

2014

Participatory governance for energy policy-making: A case study of the UK nuclear consultation in 2007

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Link to published article: <http://dx.doi.org/10.1016/j.enpol.2014.08.002>

APA Citation

Ngar-Yin Mah, D., & Hills, P. (2014). Participatory governance for energy policy-making: A case study of the UK nuclear consultation in 2007. *Energy Policy*, 74, 340-351. <https://doi.org/10.1016/j.enpol.2014.08.002>

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A case study of the UK nuclear consultation in 2007

Abstract

The policy challenges associated with climate impacts, nuclear risks and an emergence of public preferences for fuel mixes have prompted many contemporary societies to adopt participatory approaches for managing energy matters. The extent to which and just how participatory approaches can work has however remained under-researched. This paper develops a normative framework for participatory governance to examine, analyse, and understand nuclear policy making processes and outcomes, with a particular reference to a case study of the UK nuclear consultation exercise in 2007. By comparing the actual consultation practice in the UK and our normative content-process-outcome framework, we found that the government approach paid insufficient attention to trust and some other normative values underpinning participatory governance, contributing to undesirable outcomes relating to policy legitimacy and public distrust. Our findings suggest that the UK government needs to pay more attention to the interaction that can occur between different rationales for participation and the processes and consequences of participatory exercises.

1. INTRODUCTION

Managing the transition of energy systems toward sustainability presents profound challenges to policy-makers all over the world. Together with technological and economic challenges, policy-makers have been confronted with NIMBYism and

public distrust relating to a wide range of energy matters that extend from natural gas projects, to new wind farms, and to smart meter and smart grid deployment (Devine-Wright, 2004; Hunt *et al.*, 1999; Mah *et al.*, 2012).

Nuclear energy as a potential energy option has remained a highly controversial area in many countries and cities over the past several decades (Martin, 2007). These controversies can be traced back to the major nuclear opposition in Europe and the US which resulted in postponement or cancellation of nuclear plans in the 1970s (Martin, 2007). Public concerns were relatively less discernable in the 2000s in the context of heightened awareness about global warming. Major public opposition against nuclear re-emerged after the Fukushima accident in 2011. Renewed concerns about nuclear risks, long-term disposal of radioactive waste, and public distrust in the nuclear sector has impacted on nuclear development plans in some countries such as China and Japan, and has even led to nuclear bans in Germany and Belgium (Yang and Xu, 2013).

It is in this context that the policy challenges associated with nuclear policies have prompted governments around the world to adopt participatory practices in nuclear policy-making as a means to enhance policy legitimacy, restore public trust, and improve policy decisions (see for example Aegerter and Bucher (1993), Hunt *et al.* (1999), Ioannides *et al.*, 2005). Countries vary remarkably in their public engagement approaches to nuclear policy-making. For instance, in the UK public consultation on major policies including nuclear policies are commonly convened and guided by the *Code of Practice on Consultation* (Her Majesty's Government, 2008). The 2007 nuclear consultation (the focus of this paper) is an example of such a consultation (DTI, 2007). In Sweden, a national referendum resulted in a decision to phase out nuclear back in the 1990s (Wünsche, 1993). Following the Fukushima

accident, the Japanese government conducted the first deliberative polling on the national energy plan, resulting in a government proposal to phase out nuclear (CDD, 2012). In Germany, the government appointed the Ethics Commission of a Safe Energy Supply to review the nation's energy strategy (including the role of nuclear energy) with an emphasis on the social and ethical considerations, and this in part resulted in the abrupt nuclear ban by 2020 (Rossnagel and Hentschel, 2012).

However, in practice, public participation cannot guarantee positive outcomes (Petts, 2008; Renn *et al.*, 2014). Engaging the public may be time-consuming and costly, and whether consensus can be achieved within the complex political and social context of contemporary societies is often questioned (Irwin, 2006). Involving the public may give rise to skepticism rather than enhancing trust when the public express doubts or even challenge the equity of the participatory processes and outcomes in terms of policy impacts (Irwin, 2006). In particular, frustration can arise when participants perceive that participatory approaches are used as a means of deflecting protest, inhibiting actions or “rubber-stamping” a pre-determined decision (Adams *et al.*, 2012).

These developments concerning public participation give rise to some important questions: How would contemporary societies facing fundamental issues concerning energy futures design, conduct, and manage participatory exercises that need to be set within the broader societal context in which public values and preferences relating to fuel mix choices as well as public distrust are critical to the formulation and implementation of energy policies?

It is in this context that this paper aims to examine the introduction of a participatory governance approach to energy policy making, with a particular reference to a case

study of the UK nuclear consultation exercise in 2007. We aim to develop a normative framework for participatory governance to examine, analyse, and understand nuclear policy-making. This framework is intended to illuminate pertinent principles, dimensions, and elements of participatory governance. By comparing the actual case with the normative framework, we will try to identify if there are gaps in the 2007 consultation, and reflect on the broader policy implications.

The UK merits study for a number of reasons. This country has a long tradition of participatory practices in energy policy-making (Scheer and Höppner, 2010), many of which were related to nuclear projects, including the Windscale Inquiry in the 1970s (Patterson, 1978) and the Sizewell B inquiry in the 1980s (Purdue *et al.*, 1984). It is therefore important to understand and examine the extent to which the participatory approaches have evolved in the UK.

The 2007 nuclear consultation is a significant case because of its contentious context. In this consultation, the government presented a pro-nuclear view in its consultation paper entitled *The Future of Nuclear Power – The Role of Nuclear Power in a Low Carbon UK Economy* (hereafter the 2007 nuclear consultation paper) (DTI, 2007), and invited the public to provide feedback on the “preliminary” view presented. This consultation was conducted following a High Court ruling on a judicial review filed by Greenpeace, which concluded that a preceding nuclear-related energy consultation in 2006, i.e. the Energy Review consultation (DTI, 2006b), was procedurally “misleading”, “seriously flawed”, and “manifestly inadequate and unfair” (Warburton, 2009). The 2007 consultation, seen by many stakeholders as a second chance offered to the Government to conduct a proper consultation, was then subject to intense scrutiny by two evaluative reports: one was

conducted by a government-commissioned NGO ‘Shared Practice’ (Warburton, 2009) (hereafter the Warburton Report; published by the Department of Energy and Climate Change) and the other by a group of leading experts (Dorfman, 2008) (hereafter the Dorfman Report; published by the Nuclear Consultation Working Group). The contentious context of this consultation provides an opportunity for a detailed case study because the High Court Judgement and the two evaluative reports provide a wealth of detailed and credible data for this type of case analysis. This is particularly important because although engaging the public has been increasingly regarded as an important element in policy-making, evaluative cases of the processes involved in public engagement have been few in number, in part because of a lack of empirical data (Rowe et al., 2008).

This paper is organised into four sections. This introduction discussion has contextualised the 2007 nuclear consultation by drawing out its linkages to participatory governance as an approach to manage energy problems. The second section develops a theoretical framework for participation that will be applied in the UK case study. We also outline our research approach. In the third section, we compare the actual practices of the consultation and our normative framework. The final section reflects on the broader policy implications of our findings.

2. METHODOLOGY

2.1. The theoretical perspectives

Participatory approaches have attracted growing policy and academic interests across all major energy policy areas extending from nuclear energy, to renewable energy, energy efficiency, and smart grid deployment (Aegerter and Bucher, 1993;

Gangale *et al.*, 2006). The term “public participation” refers to a diverse set of practices which engage the public. These practices can take on a variety of forms that include more traditional mechanisms of participation such as information dissemination, public meetings and consultation, as well as more novel methods of participation such as mediations, dialogue, consensus-based advisory committees, and deliberation (Beierle and Cayford, 2004; NRC, 2008; Pieczka and Escobar, 2013).

Participatory practices have their root in the concept of governance. The notion of participatory governance emphasises that there are limits of the power and influence of government. Hierarchical steering characterised by a government-led, expert-centered approach is not sufficient for policy-making or problem-solving (Stirling, 2005). The governance perspective therefore argues that the government needs to reach out to involve non-state stakeholders including the public, the business sector and civil society in order to enhance its governing capacities to achieve societal goals and solve problems (Wesselink *et al.*, 2011).

In general, governments are motivated to adopt more participatory approaches as important ways to respond to calls for representative democracy, greater transparency and accountability, and to restore public trust and enhance policy legitimacy (Bäckstrand, 2003; OECD, 2001; Pretre, 2004). Public participation is also seen as a means to improve policy quality through harnessing collective intelligence for problem solving (Renn *et al.*, 2014). The literature also sheds light on the normative drivers and supportive mechanisms for participation. These include timeliness, information disclosure, feedback processes, deliberation, empowering the public, inclusiveness, responsiveness, deliberation, and accountability (Beierle

and Cayford, 2002; Conger and Kanungo, 1988; Irwen, 2006; OECD, 2001; Renn *et al.*, 2014; Stirling, 2005; Thomas, 1995).

Another theme in the literature sheds light on the variations in the forms of participation referred to above. Participatory forms can vary remarkably in terms of who is involved, how early and often in the process, and who has influence in the final outcomes (NRC, 2008). Arnstein's (1969) concept of the ladder of citizen participation instructively differentiates participation into eight rungs: from lower orders of participation that include manipulation, therapy, informing, consultation, and placation, to higher order one that include partnership, delegated power, and citizen control. Stirling (2005, 2006), drawing on Fiorino's work (Fiorino, 1990), directs attention to the conceptual distinctions between instrumental, substantive, and normative rationales for participation. From an instrumental perspective, participation is perceived as a means to enhance policy legitimacy, to educate the public, and to foster trust in institutions (Stirling, 2005). The substantive rationale focuses on improving the robustness and quality of the policy choices that actually result (Scheer and Höppner, 2010; Stirling, 2005). Potential benefits are realised through a social learning process – the integration of diverse social knowledges, values, and meanings in order to better inform the substance of social choices (Stirling, 2005). The normative rationale in participation hinges on a commitment to the empowerment of citizens (Stirling, 2005). From the normative perspective, limited involvement and remits, constraining structures, and privileged institutional interests are some of the major problems that can arise in traditional, hierarchical ways of participation (Stirling, 2005).

Also emerging in the participatory governance literature is a theme relating to evaluative frameworks. While a relatively large number of generic frameworks for evaluating participation have emerged (see for example Gene and Frewer (2000); Rowe et al. (2008)), work by Dyer et al. (2014) and Beierle and Cayford (2002) instructively specifies the outcome-based and process-based criteria of successful participation which underscores the importance of both process and outcome dimensions of such frameworks. Work by, for example Visschers and Siegrist (2012) is instructive in specifying process and outcome dimensions that are particularly critical to evaluating participatory approaches for nuclear decision-making.

With regard to nuclear decision-making, public engagement has attracted growing interest from both academics and policy-makers in view of the important role of risk perceptions and public values in shaping nuclear policies (Petts, 2008; Pretre, 2004). Traditional, technocratic decision-making systems have major limitations in dealing with nuclear decision-making because this often involves incomplete knowledge and is heavily value-laden (Mah *et al.*, 2013; Power, 2004; Schneider, 2001; Valentine and Sovacool, 2010). Participatory strategies are particularly needed to place scientific and technical knowledge in context and to account for differing experiences, understandings, beliefs and values of different stakeholders relating to nuclear matters (Petts, 2008; Pretre, 2004; van den Hove, 2000). However, it has been relatively well documented in the nuclear literature that reaching a consensus through participatory processes is often difficult (Juraku *et al.*, 2007).

The literature on participatory governance offers some insights regarding the rationales, forms, processes, mechanisms as well as evaluative frameworks regarding public participation. The literature has however limitations in at least two

main areas. Firstly, in light of the mixed outcomes of public participation in policy-making as noted above (Irwin, 2006), a better understanding of the interactional processes in different forms of participation (e.g. instrumental, substantive, and normative) and their implication for outcomes is an area requiring urgent attention from both research and application perspectives. What is lacking however is an integrated framework that can guide us through the process of conducting a robust analysis of complex participatory processes. Secondly, although the importance of both normative discussion and empirical research in the field of participatory governance has been highlighted by Pieczka and Escobar (2013), there have been few studies that contribute to theoretical developments in this field by applying a framework to an empirical case.

2.2. Towards a normative framework for participatory governance

Based on the literature in participatory governance, environmental risks, and nuclear studies (see for example Bijlsma *et al.* (2007), Brecher and Flynn (2002), Cuppen (2012), Rower and Frewer (2000, 2004), United Nations (2005), Rowe *et al.* (2008)), we develop a normative framework for participation to guide our analysis of the 2007 nuclear consultation.

Our framework has three features. Firstly, this adopts a normative perspective. It has been well documented in the literature that participation is a highly dynamic concept in that it may not be appropriate to develop a “universal” definition of what constitutes an effective participatory exercise (NRC, 2008; Rowe *et al.*, 2008). Furthermore, different local contextual factors relating to specific objectives and arrangements of participation may define effective participation differently (NRC, 2008; Rowe *et al.*, 2008; Wesselink *et al.*, 2011). This paper is therefore not

intended to propose an optimal framework that articulates best practice. In other words, we do not propose to use this framework to guide us to form a judgement on the desirability or effectiveness of the 2007 consultation. Rather, our framework is intended to highlight the normative principles and drivers in participatory practices, and to specify the key components, processes, dynamics of participatory processes and outcomes that have been recurring in the literature as critical elements in participatory approaches (Metze, 2011; NRC, 2008; Rowe *et al.*, 2008). In so doing, our framework can guide us to provide a critical and robust analysis on the processes and outcomes of the 2007 consultation. Our aim is to provide a better understanding of the complex processes that may help us to elaborate possibilities that may assist in solving nuclear problems and improving social outcomes.

Secondly, this framework is intended to guide our analysis on both processes and outcomes of nuclear policy-making that touch upon different stages of a policy cycle. Nuclear policy is defined in this paper as public policy that governs matters relating to nuclear power. These matters extend not only to the very specific action of making a final decision on nuclear choices, but also to other policy development stages including agenda setting, option appraisal, project management, handling of radioactive waste as well as managing public distrust in the nuclear industry and regulators.

Thirdly, this framework is intended to provide a better understanding of the mechanisms of participatory governance by specifying three key dimensions: content, process and outcome. The *content* dimension highlights the accuracy, comprehensiveness, and objectivity of the information provided to participants. The *process* dimension draws attention to the interactions among actors that take place in the process while the *outcome* dimension highlights the changes that result from the

interaction process. Timeliness, representativeness, transparency, responsiveness, empowerment, and deliberation are identified as the key parameters of the process dimension. Improvement of the substantive quality of decisions, policy legitimacy, trust enhancement, empowerment, and conflict resolution are identified as the key parameters of the outcome dimension. The content-process-outcome evaluative model, and its associated parameters and indicators, is presented in *Table 1*.

It is important to note that these three dimensions are highly inter-related. For example, the provision of accurate and non-biased information (the content dimension) in an accessible form (the process dimension) would facilitate the empowerment of participants through ensuring access to adequate knowledge on the subject matter (the outcome dimension). Another example is that empowerment is both a key process and an outcome of participation.

[Insert Table 1 about here]

2.3. Research questions and data collection

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

- What are the gaps, if any, between the UK practices actually adopted and the normative framework for participation as observed in the 2007 nuclear consultation?
- What processes or dynamics were created in the participatory processes that are associated with the gaps, if any, observed?

- What are the policy implications of the existence of the gaps, if any, relating to improving nuclear policy making?

This paper adopts a single case-study approach (Yin, 2003). A case study has the advantage of providing answers that go beyond “what” questions to “how” and “why” questions through in-depth analyses (Yin, 2003). Our analysis is based on a desk-top research. Data were collected from academic papers, publications by governments, non-governmental organizations (NGOs) and consultants. The 328-page Warburton Report and the 88-page Dorfman report, the two evaluative reports that we mentioned above, provide a wealth of detailed data for this case study (Dorfman, 2008; Warburton, 2009). Web-based information provided by the UK government, particularly from the Department of Energy & Climate Change (DECC) and the national archives, is another major data source.

3. RESULTS AND DISCUSSION

3.1. Background to the 2007 Nuclear Consultation

Nuclear power has been a major component of the UK’s electricity sector for several decades (Jones *et al.*, 2012). Nuclear power accounted for 19 percent of the national electricity generation in 2012 (EIA, 2013). Although the UK is rich in energy resources, the decline of the country’s indigenous energy supplies, the prospect of becoming an energy importer, and growing concerns over global climate change prompted a major energy review in 2003 (DoT and DEFRA, 2003). Since then, the Government has conducted a number of consultations relating to nuclear power while its position on this energy option has undergone major changes over time. The 2006 Energy Review (with the publication of the report *Energy Review: The Energy*

Challenge (DTI, 2006b) was widely perceived as a marked shift in the Government's position from anti-nuclear to pro-nuclear – in that the Government supported new nuclear build as part of the national energy plan.

As noted above, the 2006 Energy Review consultation however met with a major setback. In a judicial review brought by Greenpeace to the High Court, Justice Sullivan ruled that the 2006 Energy Review consultation was “misleading, seriously flawed, manifestly inadequate and unfair” because insufficient and “misleading” information had been made available by the Government for consultees to make an “intelligent response”. Justice Sullivan ruled that the Government's pro-nuclear decision was unlawful (Warburton, 2009). In consequence, the Government was obliged to conduct another nuclear consultation in 2007 and this is the focus of our investigation. An overview of the major consultation exercises and changes in the Government's position on nuclear between 2003 and 2008 are provided in *Figure 1*.

[Insert Figure 1 about here]

The 2007 nuclear consultation was a 4.5-month exercise conducted from 23 May to 10 October 2007. The Government explicitly states in the consultation document that the nature of the consultation was to consult citizens and stakeholders for their views and concerns relating to its preliminary pro-nuclear view (Warburton, 2009). The “preliminary view” is that it would be in the public interest to give private sector energy companies the option of investing in new nuclear power stations in the UK (DTI, 2007). The consultation was followed by the publication of the White Paper in January 2008 that sets out the Government's pro-nuclear decision (*Meeting*

the Energy Challenge. A White Paper on Nuclear Power) (BERR, 2008b; Warburton, 2009) – that new nuclear power plants should have a role to play in the UK’s future energy mix, and that the Government had decided to allow new nuclear power stations to be built (BERR, 2008b).

3.2. An assessment of the 2007 nuclear consultation: a comparison of the government approach and a normative framework

As noted above, the extent to which a consultation is effective can be very difficult to evaluate in part because different objectives and arrangements for participation and the local or sector-specific contexts can give rise to different criteria of effectiveness (NRC, 2008). In the context of the 2007 consultation, evaluation is a particular concern in part because of the existence of the seemingly contradicting conclusions drawn by the two evaluative studies: while the official government evaluative report (the Warburton Report) concluded that the consultation “fully met its own objectives” (Warburton, 2009), the Dorfman report concluded the consultation “has failed” and has seriously undermined people’s trust in the government (Dorfman, 2008). To provide a better understanding of the observed developments in the 2007 consultation, in the following section we will first adopt a government perspective to review the consultation, and will then present a review from the normative perspective. We will then identify the commonalities and differences in the two perspectives, and try to explain how and why the consultation was conducted in the observed ways.

3.2.1. A review of the consultation: from the government perspective

In general, consultation is a specific participatory format that is referred to as an institution inviting feedback on a given proposal through a process that assumes

reciprocity - in that the public is regarded as being capable of providing feedback, and that the government will take their views into account (Scheer and Höppner, 2010). In the UK context, the 2007 consultation is a government-led, formal, and institutionalized participatory exercise, which is part of the country's public policy-making mechanisms underpinned by the Code of Practice on Consultation (Her Majesty's Government, 2008). It was a carefully managed consultation that clearly demarcated the scope of the consultation at the outset. In the consultation document, the Government clearly stated that the objectives of the consultation were (1) to consult the public for their views and concerns relating to its preliminary view on nuclear, (2) to enable and facilitate a consultation which meets the Government's commitment, which was made in the 2003 Energy White Paper, of conducting the fullest public consultation relating to nuclear, and (3) to listen to and consider the views of those participating, and to be transparent in the reporting back process. One point to note is that the Government was careful in framing the consultation in that it clearly states that it has formed a preliminary view but has not taken a final decision (Warburton, 2009).

A defining feature of the 2007 consultation was its "layered" approach to engaging the public (SDC, 2007a). The consultation was large in scale but was well structured. Although the consultation was a formal and institutionalized exercise, it was rather atypical in that it incorporated an extensive range of participatory and deliberative elements in it. The consultation comprised three main complementary components which were conducted concurrently. These were the written and online consultation, stakeholder events, and public events (*Figure 2*). Altogether thirteen stakeholder meetings were held across the UK, nine meetings were held with those community groups who live near existing nuclear sites, nine simultaneous one-day deliberative

workshops were held across the UK, and a Ministerial roundtable was organised with twenty key stakeholders (BERR, 2008b).

The Warburton Report provides good empirical data for the review from a government perspective because this official evaluative report commissioned by the Government has explicitly stated that its evaluative criteria were designed in ways to assess the extent to which the consultation met the objectives set by the consultation itself. The Warburton Report, comprising a 328-page final report and 204 pages of annexes, provides a detailed account of the consultation exercise and an assessment of its impact. It concludes that the 2007 consultation “fully met its own objectives” and it “fully met the principles of good practice in the Cabinet Office Code on Consultation (Warburton, 2009: 300), despite the fact that it also acknowledges that there were some criticisms relating to the scoping of the consultation, objectivity of the information present and pre-empting the nuclear decisions.

3.2.2. A review of the consultation: from the normative approach

The findings of the Warburton Report give rise to a number of important questions: If the consultation was done in a highly satisfactory manner, why did it attract heavy criticisms from some major stakeholders including the Government’s own think tank the Sustainable Development Commission (SDC)? Are there alternative approaches for reviewing the consultation that can help explain this observed phenomenon?

To partially answer these questions, we now move on to review the 2007 consultation from an alternative, normative perspective. Our analysis is guided by the normative framework that we developed and presented in *Table 1*. We found

that the consultation was able to meet certain parameters of participation, but failed to do so in other important respects. *Tables 2 to 4* show our assessment with illustrative examples.

[Insert Table 2 about here]

[Insert Table 3 about here]

[Insert Table 4 about here]

Our assessment indicates that in terms of the *content* dimension, the consultation contributed to the accuracy, comprehensiveness, and objectivity of the information and arguments in a number of ways (IE No. 1-4). The consultation provided an arena for parties outside the government, most notably the SDC and green NGOs, to create and inject new knowledge into the consultation. The SDC, which was established in June 2000 and dissolved in March 2011, was the UK government's independent advisor on sustainability issues. It published a series of eight evidence-based reports in 2006. Those reports covered a broad range of nuclear issues including the basics of this energy technology, technological alternatives, economics, environmental and social impacts such as the disposal of nuclear waste, decommissioning, safety and security issues and public perceptions. Findings of the SDC's studies were frequently cited by green NGOs to substantiate their claims in the consultation. One of the frequently cited findings was that the rebuilding of the UK's nuclear capacity would mitigate only 4% of the country's CO₂ emissions (Dorfman, 2008; WWF, 2007).

The consultation also improved the quality of the background information for the consultation by inviting NGOs and other informed stakeholders to a Stakeholder Review Group to examine if the views presented in the consultation paper were balanced (Warburton, 2009). However, it is important to note the SDC – the Government’s independent advisor on sustainability issues, the Dorfman Report and green NGOs were of the view that biased views were presented (IE No. 5), indicating that concerns relating to objectivity were widely held across major stakeholders.

In terms of the *process* dimension, it is evident that the layered approach improved inclusiveness (IE No. 8) and transparency (IE No. 9) of the consultation. Green NGOs were empowered by the SDC to counter-check the government’s claims (IE No. 13) while the involvement of the general public was facilitated by the engagement events (IE No. 8). However, a major area of concern related to the responsiveness of the Government. The Government was seen to pre-determine decisions by adopting a closing down approach that tended to steer the results of consultation (IE No. 10 and 11). The Government was also perceived by some as not responding to some major public concerns in the White Paper that it published afterwards (IE No. 12). Timeliness of the process was another major limitation. A major criticism of the consultation was that it was conducted only after a preliminary view (which was pro-nuclear one) had been taken by the Government (IE No. 6). In addition, critical information was provided to the public at a late stage (IE No. 7). In terms of empowerment, the Government did not delegate power to make policy decisions in the consultation (IE No. 14). There was a lack of deliberative processes relating to alternative scenarios and possible risks and this

was a source of concern to some participants (IE No. 15).

In terms of the outcome dimensions, the 2007 consultation was able to demonstrate certain achievements. Some interviewed government officials acknowledged that they felt policy legitimacy relating to nuclear was enhanced through the consultation (IE No. 18). Empowerment was achieved in some senses through increased knowledge and a detailed reporting process that documented the extent to which public inputs were incorporated in the final nuclear decisions announced in the 2008 White Paper (IE No.22 and 23). However, the consultation also had some major limitations in terms of policy legitimacy, trust enhancement, empowerment, and conflict resolution. For example, in general the participants perceived that their inputs did not influence the final policy conclusions (IE No. 24 and 25). Adversarial relationships were not improved (IE No. 26-28) and there was no evidence that the consultation was able to nurture more constructive relationships between stakeholders that could avoid gridlock.

3.2.3. Commonalities and differences between the two perspectives

By comparing the findings from the government and normative perspectives, a certain level of commonality between these two approaches can be identified. It is important to note that although it was a government-led, carefully managed and focused exercise, the 2007 consultation was able to achieve some of the important parameters such as inclusiveness and transparency of the normative framework.

However, in some other respects the 2007 consultation was in marked contrast to the normative perspective held by NGOs and the SDC who were disappointed about

the actual achievements of the consultation in two particular areas. The first relates to the perceived pre-determining processes of the consultation. The NGOs and SDC demanded a much more open approach to consultation. They seriously requested the Government to explore and assess alternatives or “what if” scenarios. However, the green NGOs appeared to be frustrated and the WWF withdrew from the consultation process when they perceived the Government as being disinterested in exploring alternatives (Dorfman, 2008).

The second gap relates to the issue of empowerment. The consultation was a carefully managed and tightly controlled consultation. The Government clearly stated that it was inviting the public inputs to “inform”, but not to “determine” policy. However, one of the most controversial areas of the consultation was related to how the consultation was framed. It is evident that the NGOs and SDC were of the view that their concerns relating to alternatives should have been taken into account in the final decisions. The Warburton Report, although reaching very positive conclusions regarding the consultation, also acknowledges that the framing issue has led to confusion among many participants and caused distrust (Warburton, 2009). The concept of empowerment emphasises that stakeholders need to have confidence in the government’s willingness to respond to and act upon their views and values (Irwin *et al.*, 2013). There was however a general disappointment among participants that their inputs did not make any difference (Warburton, 2009).

It is important to note that difficulties seemed to arise in the consultation because the Government and NGOs held different rationales for participation. As shown in Tables 2-4, many of the actual achievements of the 2007 consultation can fulfill the instrumental (e.g. to inform, to meet consultation requirements, to legitimise decisions) and substantial (e.g. to gain better understanding of public concerns in

order to improve policy) rationales held by the Government (Warburton, 2009). The consultation was however not able to meet some of the normative values, such as policy legitimacy, trust enhancement and empowerment, held by the NGOs and SDC that extended beyond the instrumental and substantive rationales. A comparison of the government and normative perspectives is summarised in *Table 5*.

[Insert Table 5 about here]

3.2.4. Understanding the gaps: the three trust-destroying processes

Our observations give rise to further questions that need to be answered: What are the undesirable consequences, if any, of the existence of such gaps? What processes or dynamics were created that brought about these undesirable consequences? A better understanding of these issues may have important policy implications that will be discussed in the concluding section.

Our analysis suggests that trust matters in a number of important ways. Firstly, we found that public distrust mattered as a major undesirable consequence resulted from the gap between the actual achievements of the consultation and the normative values held by the NGOs and SDC. The trust dimensions of participation have been relatively well documented in the governance literature. Although trust enhancement is often not the sole, or even the stated, purpose of public participation (Petts, 2008), in practice government may need to enhance institutional trust through participatory approaches. This is needed to better manage nuclear risks and enhance

policy legitimacy in situations where public trust is low and complete knowledge is not available (Gilson, 2003; Poortinga and Pidgeon 2003; Stebbing, 2009). In the 2007 consultation, trust enhancement was not a stated objective. However, our analysis suggests that public distrust mattered in the outcome dimensions of the consultation

Secondly, we found that trust mattered as a contextual factor. Our findings suggest that pre-existing distrust before the 2007 consultation was critical. The Warburton Report highlights the importance of this pre-existing trust as a contextual factor that affected the engagement process. It notes that “an atmosphere of hostility, caution and anxiety is not conducive to the flexible and creative environment that is ideal for the design and delivery of engagement activities” (Warburton, 2009: 32). This finding is consistent with the literature which suggests that criteria for evaluating participation often have to be determined by local requirements (NRC, 2008). In this sense, the pre-existing trust dynamic in the UK context suggests that trust enhancement should have been given more attention in the nuclear consultation. That the actual practice in the UK failed or had major serious shortcomings as perceived by many stakeholders was in part because it hinged on objectives that were not sensitive enough to the local context of public distrust.

Thirdly, our analysis suggests that three trust-destroying processes were found to be the key factors that contributed to the difficulties confronting the Government in the consultation. These were pre-empting the engagement outcomes, presenting biased or impartial information, and ignoring (and not adequately integrating) feedback. It was through these three processes that trust appeared to be eroded rather than enhanced. The Government was heavily criticised for adopted a pre-emptive

decision-making style in which public engagement was a means to legitimise a pre-determined government decision on nuclear. One example to illustrate this preemptive style is that following the judicial review ruling in 2006, the then Prime Minister Tony Blair openly responded that “this will change the consultation; this won't affect the policy at all” (Dorfman, 2008: 12). The impression of the Government's decide-announce-defend approach was reinforced when another then Prime Minister Gordon Brown told members of Parliament in July 2007 – when the consultation had run half its course – that “we have made the decision to continue with nuclear power” (Dorfman, 2008: 12). Public trust appeared to be further eroded when the Government failed to explain why the views of the NGOs and the public were not accepted. A commissioner of the SDC openly criticised the engagement process in the media, condemning the Government for not answering some of the most crucial questions surrounding nuclear energy raised by the public (Warburton, 2009).

4. CONCLUSIONS AND POLICY IMPLICATIONS

This paper has explored an under-researched field relating to participatory governance for energy policy-making. We, based on the literature, have developed a normative framework for participation, and conducted a detailed case study of the 2007 nuclear consultation with the aim to better understand participatory processes and consequences in nuclear policy-making.

By comparing the actual experiences of the UK case and our three dimension context-process-outcome framework, we have several findings. Firstly, we have identified two important gaps between the UK approach and the normative

perspective. We found that the government approach was characterised by its instrumental and substantive motives. This approach paid insufficient attention to trust and some other normative values underpinning participatory governance, contributing to undesirable outcomes relating to policy legitimacy and public distrust. These gaps in responsiveness and empowerment appeared to, at least in part, contributing to the undesirable outcomes relating to policy legitimacy and public distrust. The identification of the gaps has advanced our understanding of the “what” questions relating to the complex interactional processes between different rationales for participation and the processes and consequences of participatory practices.

Our second finding relates to the “how” and “why” questions. We found the three trust-destroying processes and the gaps in the rationales for participation held by the Government and other major stakeholders appeared to be the critical driving forces and a factor contributed to the difficulties confronting the Government in the consultation. Our findings relating to the “what”, “how” and “why” questions as a whole are able to shed light on the complex interactions between different rationales and the actual participatory processes.

The extent to which and how participatory approaches can enhance energy policy-making is an under-researched area. A well documented challenge from both research and application perspectives is that a “universal” definition or toolkit of an effective participatory exercise may not be available or even desirable (NRC, 2008; Rowe *et al.*, 2008). Our paper, as mentioned at the outset, has a modest objective. Rather than proposing an optimal framework, we develop the normative framework that aims to illuminate pertinent principles, dimensions, building blocks and elements of participatory governance. Our paper has made two specific

contributions to the theoretical development of the concept participatory governance. Firstly, our three-dimensional content-process-outcome framework has illuminated, and allowed us to develop a better understanding of the complexity of the processes and outcomes of participatory governance.

Secondly, we shed light on the trust dimensions of participatory governance. Work by Petts (2008) has identified representation, collaborative framework and decision impact as some key elements of trust building. We shed light on the mechanisms of trust building by highlighting *when* and *how* trust mattered in the process of engagement. Trust matters both before, in the course of, and after a consultation. We specify how preexisting public distrust as well as the three trust destroying process were both critical to the engagement process. The trust destroying process, preempting the engagement outcomes, presenting biased or impartial information, and ignoring (or not adequately integrating) feedback, appeared to reinforce the pre-existing public distrust, and create major governing challenges to the UK Government.

Our findings have policy relevance in nuclear policy-making, particularly in the UK context. Firstly, although our framework is not intended to derive a judgement on the desirability of the 2007 consultation, by comparing the Government approach and the normative perspective we were able to gain insights on the possibilities of exploring alternative mechanisms of participation that may assist in solving nuclear problems and improving societal outcomes. Our findings were able to specify the limitations of the Government approach in the nuclear policy context regarding risk perceptions and trust issues. Our findings therefore suggest that the government-led, focused, and instrumental and substantive driven style of consultation could be complemented with more responsive and deliberative forms of participation. Such

complementary approaches should give more attention to social learning (Stirling, 2005), empowerment, and different government-society relationships involving more dispersed power (Arnstein, 1969; Conger and Kanungo, 1988). The Government should respond more strategically to the normative values held by the stakeholders that extend beyond instrumental and substantive ones. This suggestion is in line with the literature that highlights the importance of moving away from consultation to civic engagement in order to enhance governing capacities and manage problems in contemporary societies (Stirling, 2005).

Our second policy recommendation relates to the roles of independent think tanks in nuclear policy-making. In the governance literature, the importance of bridging organisations has been highlighted. These organisations, which may be NGOs, think tanks or other institutions, may span the government and civic society, and enable social social learning, lower the costs of collaboration, and facilitate conflict resolution by bringing in resources, knowledge, and other incentives for collaboration (Folke *et al.*, 2005). Our findings suggest that the SDC - an independent advisory body which served as the Government's think tank on sustainability issues – appeared to play a number of pivotal roles as a bridging organisation in the UK 2007 nuclear consultation. It acted as a knowledge broker, a watchdog as well as a policy entrepreneur. Even in a situation of high public distrust, the SDC remained a trusted source of information seen as knowledgeable and independent. These observations suggest that independent think-tanks could have much greater potential to contribute to effective public engagement. It is important to note that there existed adversarial relationships between the SDC and the Government in the 2007 consultation, as indicated by the criticisms made by a SDC commissioners publicly against the Government approach of consulting the

public. The Government should recognize the potential contribution of these bridging organisations and act in more strategic ways to mobilise their resources and capacities.

The UK case in public engagement is atypical in some aspects. It is unique in terms of its sophisticated design and its scale. However, our analysis has relevance beyond the UK. The challenges of engaging the public in nuclear decision-making share many similarities across countries and cities in the general context of a higher level of public distrust, a more dynamic stakeholder landscape and a growing need for policy legitimacy. We therefore expect our findings may be generalisable to other countries and cities to a certain extent. In addition, our findings can also be generalised to some extent to other energy and environmental policy areas such as climate change, GM technology and the siting of incinerators which also involve risks perceptions and trust in governing ((Poortinga and Pidgeon, 2003; Poumadere *et al.*, 2011)).

Our paper has several limitations. We have demonstrated that trust is an important concept understanding the participatory approaches for nuclear policy-making. We have highlighted the important dimension of trust as a contextual factor. We have also specified the three trust-destroying processes. Trust, is however only one of a set of interrelated concepts that are critical in participatory approaches. Other concepts such as empowerment and policy legitimacy would require further investigation. This case study relied on documentary data. A more robust analysis could be made if multiple sources of information, such as data derived from face-to-face interview, could be used. This study used the data of a single country, and did not examine national differences in nuclear decision-making. This has limited our

understanding of the factors affecting the effectiveness of public engagement.
Cross-country comparative studies would generate some fruitful results.