use of MOX in light water reactors reviewed from a historical perspective), *Kagaku* (Science Journal), vol. 80, no. 2, Feb. 2010, pp. 181-186.

Yoshioka, H & Yoshioka, Y 1998, 'Kōsoku zōshokuro kondankai to wa nan de atta ka' (What was the fast breeder reactor panel?), *Science Society Humanity* (Kagaku, Shakai, Ningen), vol. 63, January 1998, pp. 6-18.

Zenkoku Gotōchi Energy Kyōkai (National Community Power Association), *Web site*, <<http://communitypower.jp>>