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Building trust through deliberative participation? The potential, achievements, and limitations of the National Energy Deliberative Polling in Post-Fukushima Japan

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Building trust through deliberative participation?
The potential and limitations of the National Energy Deliberative Polling in
Post-Fukushima Japan

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Abstract

The policy challenges associated with global climate change, post-Fukushima risks alongside public distrust and the lack of policy legitimacy have prompted many governments in both developed and developing economies to adopt deliberative approaches for engaging the public in energy policy-making. Trust is a critical element of deliberative governance. The extent to which and how trust can be built has however remained under-researched. This paper is a case study of the National Deliberative Poll (DP) on Energy and Environmental Options in Japan 2012. We adopt a multi-method approach that combines quantitative data from pre- and post-deliberation questionnaires (N=285) and qualitative data from 40 focus group discussion sessions and two plenary sessions to conduct our analysis. We develop a normative framework for trust-based deliberative participation in the context of energy transition, and test it in our case study. We found that several design elements of the DP did provide opportunities for trust building. However, public distrust actually further deteriorated in certain important areas after deliberation because of several procedural limitations. Our findings suggest that trust building must receive prominent attention in deliberative energy decision-making, and the existence of pre-existing distrust should be effectively addressed by the careful design of deliberative participatory initiatives.

1. Introduction

Worldwide, many economies in both developed and developing countries have been developing energy transition strategies. These transition processes are often contentious in nature which attract public scepticism or distrust. Public raised concerns over energy choices, siting of different types of energy projects, as well as decision-making processes. It is in this context that countries are proactive in developing new approaches of engaging the public in energy policy-making. The energy transitions in Germany and the development of the national roadmap for solar in Thailand are some good examples (Schweizer et al., 2014; Tongsopit, Kittner, Chang, Aksornkij, & Wangjiraniran, 2016).

Countries and cities vary in their deliberative approaches to energy policy-making and their pathways and progresses of energy transitions also differ. Despite of their differences, a core element of these deliberative processes is trust. But in practice, inviting public inputs into energy policy-making cannot guarantee an increase in public trust. Developing new ways of engaging the public that are more effective is thus a central issue which has to be addressed. Deliberative participation is discussed as a way to move in this direction.

This paper critically examines the merits and potential, as well as limitations of deliberative participation as processes of trust building. We aim to develop a trust-based approach for deliberative participation in the context of energy transition, and test it in the case study of the National Deliberative Poll (DP) on Energy and Environmental Options in Japan 2012 (hereafter referred to as the 2012 National Energy DP) – which took place in slightly more than one year after the 2011 Fukushima nuclear accident. We will assess the extent to which and how trust/ distrust is built in the case study. By providing a better understanding of the changes in trust level, whom to trust, where trust/ distrust emerges, as well as the factors affecting the observed phenomenon, this paper provides policy recommendation on improving deliberative participation to energy policy-making.

Japan merits study for a number of reasons. Japan has been a front-runner on the Asian region in the energy policy developments concerning many energy technological options, from energy conservation to solar PV policies. In addition, Japan has a long tradition of participatory practice in policy-making in major policy areas, including energy. It is therefore important to understand and examine how

participatory approaches have evolved in this country.

The 2012 National DP on Energy and Environmental Options is a significant case in part because the Fukushima accident has made nuclear decision-making become again the focal point of energy policy development of this country. The National Energy DP was a major deliberative event, involving two major components: a conventional opinion poll with 6849 respondents conducted in July 2012, and a two-day deliberation event involving 285 participants held on 4-5 August at University of Keio in Tokyo. This national DP was relatively well documented, and thus provide the paper valuable datasets for analysis.

This paper is organised into four sections. Following this introductory section, the second section develops a theoretical framework for deliberative participation that focus on trust. We also outline our research methodology and discuss future research agendas.

2. The theoretical perspectives

2.1. Energy transitions and governance challenges

Experimenting with new forms of public participation in energy governance has become common in both developed and developing countries. These initiatives are often motivated by the failures of conventional consultation approaches that rely on top-down consultation which are often led by experts.

Deliberative participation is a particular new form of participation that have attracted considerable policy and academic interests. In contrast to more traditional forms of participation such as consultation, deliberative participation emphasises the importance of debate, sharing and weighing different arguments, and reflexivity in a dialogic process. Deliberative participation normatively will enhance policy legitimacy, improved trust, and enhance energy policy studies. These approaches can be realized in a number of ways: in addition to deliberative pollings, other formats include citizens' juries and deliberative workshops.

The attention of citizen participation in policy-making has increased markedly in recent decades in many major policy areas including energy. Greater appreciation of the role of citizens' science alongside with the call for more democracy and policy legitimacy (van de Kerkhof, 2006)

2.2. Rationales, potential, and limitations of deliberative participation as trust building

In the fields of participatory governance, deliberative participation is viewed as processes of trust building (see, for example, (Schröter, 2016)). Trust is particularly relevant to energy transitions because many energy decisions have to be made when there is insufficient information and uncertainties. If a member of the public trusts government, it would be expected government make positive policy intervention and he or she is willing to follow government decisions even without sufficient information under the assumption that those government decisions are legitimate and protect his/her interests (Kim 2005, p. 617). Enhancing trust in governments is often a goal, either explicitly or implicitly, of inviting the public participate in energy policy-making (Schröter, 2016).

Traditional policy-making approaches that rely on top-down, expert-dominating ways of inviting public inputs are often found ineffective. In contrast, deliberative participation is an innovative form of public engagement that emphasizes the empowerment of a more informed citizenry to discuss, debate, and reflect on energy issues.

There are several knowledge gaps exist in the field of energy studies and deliberative participation. Firstly, there is a lack of theoretical framework that can effectively guide our understanding of the potential, achievements, and limitations of DP as a mechanism of trust enhancement. Secondly, the literature on the influence of contextual factors on deliberative participation has been limited.

2.3. Towards a normative framework for trust-based deliberative governance

Based on the literature on energy policy-making and deliberative participation, we develop a normative framework for a trust-based deliberative participation to guide our analysis of the 2012 National Energy DP in Japan. This framework is intended to provide a better understanding of the mechanisms of deliberative participation as processes of trust building. It adopts a three-dimension approach that specifies three important aspects of deliberative energy policy-making: contexts, processes, and outcomes.

The context dimension draws attention to the pre-existing circumstances that may be

conducive to or impeded deliberative participant as processes of trust building. The process dimension draws attention to the interactions among actors that take place during the deliberative processes while the outcome dimension highlights the results of the interactive processes. Pre-existing distrust, historical and socio-economic features, political power structure, regulatory regimes and institutions, and the availability of energy and technological options are the key parameters of the context dimension. Trust in transparency, trust in competence, and trust in motives are the key parameters of the process dimension. Decision impacts, quality decision, policy legitimacy, and trust enhancement are on the other hand the key parameters of the outcome dimension.

The context-process-outcome model of deliberative energy policy-making, and its associated parameters and indicators, is presented in Figure 1 and Table 1.

Figure 1. A context-process-outcome model of deliberative nuclear policy-making

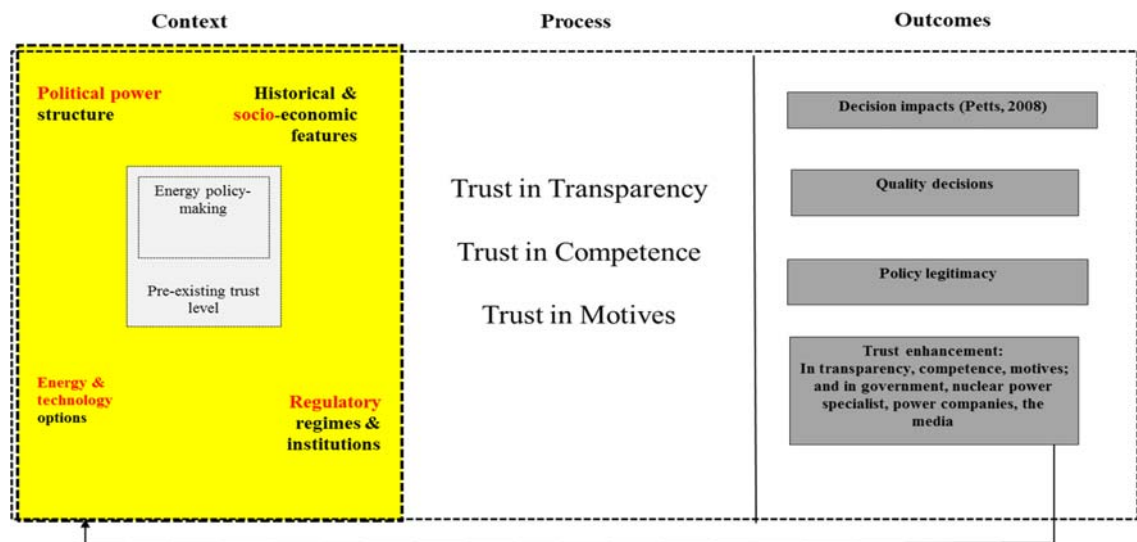


Table 1. A normative framework of trust-based deliberative energy policy-making

Dimensions	Parameters	Attributes and Indicators
Context	Pre-existing distrust	<ul style="list-style-type: none"> ■ The public perceives major policy stakeholders, such as the government, energy specialists, the media, academic, not trustworthy
	Policy tradition	<ul style="list-style-type: none"> ■ Inclusive, participatory style versus authoritarian
	Institutional structure	<ul style="list-style-type: none"> ■ Participatory institutions
Process	Trust in transparency	<ul style="list-style-type: none"> ■ Openness: the concerned party makes all the relevant information accessible to the public to facilitate an informed debate on the subject matters.
	Trust in competence	<ul style="list-style-type: none"> ■ Credibility: the concerned party does not distort facts ■ Competence in professional knowledge and technical expertise: the concerned party possesses professional knowledge and technical expertise to manage and/or manage the use of the selected energy options effectively ■ Reliability: the concerned party is consistent in its position on energy
	Trust in motives	<ul style="list-style-type: none"> ■ Integrity: The concerned party is able to stand firm on the principles of acting in the best interest of the public disregard its own vested interest ■ Care: the concerned party pays sufficient attention to safeguard the well-being of the public in making energy decisions ■ Fairness: The concerned party makes decisions on energy in objective ways that are able to balance the interests of different stakeholders (e.g. government, industry, and the public)
Outcome	Increased trust level	<ul style="list-style-type: none"> ■ To foster trust and confidence in institutions and the policy process ■ To strengthen mutual respect among all participants
	Policy impacts	<ul style="list-style-type: none"> ■ Major changes made due to the participation input
	Empowerment (as an outcome)	<ul style="list-style-type: none"> ■ To strengthen a stakeholder's belief that the government properly register, summarise, interpret, and act upon his/ her views and values ■ To build the stakeholders' capacity for solving problems through ensuring access to expertise, providing adequate knowledge on the subject matter, and integrating information with participants' intuition, experience, and local knowledge ■ To promote awareness and understanding of the subject matter, as well as a shared goal and a collective perception of solutions
	Conflict resolution	<ul style="list-style-type: none"> ■ To nurture collaborative rather than adversarial decision-making (or intransigence – refused to be persuaded) so that lasting and satisfying decisions are made, potentially averting litigation and gridlock

(Source: developed by authors; based on (Braithwaite(1998), Coleman (1990), Denhardt (2002), Frewer et al.(1996), Hardin (1996), Mayeretal.(1995), Poortinga and Pidgeon (2003), Uphamand Shackley (2006) and Walker et al.(2008))

3. Research methodology

Our normative framework will guide us to answer the following research questions:

- What are the potential of trust building in the 2012 National DP?
- What are the gaps, if any, between the normative framework for trust-based deliberative energy policy-making and the actual deliberative processes and outcomes as observed in the 2012 National Energy DP in Japan? Where are those gaps? Are there any changes in trust levels, as well as whom to trust?
- What are the explanatory factors of those observed gaps?
- What are the policy implications?

This paper adopts a single case-study approach (Yin, 2003). Our analysis is based on three main sources of information: i) a desk-top research, ii) qualitative analysis of transcribed materials of the DP workshop, iii) quantitative analysis of pre- and post-deliberation questionnaires completed by the 285 participants of the workshop; and iv) direct observation data provided by two co-authors of this paper (Sone and Siu) who were the organizer and advisor of the DP.

All sessions of the DP workshop (including 40 small group discussion sessions - two small group discussion sessions per each of the 20 small groups) and two plenary sessions where the 20 groups had the opportunity to meet and discuss) conducted at the National Deliberative Poll in Japan on Energy and Environmental Policy Options in August 2012 (the National DP) were video-recorded. A total of approximately 70 hour of video-recording was transcribed firstly into Japanese and then translated into English. We have produced a wealth of primary data that is based on the 732-page transcribed materials in Japanese and 639-page translated materials in English.

We selected 9 sampled transcribed and translated materials (149 pages, i.e. more than 20%) to check for consistency. This empirical dataset is not only value in and of itself just by its sheer quality and quantity of a deliberative event, but it can be readily used for in-depth qualitative evaluation and analysis in this study.

We coded the content of the translated materials according to the themes specified in our conceptual framework. Four coders were assigned to code a translated material in order to check for consistency. Upon transcripts where coding did not closely match, both coders would discuss the differences together in person on those particular transcripts.

Single case studies on participatory policy-making have been relatively abundant. Our multi-method approach provides a rare opportunity to enhance the robustness of our analysis through the triangulation of different methods and datasets. For example, to evaluate the level of trust on various parties, the quantitative data derived from the pre- and post-workshop questionnaire were useful in tracking the changes in trust level; this quantitative sub-set represents a subjective evaluation of the deliberative processes provided by all participants; qualitative data derived from transcribed materials of the workshop discussion on the other hand allows this study to provide a better understanding of the concerns/ factors affecting individual participant's trust on certain stakeholders.

4. The 2012 National DP on Energy in Japan: An overview and its post-Fukushima context

4.1. An overview of the 2012 National DP

The Japanese government, through the Energy and Environment Committee (ENECAN), announced to conduct the 2012 National DP on Energy in June 2012. The DP was a 2-month participatory process comprising two main components: a conventional opinion poll with 6,849 respondents conducted in July 2012, and a 2-day deliberation event involving 285 participants held on 4-5 August. The sampling method aimed to gather a microcosm of the Japanese people to a single place, Keio University in Tokyo to deliberate (Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012b).

The government established the Energy and Environmental Committee (ENECAN) under the Cabinet Secretariat in June 2011 in order to revise Japanese mid- and long-term energy and environmental strategy options. It has collaborated with related organizations such as the Atomic Energy Commission, the Advisory Committee on Energy and Natural Resources, and the Central Environment Council to discuss the issues with non-state actors, including economic organizations, NGOs, and specialists in the related fields (Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012a).

The Committee then summarized the discussions that lasted over a year and proposed three scenarios: 0%, 15% and 20-25% scenario (Figure 3.4) for the energy and environmental policy for the year 2030 in late June 2012. It then carried out

nation-wide discussions in the forms of public hearings, debate-based polling, and soliciting public comments in July that year (ENECAN, 2012a, 2012b).

Option	Dependency of Nuclear Power	Renewable Energy (Solar, Wind, etc.)	Thermal Power (Coal, Oil, Natural Gas)	Amount of Greenhouse Effect Gas (Compared to the level in 1990)	Total Electricity Output	Final Energy Consumption	Spent Nuclear Fuel
① zero Scenario	0%	35%	65%	▲23%	About 1 Tkwh	0.3 B kl	All direct disposal
② 15 Scenario	About 15%	30%	55%	▲23%	About 1 Tkwh	0.31 B kl	Reprocessing & direct disposal
③ 20-25 Scenario	20%-25%	30-25%	50%	▲25%	About 1 Tkwh	0.31 B kl	Reprocessing & direct disposal
As of 2010	26%	10%	63%	—	About 1.1 Tkwh	0.39 B kl	All reprocessing

Table 2. Three Scenarios for the energy and environmental policy for the year 2030

(Source from: Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012a)

To closely examine and identify citizens’ opinions, the ENECAN commissioned the Deliberative Poll on Energy and Environmental Policy Option (ENECAN, 2012a). It was conducted by the Center for Deliberation Poll at Keio University under the direction of Professor Yasunori Sone and advice from Professor James Fishkin and Dr Alice Siu of the Center for Deliberative Democracy at Stanford University and Professor Robert C. Luskin of the University of Texas, Austin.

Two independent committees supported the whole process: the Specialists Committee and the Supervisory Committee. The Specialists Committee was in charge of providing opinions and advice for briefing materials and questionnaires from a standpoint of specialists, and Supervisory Committee was responsible for consulting briefing materials and questionnaires, training small group moderators and overseeing the execution of this project to ensure it follows standardized DP procedures (Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012a).

During the whole DP process, participants provided questionnaire responses at three intervals—T1 on first contact (the conventional opinion poll) in July 2012, T2 upon arrival at the deliberative event and T3 upon departure (Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012b). For the deliberative part, randomly selected participants were provided with the necessary

information based on the briefing materials concerning the three scenarios, prepared by the Specialists Committee, before their arrivals. During the deliberative event, participants were divided into 20 small groups consisting around 15 participants with diverse opinions. They participated in two 90-minute group discussions and posed questions to experts in plenary sessions.

Through this deliberative process, the ENECAN comprehended in detail their considered opinions on the three scenarios (ENECAN, 2012a), and in September 2012, recommended the Innovative Strategy for Energy and Environment as a roadmap for Japan's future energy plan. This document recommended a phase out of nuclear power by 2030, and stressed the three guiding principles towards a realization of a nuclear-free society (ENECAN, 2012b).

However, although the government decision of no-nuclear was made and announced, this no-nuclear political decision was short-lived. It was mainly due to the lack of implementation capacity, and the regime change after the Democratic Party lost the election in December 2012. The no-nuclear decision provoked strong and wide oppositions from industry, which had a consensus that 20-25 % nuclear was necessary to avoid very severe economic effects. They condemned and put stressed on the Noda's government that eventually led to the failure of legitimizing the phasing-out policy (Vivoda, 2014). Three month later, the Abe's government, from LDP, replaced Noda's government, and they were unlikely to inherit his predecessors' phasing-out policy. Whereas, they allowed restarting nuclear reactors once it is deemed safe by the newly formed independent regulator, the Nuclear Regulation Authority (NRA). And later on, officials announced a goal of 22-24% nuclear energy by 2030 (Nikkei Asian Review, 1 June 2015). It symbolized the era of restarting nuclear power after the Fukushima accident. Until 2015, there were two reactors in Sendai nuclear power plant restarting to generate electricity, and more than 20 reactors processing the restarting checks (Nuclear Regulation Authority, 2015), which was the opposite of the result of the deliberative poll.

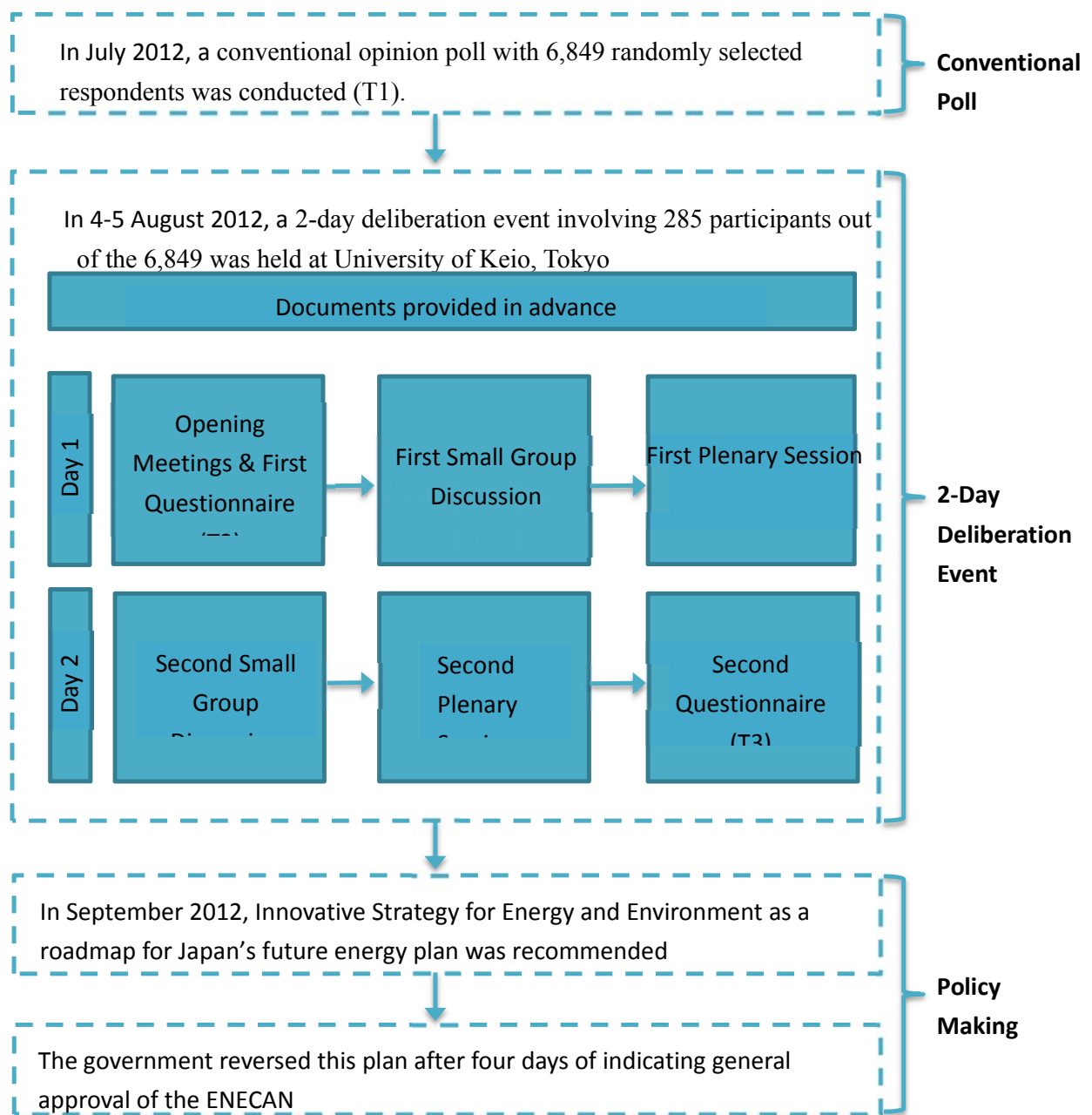


Figure 1. Timeline of the 2012 National Energy DP (Source: Authors; data from Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012a)

Table 3. Changes of nuclear context and policies in Japan (Timeline)

	Political Party	Government	Direction	Major Nuclear Policies		
Pre-Fukushima	DPJ	Kan Administration (8/6/2010-2/9/2011)	Ambitious development	- In 2010, 25% of electricity from nuclear power - In SEP 2010, <ul style="list-style-type: none"> Emphasized on 3Es: energy security, environmental protection, and efficient supply Set 50 % of electricity from nuclear power in 2030 14 more reactors planned to be built by 2030 		
			Pause and reconsider	6/2011	Established ENECAN to recommend energy policy	
				7/2011	Shut down most of the reactors	
	Post-Fukushima	DPJ	Noda Administration (2/9/2011-26/12/2012)	Phase out	10/2011	Published the White Paper on Energy Policy confirming reduction of nuclear power
					4-6/2012	Period of no nuclear
					7-8/2012	Period of public engagement for deciding nuclear power policy
					9/2012	Issued “Innovative Strategy for Energy and Environment”, recommend a phase out of nuclear power by 2030, but withdrew four days after Established NRA, the new nuclear regulatory authority
	LDP	Abe Administration (26/12/2012 - present)	Restart	7/2013	Finalized stricter regulations for nuclear reactors, and started reviewing applications of restart	
				9/2013	Shut down Oi reactors for reviewing, started the second period of no nuclear	
				7/2015	Set a goal of 22-24% nuclear energy by 2030 in July 2015	
8/2015, 10/2015				Restarted two reactors in Sendai		

4.2. The pre- and post-Fukushima energy context in Japan

The post-Fukushima contexts in Japan, in terms of economic, environmental, as well as socio-political aspects, seemed to be critical in providing the opportunities for the country to introduce the use of a DP as a more innovative way to engage the public at the national scale to make informed policy decisions on energy fuel mix choices

Japan has a geographical area of 380,000 km² and a population of 127 million in 2013. Japan is an island nation comprises the four major islands of Honshu, Hokkaido, Kyushu and Shikoku. This OECD country is a major developed and industrialised country in Asia, which is ranked the third globally by GDP in 2013 only after the U.S. and China.¹

Japan is the world's fifth largest energy consumer, and a resource-poor country, which historically relies on importing energy from other countries (Vivoda, 2014). The Oil Crises in the 1970s revealed the problem of excessively reliance on oil that drove the Japanese government to proactively promote energy conservation and adopt a diverse energy mix, including the use of more nuclear power. To do so, the government opted for nuclear power as a basis of national energy supply (Executive Committee of the Deliberative Poll on Energy and Environmental Policy Options, 2012a). Japan's energy supply is mainly from fossil fuels. Before Fukushima accident took place, nuclear power was regarded by the Japanese government as an energy option to reduce energy dependency on fossil fuel sources. In 2010, approximately 67% of electricity generation came from burning fossil fuels and approximately one quarter of electricity was generated from nuclear energy (Statistics Bureau, 2015).

¹ The Statistical Handbook of Japan 2013
<http://www.stat.go.jp/english/data/handbook/index.htm>; GDP Ranking, the World Bank 2013
<http://data.worldbank.org/data-catalog/GDP-ranking-table>

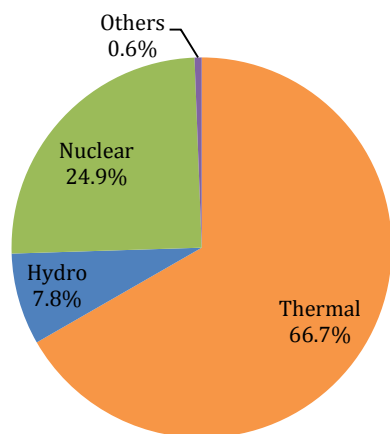


Figure 2. Energy Mix of Electricity Generation (Source from: Statistic Bureau, 2015)

Electricity consumption increased by 8% between 2000 and 2010 and reached 1,056 TWh in 2010 or 8,250 kWh per capita (Statistics Bureau, Japan, 2012). CO₂ emissions have been rising since 1990 and peaked in 2007 at 1,296 million tons, but since then they have gradually decreased to 4% higher than the 1990-level in 2010 (Statistics Bureau, Japan, 2012)[updated].

The Fukushima nuclear accident that took place on 11th March, 2011 has marked a watershed of Japan's energy policy. The accident, one of the most serious one of its kinds in human history was triggered by a tsunami and killed 19,000 people. Public concerns over serious damage caused by the Fukushima nuclear accident and the *safety* of nuclear power forced the government to seriously review its nuclear plan as well as energy futures.

Prior to the Fukushima accident, nuclear was regarded as the key to Japan's energy independence and low-carbon future. In the 2010 Basic Energy Plan, which was announced several months prior to the Fukushima accident, the government outlined its plan to double the use of nuclear-based electricity to 50% by 2030 (DeWit, Tetsunari, & Masaru, 2012).

After the Fukushima accident, the former Prime Minister Yoshihiko Noda established the Energy and Environmental Committee (EEC) to review the mid- and long-term energy and environmental strategy. The EEC conducted a series of stakeholder engagement activities and a deliberative poll in the summer of 2012 to invite public

views on three alternative energy-mix scenarios, namely having 0%, 15%, or 20-25% nuclear (CDD, 2012; DeWit et al., 2012). While nuclear power programs and future energy mix were under review, all of the 50 nuclear reactors in Japan were shut down by May 5, 2012, and for approximately a month Japan became a nuclear-free country until two reactors at Oi were restarted in June (Srinivasan & Rethinaraj, 2013).²

In September 2012, the ECC released the “Innovative Strategy for Energy and the Environment” which concluded their analysis and proposed to completely phase out nuclear energy by 2030.

The drastic withdrawal of nuclear power as an energy option in Japan has led to major problems in energy reliability and costs. It resulted in electricity shortages that lasted for 10 days in March 2011 and a total of 32 rolling blackouts in TEPCO’s service area (METI, 2011, 2012). Japan’s self-sufficiency rate of primary energy declined substantially from 19.9% in 2010 to 6.0% in 2012 (METI, 2013). In addition, the use of more fossil fuels led to a significant increase of greenhouse gas emissions (GHG) by 112 million tons compared to FY2010, which represented approximately 10% of Japan’s total GHG emissions. In response to the challenge of energy shortage, the Japanese government not only restricted electricity consumption, but also promoted electricity saving as a social movement. These demand-side initiatives were relatively effective – electricity consumption was reduced by 8.0% from 2010 to 2012, and GHG emissions by 27 million tons compared to FY2010 (METI, 2013).

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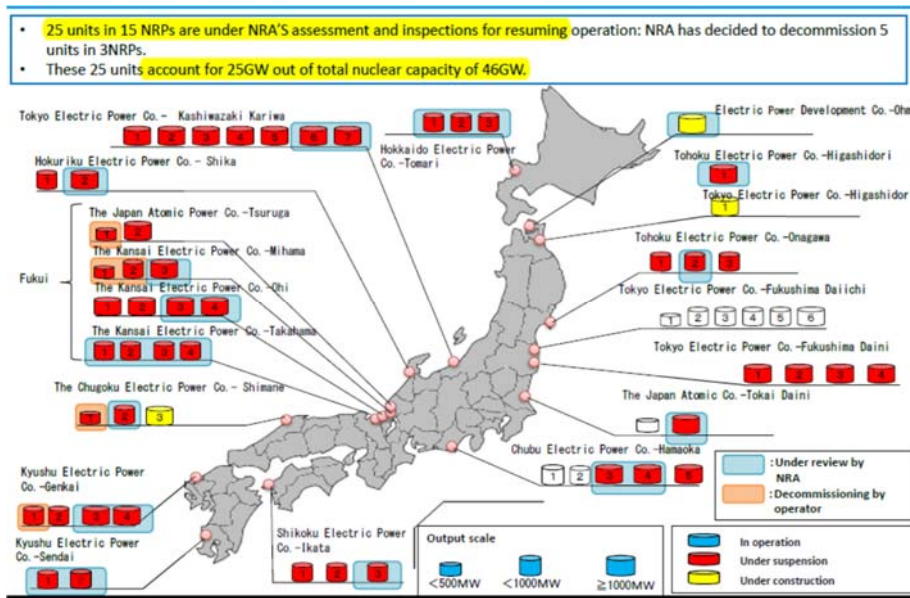


Figure 3: Nuclear Electric Power Plants in Japan (as of June 2015) (adopted from (Yamazaki, 2015))

4.3. The economic, and socio-political context

The Fukushima accident has caused huge economic losses to the Japanese economy to an extent that the government had to deliberate on its energy futures. The accident hit Japanese economy badly. The government estimated that the material cost of it equal to 3.5 points of gross domestic product (GDP) of that year (Vincent, 2012). In addition, the government was under financial burden as a result of its recovery budget. the Japanese government approved two supplementary budgets of approximately 6 trillion yens for relief and recovery focusing on the most affected prefectures in 2011, and launched a ten-year reconstruction program initially budgeted around 22.5 trillion yen from 2011 to 2014 (Ministry of Finance, 2015).

The disruption of energy supply sparked a domino effect that rippled throughout Japan's economy. Electricity shortages paralyzed a portion of economic activity in the Kanto region. It also caused a shortfall in intermediate goods that affected production chains across the country as a whole (Samuels, 2013). The average electricity unit price for industrial facilities rose by around 30% (METI, 2013), leading to a withdrawal of foreign investment. To combat the electricity shortage, the Japanese government had to import more than 10 trillion yens worth of fossil fuels, which worsened the trade deficit, and caused an outflow of national wealth (METI, 2014).

These negative influences made the Japanese government had hesitations to phase out nuclear energy, and had to deliberate its energy policy.

In terms of the social contexts, the Fukushima accident eroded the Japanese people's confidence in nuclear energy (Aldrich, 2013), and heightened the public's opposition to nuclear energy (Kingston, 2012). There were numerous bottom-up anti-nuclear movements, such as demonstrations, petitions, referendum campaigns and others (Aldrich, 2012; Basu, 2013; Kingston, 2012; Murphy, 2014). These campaigns were further fueled by social media. It changed the configuration of informational resources available to anti-nuclear activists by expanding the amount of information they can collect, generate, and analyze; increasing the number and reach of dissemination channels; and by increasing their capacity to mobilize supporters (Murphy, 2014). As a result, anti-nuclear movements became more influential, and thus undermined the social stability.

In terms of the political context, severe economic and social conditions triggered a governance crisis for the ruling government at that time (Al-Badri, 2013; Kingston, 2012). To address public concerns, the Prime Minister Kan Naoto, leader of the Democratic Party of Japan (DPJ), declared his stance on opposing nuclear energy. Kan's stance reflected DPJ's willingness to introduce more democratic governance that facilitated the use of public participations for nuclear energy policy-making, and it earned the support of other DPJ leaders (Howe, 2013). However, the DPJ had not yet reached consensus on nuclear energy policy. Noda Yoshihiko, Kan's successor was more interested in reviving Japan's economy by resolving the electricity shortage problem than phasing out nuclear energy. Kan and Noda's ideological opposition on nuclear power reflected DPJ's intraparty division (Al-Badri, 2013; Howe, 2013). To avoid further division, the Noda government had to seek public opinions as a basis for energy policy-making. By doing so, the Japanese government could also restore public confidence and proposed a future energy plan that is grounded on the public's voices.

4.4. The participatory context in Japan

Japan is one of the few Asian countries that has a relatively long tradition of participatory policy-making. In Japan's high politics, institutions and processes of government tends to be top-down, and consultation at the federal level typically targets key stakeholder elites, such as lobbyists, experts and opinion leaders, rather than citizens (Boswell, 2013). However, it is important to highlight that as early as the

1990s, the Japanese government has already started to introduce major initiatives on involving the public into policy-making processes.

In the past two decades, the Japanese government led a number of participatory policy-making initiatives in a broad range of policy areas and through various participatory formats (these include public hearings, round table conferences, referendums, consensus conferences, deliberative polls, planning cells and town meetings) (Table 4).

It is important to note that while DP is a relatively innovative and sophisticated research methodology, the 2012 National Energy DP was not the first time this country used DP for major policy-making. Three other DPs had been conducted in 2009 and 2011 (Table 1).

Table 4. Major participatory policy-making initiatives/ exercise in recent years, in Japan

Public Participations				
Types of Approaches	Time	Policy Areas	Description	Sources
Public Hearings	March, 1994	Nuclear Energy	<ul style="list-style-type: none"> • First-ever public hearing on Japan's nuclear energy policy • Organized by the Japan Atomic Energy Commission (JAEC) 	White, 2014
Round Table Conferences	1996, 1998, 1999	Nuclear Energy	<ul style="list-style-type: none"> • A sodium accident occurred at the Monju prototype fast breeder reactor • Government set up a series of round table conference on this issue 	White, 2014
Referendums	1996	Nuclear Energy	<ul style="list-style-type: none"> • First local referendum in Maki • About the construction project of nuclear power plant 	White, 2014
	1997	Nuclear Energy	<ul style="list-style-type: none"> • Second nuclear-related referendum in Kariwa • Related to the implementation of the pluthermal program 	
Consensus Conferences	2000	Food Safety	<ul style="list-style-type: none"> • A national-level consensus conference • About genetically modified agricultural products 	White, 2014
	2001, 2003	Food Safety	<ul style="list-style-type: none"> • The same topic consensus conference nationwide • Hokkaido specified on genetically modified crops 	
Deliberative Polls	Dec, 2009	City Planning	<ul style="list-style-type: none"> • "One Day Deliberation" held in Fujisawa • To help make a new Comprehensive City plan 	Centre for Deliberative Democracy, 2009
	May, 2011	Welfare System	<ul style="list-style-type: none"> • "Pension System, A Generation Choice" DP held nationwide • To collect opinions about pension system in Japan 	Centre for Deliberative Democracy, 2011a
	Sep, 2011	Food Safety	<ul style="list-style-type: none"> • "Mad Cow Disease" DP held 	Centre for Deliberative Democracy, 2011b
Planning Cells	By the end of 2010	Various Issues	<ul style="list-style-type: none"> • 156 had been held 	White, 2014
Town Meetings	FY2010	Energy	<ul style="list-style-type: none"> • "Town Meeting on Environment and Energy" held nationwide • In Tokyo, Sapporo, Osaka, Nagoya, Sendai, Toyama, Fukuoka, Hiroshima, Saitama, Takamatsu and Okinawa 	METI, 2010b

5. Results and discussion: A critical assessment of the potential and limitations of the 2012 National Energy DP

Based on the quantitative and qualitative data that we derived from the case study, we discuss in this section the potential, what happened, and in what forms the normative processes of trust building realised/ did not realise in the DP workshop. We found that the 2012 National DP was able to meet certain parameters of our trust-based framework for deliberative participant, but it failed to do so in other important respects.

5.1. The potential of trust building in the 2012 National Energy DP

The DP constituted an opportunity for the Japanese government to invite public inputs to energy policy-making in a meaningful way through deliberative processes. The DP – two-day event, included two small group sessions per group and two plenary sessions with experts where the 20 small groups (with 14-15 participants in each) had the opportunity to meet, raise questions to and received feedback from a panel of experts, and subsequently made considered views on the energy options for the country.

A number of elements in the design of the 2012 National Energy DP were conducive to trust building. These relates to a committed government, a representative group of participants, provision of a balanced briefing document, a balanced panel of expert, a carefully designed format for facilitating dialogue and deliberation.

The first trust building element relates to the presence of a **highly committed state actor**. The Japanese government explicitly made a commitment to follow the DP outcomes to make its energy policies, rather than being seen by the public as using public engagement as a means to legitimize a pre-assumed policy decision, the latter being a source of major criticism on public engagement in the past (+refs). This way in which the government committed to following public inputs to make its policy decisions was regarded by many as rare. To decentralize decision-making power is an important means of empowerment, which in turn may enhance public trust.

The second trust building element relates to the **representativeness of the participants**. The 285 participants were drawn from a larger random sample of registered voters from throughout the country totaling 6,849. While the participant sample was not

perfect, it can certainly be said that it was the most nationally representative random sample of the Japanese people ever gathered together to a single place (Executive Committee, 2012b). This sampling method also enabled the organizing team to identify lay persons who may have different views on the issues on energy, and the potential problem of domination by a few vocal participants could be addressed.

The third trust building element relates to the provision of a **briefing document** to the participants. That 42-page document was sent to participants two weeks prior to the DP workshop. It was intended to be a balanced document that provided an overview of Pre and Post-Fukushima plans, and the **four important aspects** (safety, cost, stable supply and global warming prevention), and the **three nuclear scenarios**. This is expected to be a critical document that could facilitate participants to understand, get informed, and debate on the subject matters at the DP event.

The fourth trust building element relates to the intention to form a **balanced panel of experts**. The panel consisted of several experts was formed, intended to bring different, even competing viewpoints on the subject matters to the participants. The expert panellists were expected to answer questions raised by participants in the two Plenary Expert Sessions. During each of these sessions, based on the questions participants developed within their respective small group sessions, they will raise questions to expert panellists related to the mentioned theme. Expert panellists are expected to provide answers that can help clarify or share their knowledge or views on the raised issue.

The fifth trust building element relates to the **phasing and design** of the entire deliberative initiative – which actually extended from the two-day DP event to several months prior to the DP that included a national survey that took place in July 2012. In addition, the DP workshop was carefully and well-structured that was intended to empower engaged and informed participants to take a proactive role in clarifying and debating key issues relating to the subject matters. The methodology of scenario development was adopted in order to facilitate deliberation on the energy issues. Three energy scenarios were developed to facilitate participants to understand and compare the strengths, weaknesses and risks on three alternative energy pathways.

The last element of trust building is **transparency** of the organization of the DP. The DP attracted extensive media coverage in Japan, and the entire DP workshop was video-recorded and broadcasted in real time.

5.2. The limitations of the 2012 National Energy DP

(a) *There was a major pre-existing public distrust underpinning the DP workshop.*

Before the DP, at T1 (when participants were first contacted by the project team by email/phone), only 6.4% trusted information from the government, only 19% trusted information from nuclear power specialists, only 3.6% trusted information from electric companies, and only 11.7% trusted information from the media (CDD, 2012).

(b) *Deliberation changes the trust level – generally in a negative way. Public trust on the government further deteriorated while trust on nuclear power specialists and media increased slightly. But it is important to note that there was a consistently low level of trust on all information sources available to the participants before and after deliberation.*

Participants were required to fill in a pre-workshop questionnaire upon their arrival to the DP workshop (T2), and then a post-workshop questionnaire by the end of the DP event (T3). The changes in participants respond along from T1 to T3 can therefore provide a good indication of the changes in their trust level on various information sources.

The quantitative data shows that:

- Distrust/do not trust at all (0-4) increased from 67.4% (T2) to 69.8% (T3); in between (5) decreased from 26.3% (T2) to 23.5% (T3); though trust/trust very much slightly increased from 6.1% (T2) to 6.5% (T3);
- **nuclear power specialists***: distrust/do not trust at all (0-4) decreased from 48.5% (T2) to 42.8% (T3); in between increased from 31.9% (T2) to 34.7% (T3); trust/trust very much substantially dropped from 18.3% (T2) to 3.6% (T3);

- **electric companies** : *distrust/do not trust at all (0-4): slightly decreased from 83.1% (T2) to 81.4% (T3); in between slightly increased from 12.3% (T2) to 13.7 (T3); and trust/trust very much remain unchanged (4%); and*
- **the media going into the event:** *distrust/do not trust at all (0-4): slightly increased from 56.1% (T2) to 57.1% (T3); in between decreased from 36.5% (T2) to 34% (T3); and trust/trust very much slightly increased from 6.7% (T2) to 7.8% (T3)]*
- **NPOs/NGOs*:** *distrust/do not trust all (0-4): decreased from 26.3% (T2) to 23.6% (T3); decreased from 46% (T2) to 40% (T3); increased from 23% (T2) to 31.9% (T3)]*
*statistically significant ($p < 0.05$) (CDD, 2012).

In summary, there was a significant decrease in distrust of nuclear power specialists and significant increase in trust in NPO/NGOs [see above with *], while government distrust remained and slightly increased after deliberation.

5.3. Understanding the distrust

In consideration of the limitations of building trust in the National DP, it is important to understand the reasons for losing trust, rather than the normatively enhancing trust, in the deliberative processes.

Table 5 provides a critical assessment of the performance of the processes in the 2012 National DP against the evaluation criteria. Illustrative examples are provided which are derived from quantitative and/or quantitative data. It is important to highlight the following observations that can be derived from the table:

- (a) There is a **mixed picture** of the trust-building processes. The DP was able to instill trust in some aspects, but failed to do so in some other aspects. There was major public distrust in all the three aspects of trust. There was distrust in transparency, distrust in competence, and distrust in motives.
- (b) Sources of distrust were highly diverse. In terms of *distrust in transparency*, distrust, distrust emerged as a result of the perceived lack of representativeness of

participants, insufficiency in information provision, insufficiency in preparation time for the DP event, and the lack of reliability of information. In terms of *distrust in competence*, it is evident that the government was perceived as not competent enough in the ways how it dealt with nuclear issues and accidents. Some participants also raised concerns over the competence of the Democratic party (the then ruling party at the time of the DP) of Japan could continue to remain in power. In terms of *distrust in motives*, the perceived closing-down approach, rather than opening-up approach, adopted in the scenario development, and suspicion on the government in manipulating the DP outcomes were found to be the main sources of distrust.

Table 5: An assessment of the trust building/ eroding processes in the 2012 National Energy DP

Dimensions of Trust	Criteria	Assessment	Quantitative data	Qualitative illustration
Trust in Transparency	Representativeness/ balanced composition of participants	Socio-demographically representative, but limits in ensuring a balanced composition of participants.		<ul style="list-style-type: none"> - As I was allowed to join, I just thought that I could come and oppose the nuclear power and I thought that the people who support nuclear power will not come. Therefore, there may be 1 to 2 people supporting nuclear power. As a result, the opinions regarding nuclear power may be one sided and no people will support nuclear power any more. So I think that we'd better have some people who support the nuclear power. (B003) - This poll is using the RDD (Random Digit Dialing) to call out participants who are willing to join, hence I would like the organizer to publish the outline of the poll including the participant list. In other words, my first point is that target group of the poll, the poll organizer, the stratification of sample, like gender, age and district, should be openly informed. The result comes from only people who are caring about the issue recruited by the poll, at this point I think it reveals the limitation of the poll already. (B007) - Most of the people there oppose to nuclear power. Is it a bit biased? Are we coming here for a fair discussion? (B011) - It seems that there are no people who are 20 years here. How about people who are 30 years old? (B011)
	Sufficiency of information provision		<p>-60% of participants agreed that briefing material was very useful but only 34% agreed that the briefing material included different opinions equally. 26% disagreed with that and 36% were in the middle".</p>	<ul style="list-style-type: none"> - Some kinds of renewable energy are recorded in the booklet like solar power but there is no introduction to marine power and wave power. Does the government refuse to accept these kinds of energy? (A018) - Actually, we don't know how much we need to spend in order to make clean energy. It is just like a dream. As there are no figures and details about the clean energy, we cannot progress our discussion. (A020) - Therefore, just like what you guys said, we know nothing because the government and the media just give the numbers to us without details. (B002) - We talked about the booklet yesterday. The writers wrote this book according to the information from the government. Therefore, I think something in the information is lacking. (B009) - I was surprised that the proposal given by the government is without details. (B014) - As the government didn't explain whether nuclear power is safe in details, it is not able to make a decision. I don't know what's the meaning for the discussion. (B015)

				<p>- I find it strange that thing explaining the cause for the accidents is not written. (B017)</p> <p>- Will the nuclear plants be closed today or tomorrow? Will some of them restarted? There is nothing about the process written here. (B018)</p>
	Sufficient time for pre-DP study of the subject matters	<p>The preparation for the DP was criticised for lack of time. Little time available, tight schedule due to government drafting energy plan, received criticism and position paper from Japanese academics criticizing DP published - <i>news article - Nippon, 11 Sep, 2012</i>]</p> <p>Overall positive evaluation of the respective sessions suggest that enough time was provided</p> <p>-</p>	<p>Most (87%) read half or more of the materials prior to event prepared for the meeting and some [about 1/4 or 24.6%] took further initiative to look up materials.</p>	<ul style="list-style-type: none"> ▪ Punctual to start DP and respective sessions but MC and moderators stressed the limited time available ▪ A few participants did not receive briefing material until the week leading up to DP (e.g. T/A025)
	Reliability of information			<p>- In page 9, there is something called “The first prediction on domestic energy supply”. If we look at the water power in it, the supply of electricity from water power remained the same from 1965 to 2009. The number written in blue margin doesn’t change. Take a look on the last year, 2009, it is 3.2%. I think that it is impossible for this number. From the previous graphs, it is 10%. Isn’t the number entirely groundless? (A003)</p> <p>- We talked about fossil fuels. I am near 40 years old. In the information, it is written that the oil will not be oil in 40 years. When I was small, I was also told that the oil would run out in 40 years. So, how many 40 years are that in fact? Is the information correct? It is a must for us to express our opinions but the information should be correct. (A008)</p> <p>- However, we don’t know whether the information given is correct. Then, it seems that the information is just different from what the people with relevant knowledge said. (A009)</p>
Trust in Competence	Government’s competence in dealing with nuclear			<p>- I feel very anxious after looking at the reaction of the government and TEPCO after this nuclear accident. Even they told me it is fine now, I do not trust them. (A006)</p> <p>- I used to believe in the government before the nuclear accident but I changed my mind</p>

	<i>accidents</i>			after the accident. (B012)
	Government's competence in dealing with nuclear issues			<p>- I have great doubt about whether the real detailed plan could be done by end of August. Even for us it is only this level. When we were told to come during the questionnaire, "oh, that sounds interesting, let's go" is our true voice, and the result is more people who relatively care about this issue had come than those people who don't care at all. And the discussion made by such people is only at this level. And can such conclusion made here become the summary of what will be done by August? (B008)</p> <p>- The type of nuclear power, which is not burning, is not feasible due to the high cost. Why we still spend money on it? Why don't we put more money of this and investigate more on it? The act of the government is slow. (A015)</p>
	Competence of the political party			<p>- Does 'government' means the current Democratic Party of Japan? They have been talking about, in extreme situations that they might disband in August. If this is true, does what says here reflect the reality? Is it the government raised by the Democrats, or the bureaucracies behind? Even the government has changed, this energy problem would continue, it is good to divide the framework into 0, 15, 25? And the question before all these is what is 'government'? (A006)</p>
Trust in Motives	Suspicion of the use of opinions [revise]			<p>- I question about whether our opinions will be delivered to the government and whether the government will follow our suggestions? (A004)</p> <p>- I understand that the government needs to investigate whether the public are holding the same opinion but why the government need to know how the opinion changes? I care about the way they use the opinions of the citizens. (A015)</p> <p>- Although it is said that the government would refer to the results of the discussion and make a decision in August, I want to ask how much our opinions could be reflected and where is the protection for us. (A019)</p> <p>- I was impressed by an opinion that even we made a decision, the government will not follow as the government is the final decision maker. (B005)</p> <p>- I question about how much the government will take our opinions and how much the opinions will be reflected. (A019)</p> <p>- I question about how much our opinions will be reflected. (B009)</p> <p>- What will become of the questions we raised? Where will it go? Where will the results of this conference be? Although you said it is because you want to get the details of the change reflected in the questionnaire, but is this topic suitable? (B017)</p>

				<p>- As a result I question about the purpose of the forum. Is it held for letting the government know our opinions? Even so, the government roughly listened our opinions but the government has already had a plan. It seems that we are discussing without really affecting the policy making. (B003)</p>
	Manipulating the poll for government's own sakes			<p>- I have heard that people that are related to power companies has also blend into the crowd in this meeting. So, when I looked at this once again, I started to doubt whether this is really ok. (A006)</p> <p>- Can they make a good conclusion? It seems that the government just want to create the fact that they did listen to the public but not really accepting the public opinions. (B011)</p> <p>- The government officials will just make stories and scripts. . .The government only wants to remain the level of nuclear power. . . No I don't think so. It is just a game. They will just choose the things, which benefit them. (B011)</p> <p>- As we said yesterday, Mr. Hosono, the minister of Environment was looking at the panelists behind the wall, right? When the experts were answer the questions, he was laugh at the back stage. I want to ask whether the government has a stance for the issue. Do they agree or disagree? I noticed that the government has already made a decision. (B013)</p> <p>- Isn't the conference only organised as a pose for the government? (B017)</p> <p>- I can only think that the government is pulling strings behind the whole thing. (B017)</p>
	Open- up processes/ closing down?	Limited scenarios for misleading public to choose what the government wants		<p>- There are 3 given scenarios. I just feel that the government wants to keep nuclear power at 15%. I don't trust the government and I don't think that this plan is feasible. (B002)</p> <p>- Therefore, I think that we are (mis)led. After reading the document I think that the government may probably let the people of opposite stances to quarrel and take the middle thing. (A017)</p> <p>- I think that we are just misled to choose the 15% scenario because we are told that we could make take the middle one among the three choices. (B003)</p> <p>- So, we will choose 15%. But why the middle option must be 15%? Can't it be 10 or 5%? I feel that we can just take the middle option. Because of forcing us to choose 15% scenario, the government gave us the 25% scenario. That's dirty. (B004)</p> <p>- First of all, I want to ask for the reason why we have to jump from zero to 15%. Can't we have any options between 1-10% or 11-15%? (B011)</p> <p>- I just feel that we are misled to choose 15% nuclear power because it is the option between zero and 20-25% nuclear power scenario. (B011)</p> <p>- Yesterday, we decided the numbers zero, 15% and 20-25% but there was kind of answer, saying that we should have 15% nuclear power after 2030. If we choose zero, it will be zero</p>

				<p>forever. If we choose 20-25%, we will have 20-25% nuclear power forever. Isn't 15% a vague number? It is just like a pitfall. (B011)</p> <p>- Because of the questionnaires we did, the conclusion of the report will say that we support 15% scenario, which is not really our will. (B011)</p> <p>- Why they number jumps from 0 to 15? There must be reasons opposing 15% scenario. I think that we should add more scenario in the space between 0 and 15 like 5,6,7 or 8%. (B011)</p> <p>- That's a bit naive. I feel that we are forced to make this choice. (Not choose zero scenario) (B014)</p> <p>- I personally would want to oppose absolutely, I have a weird feeling that I am made to choose between 25% or 15%. (B017)</p>
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6. Conclusions

This paper has made several important contributions to the literature on deliberative participation in the contexts of trust and energy decision-making. Firstly, we developed a framework that conceptualises the mechanisms of deliberative participation as processes of trust building. Our framework sheds light on the core element of trust in deliberative policy-making from a systemic perspective, highlighting the contexts, processes and outcomes dimensions. It is particularly instructive in highlighting the context factors, including pre-existing distrust as a major one – because the context dimension has been often overlooked in evaluative frameworks for participatory approaches. Our case study of the 2012 National Energy DP provided a better understanding of the context and significance of distrust in energy decision-making. The distrust context, both prior to, at the deliberative event, as well as after the event, was discernable, and appeared to play an important role in affecting the effectiveness of deliberative participation in a major public policy issue that is highly contentious in nature.

Secondly, we can explain the mechanisms of trust erosion in deliberative participation. It helps us to make sense out of the often frustrated situation in which deliberative participation does not also achieve desirable outcomes – in fact very often has led to increased distrust.

Our findings have major policy implications. Firstly, public distrust needs to be seriously addressed in energy decision-making. Distrust can be pre-existing, as well as created during the deliberative processes.

Secondly, our case study points to the importance of participatory institutions. The weaknesses in the participatory institutions in Japan has resulted in a lack of implementation capacity to ensure policy continuity. The Japanese government was highly committed to the DP in a sense that it publicly stated that the results of the DP would be used for policy formulation. Our case study, however, highlights that a committed state actor has to be supported by a high level of implementation capacity. It is evident that there were difficulties for the Government to secure support from key stakeholder groups (such as the nuclear village and the business sector) for its no-nuclear policy. The regime change due to elections further undermined policy consistency. In Japan, political support for nuclear (or phase-out nuclear) depends on the government in power. In a matter of a few months, the nuclear decisions of Japan

shifted dramatically from no-nuclear to “re-open up” the nuclear option.

This paper is a single case study of the National Energy DP in Japan. It has therefore limitations in generalizing its findings across energy technological options beyond nuclear energy, as well as in different national contexts. Comparative studies of energy options and across countries would generate some fruitful results.

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