

# Ensuring publics continue to *'have a say'*

**Submission to the public consultation on the draft National Policy Statements for Energy  
Infrastructure**

***Centre for the Study of Environmental Change (CSEC)***

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## Introduction

This submission to the government's public consultation on the draft National Policy Statements for Energy Infrastructure (November 2009) comes from a group of academic researchers based at Lancaster University, who have expertise in the sociological aspects of nuclear decision-making and nuclear policy-making. Our submission is restricted to the Consultation on draft National Policy Statements for Energy Infrastructure (hereafter **CNPS**)<sup>7</sup>, the Draft Overarching National Policy Statement for Energy (hereafter **EN-1**)<sup>8</sup> and the draft National Policy Statement for Nuclear Power Generation (hereafter **EN-6**)<sup>9</sup>.

This document is organised into four sections. **Section 1** shows the consultation questions addressed by our response and sets out our answers to those questions. **Section 2** considers the process of national consultation, of which this submission itself is part. Here we suggest that the process of national consultation **closes down and prevents** (rather than opens out, as it should do) consideration of many important issues relating specifically to nuclear new build. This is due, in part, to the *structure* of both the consultation processes and the NPS-Infrastructure Planning Commission (hereafter IPC) decision-making framework. It is also due, in part, to issues of *timing* relating again to both the consultation processes and the NPS-IPC decision making framework.

We believe that the consultation process is, in fact, fundamentally flawed in legal terms as it appears to be in breach of the **Aarhus Convention**<sup>10</sup>. As the Environmental Law Foundation (2010) state, the need for effective public participation in issues of environmental decision making is outlined in the *UN Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters 1998* (Aarhus Convention) which has been ratified by both the UK and the European Union. It provides that citizens must be entitled to participate in environmental decision making, records that public participation enhances the quality and implementation of decisions and commits the Government to guaranteeing the rights of citizens to public participation in decision making in accordance with the Convention<sup>11</sup>.

**Our observations lead us to declare our *lack of confidence in the processes for public participation within NPS/Infrastructure Planning Commission-based decision making.***

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<sup>7</sup> Consultation on draft National Policy Statements for Energy Infrastructure  
<http://data.energynpsconsultation.decc.gov.uk/documents/condoc.pdf>

<sup>8</sup> Draft Overarching National Policy Statement for Energy (EN-1)  
<http://data.energynpsconsultation.decc.gov.uk/documents/nps/EN-1.pdf>

<sup>9</sup> Draft National Policy Statement for Nuclear Power Generation (EN-6)  
<http://data.energynpsconsultation.decc.gov.uk/documents/nps/EN-6.pdf>

<sup>10</sup> See for instance The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters specifically Pillar 2 <http://www.unece.org/env/pp/acig.pdf>

<sup>11</sup> See Inquiry into the proposals for energy national policy statements: Submission by the Environmental Law Foundation to the public consultation on the draft National Policy Statements for Energy Infrastructure January 2010 <http://www.toxiccoast.com/ELF%20Submission%20to%20Energy%20Climate%20Change%20Committee.pdf>

**Section 3** pays heed to the principal purpose of this consultation — to identify whether the draft energy National Policy Statements (NPS’s) are ‘fit for purpose’ —that is, whether they provide a suitable framework for the new Infrastructure Planning Commission to make decisions on applications for consent for nationally significant energy infrastructure. Specifically, we point to a number of potential conflicts between the advice and other policies and objectives.

**Section 4** describes our views, for the draft National Policy Statement for Nuclear Power Generation (**EN-6**), on the Government’s assessment of arrangements to manage and dispose of waste from new nuclear power stations.

## **Section 1 – Relevant questions and answers in brief**

Our contributions are directed at a subset of the Consultation’s questions. Below briefly outlined are the questions to which we have responded, namely questions **1-7, 16-19, and 26**, and our immediate responses. We provide more detailed responses in sections 2, 3 and 4, giving our reasons for the yes/no answers below.

***1. Do you think that the Government should formally approve (‘designate’) the draft Overarching Energy National Policy Statement?***

No

***2. Does the draft Overarching Energy National Policy Statement provide the Infrastructure Planning Commission with the information it needs to reach a decision on whether or not to grant development consent?***

No

***3. Does the draft Overarching Energy National Policy Statement provide suitable information to the Infrastructure Planning Commission on the Government’s energy and climate policy?***

No

***4. Does the draft Overarching Energy National Policy Statement provide suitable direction to the Infrastructure Planning Commission on the need and urgency for new energy infrastructure?***

No

***5. Do the assessment principles in the draft Overarching Energy National Policy Statement provide suitable direction to the Infrastructure Planning Commission to inform its decision-making?***

No

***6. Does the draft Overarching Energy National Policy Statement appropriately cover the generic impacts of new energy infrastructure and potential options to mitigate those impacts?***

No

**7. Do you have any comments on any aspect of the draft Overarching Energy National Policy Statement not covered by the previous questions?**

Yes, see Section 2.

**16. Do you think that the Government should formally approve ('designate') the draft Nuclear National Policy Statement?**

No

**17. Does the draft Nuclear National Policy Statement provide the Infrastructure Planning Commission with the information it needs to reach a decision on whether or not to grant development consent?**

No

**18. Does the draft Nuclear National Policy Statement provide suitable direction to the Infrastructure Planning Commission on the need and urgency for new nuclear power stations?**

No

**19. Do you agree with the Government's preliminary conclusion that effective arrangements will exist to manage and dispose of the waste that will be produced by new nuclear power stations in the UK?**

No, see Section 4.

**20. Does the draft Nuclear National Policy Statement appropriately cover the impacts of new nuclear power stations and potential options to mitigate those impacts?**

No

**26. Do you have any comments on any aspect of the draft Nuclear National Policy Statement or its associated documents not covered by the previous questions?**

Yes: many of our observations do not arise directly out of the above questions but from our own concerns, see Sections 2, 3 and 4.

## **Section 2: Important issues are 'bracketed out' from consideration by the public, and hence the IPC, within the national public consultation exercise**

2.1 The UK's planning system has been seen by government as a barrier to a shift towards a low-carbon energy future. The reform of the planning system towards the use of National Policy Statements as criteria against which the Infrastructure Planning Commission may judge applications for development relies however, as Ed Milliband has affirmed, on public consent<sup>12</sup>. The government

<sup>12</sup> Ed Milliband, Consultation on Draft National Policy Statements for Energy Infrastructure, 2009: p. 4.

says that it ‘wants to hear from members of the public, industry, non-Governmental organisations and any other organisation and public body’<sup>13</sup> and here, we briefly pose the question, why?

To answer this question we need to rehearse an assumption - that this consultation exercise is *not only* supported by government on account of the increased *democratic legitimacy* that it might bring about in the context of the new regulations under the Planning Act 2008. But that, as Stirling et al suggest<sup>14</sup>, the government recognises the value of public consultation for *substantive* reasons – that is, because policies can be made ‘more effective by listening to and taking on board the views of the public and interested groups’<sup>15</sup>. Indeed the DECC consultation document suggests that ‘the quality of [those] decisions will be higher if the NPSs are thoroughly scrutinised’<sup>16</sup>.

2.2 However this is no simple task. As social scientists who have worked for many years on issues of public engagement with science and technology, we recognise the challenge, and the importance, first of *eliciting* the views of the public and interested groups in a neutral, transparent and open manner, and second, of taking them on board as part of a participatory approach to policy making. There exists no simple methodology for achieving these aims. As a recent judgement in favour of Greenpeace has illustrated<sup>17</sup> both quantitative and qualitative methods for drawing out public opinion on issues as complex and controversial as new nuclear build, may lie open to bias and misrepresentation<sup>18</sup>.

Certain basic principles, drawn up by Stirling et al.<sup>19 20</sup>, provide some guidance: consultations, and participation more generally, should abide, they suggest, by criteria of:

- neutrality (no privilege to any one particular stakeholder perspective)
- breadth (paying attention to uncertainties and breadth in knowledge)
- transparency
- precaution (by this they mean being thorough and deliberate about how we deal with the knowledge (and the uncertainties) that we have concerning the possible social, economic and environmental impacts of science and technology)

<sup>13</sup> Consultation on Draft National Policy Statements for Energy Infrastructure, 2009: p. 7.

<sup>14</sup> Stirling, A., Ockwell, D., Scott, A., Wakeford, T., Rayner, S., Scrase, I., Szerszynski, B., Tansey, J., Leach, M., Ravetz, J. (2009) ‘Legitimate public consultation on nuclear new build and other technologies’. Unpublished letter to *Nature*.

<sup>15</sup> Cabinet Office. Code of Practice on Consultations (UK Cabinet Office, 2007) cited in Stirling et al 2009, p.2)

<sup>16</sup> <http://www.energynpsconsultation.decc.gov.uk>

<sup>17</sup> See the case of R (Greenpeace) v Secretary of State for Trade and Industry (2007) <http://www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/ERJRSullivanJudgement.pdf>

<sup>18</sup> ‘On 15<sup>th</sup> February 2007 Mr Justice Sullivan found in favour of Greenpeace and ruled that the Government’s pro-nuclear decision was ‘unlawful’. In his judgment he described the consultation as ‘seriously flawed’ and ‘manifestly inadequate and unfair’ because insufficient and misleading information had been made available by the government for consultees to make an ‘intelligent response’. *Greenpeace Complaint to the Marketing Standards Board Concerning Opinion Leader Research and Talking Energy Consultation*, 10<sup>th</sup> October 2007, p. 1.

<sup>19</sup> Stirling, A., Ockwell, D., Scott, A., Wakeford, T., Rayner, S., Scrase, I., Szerszynski, B., Tansey, J., Leach, M., Ravetz, J. (2009) ‘Legitimate public consultation on nuclear new build and other technologies’, p. 3-4.

<sup>20</sup> Also relevant here is the work by Bill Thompson and Jane Hunt on RISC0M2 on public participation in nuclear risk decision making. See [ftp://ftp.cordis.europa.eu/pub/fp6-euratom/docs/euradwaste04pro\\_4-westerlind\\_en.pdf](ftp://ftp.cordis.europa.eu/pub/fp6-euratom/docs/euradwaste04pro_4-westerlind_en.pdf)

- openness (not restricting the scope of attention, or constraining deliberations, during the consultation process)
- diversity (the process should involve a range of different event formats)
- inclusion (especially of groups that have little or no ‘voice’)
- commitment (participants should be guaranteed in advance that their inputs will be taken seriously).

We agree with these principles for good consultation that form part of the wider participatory processes that are enshrined in the Aarhus Convention. We point them out here to highlight our concern that many of these principles are not followed in the present consultation process, which itself does not add up to effective public participation. Specific problems with the consultation process itself are set out below:

### 2.3 Commitment

First, the consultation process is severely compromised for the case of nuclear options (EP1 and EP6) due to its contradictory structure - it is ostensibly consulting the public (and other interested groups, hereafter called ‘the public’) *both* on whether the National Planning Statement (hereafter NPS) is a reliable basis upon which the IPC can (amongst other things) make decisions about whether (or not) to build new nuclear power stations, *and* on government assessments as to *where* such stations should be sited. This contradiction undermines the consultation process – it would appear that government have made prior decisions to build new nuclear power stations since they are also consulting on where such stations should be sited. Indeed as former Prime Minister Tony Blair has made clear on several occasions, the present consultation, in his words, ‘won’t affect the policy at all’<sup>21</sup>. This contravenes the principle of ‘commitment’ above.

### 2.4 Openness

Second, for a consultation process to be legitimate it requires, as stated above, ‘openness’. What Stirling et al. mean by openness is that time constraints in planning or policy schedules should not be used as an excuse to ‘close-down’ or restrict the way in which publics want to consider or ‘frame’ issues of science and technology in society. The consultation, in other words, ought to be able to legitimately ‘open-up’ issues, even if not originally considered relevant by the authorities. ‘Closing-down’ issues should not come into play during the consultation, but after it. And alternative options and scenarios to those originally considered, ought, where they are thought necessary or useful, to be included at the consultation stage. This is absolutely essential if the process of consultation, as performed here, is in effect taking the place of wider processes of public participation (which as we have suggested above, may in itself, be unlawful under the Aarhus convention).

This principle of openness is most strikingly contravened by the present consultation. As we shall explain in the conclusion to this section (2.8), our observation is that the NPAs (EP1 and EP 6) are structured to ‘close down’ debate about several issues that are legitimately of importance to the public.

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<sup>21</sup> Woodward, W. ‘Judge Deals Blow to Blair’s Nuclear Plans: Court Rules Consultation on Power Stations was ‘Misleading and Flawed’’. *The Guardian*, London, 16 February 2007.

## 2.5 The consultation did not include consideration of a number of key debates:

### ***2.5.1 There was no open debate as to whether, and how, nuclear power will make an effective contribution to CO2 emissions reduction.***

Assumed CO2 emission reductions gained by building new nuclear power stations are much less clear than EP6 suggests. According to the Government's Sustainable Development Commission (SDC)<sup>22</sup>, building 10GW of new nuclear capacity (replacing the lost capacity from the closure of existing plants) would offset only 4% of the UK's CO2 emissions compared to 1990 levels assuming that otherwise the equivalent amount of electricity is generated from fossil fuels instead.

### ***2.5.2 There was no open debate about the need for substantial new generation capacity.***

Section 3.8.5 of EN-1 spells out that assumptions about the increasing need for generation capacity into the future if the UK is to meet emissions reductions targets are largely based on a single set of scenarios produced by the Electricity Networks Strategy Group (ENSG). Merely asserting that these scenarios and not others that are available represent the future of electricity generation and associated infrastructure in the UK is unnecessarily restrictive. Alternative scenarios that do not rely upon nuclear power in the future energy mix are also available and there seems to be **no justification for relying on a single source of prediction**, which is an industry-dominated group. Other scenarios that might have formed the basis of generation mix and size scenarios include for example, the Tyndall Report<sup>23</sup>, and the WADE model<sup>24</sup>.

### ***2.5.3 There was no open debate as to how much, and what kind, of electricity generation new nuclear power stations will in fact provide.***

Nuclear power is presented as a source of electricity that can deliver a 'constant reliable supply', yet this is far from the case<sup>25</sup> with many reactors often offline requiring huge backing power<sup>26</sup>.

<sup>22</sup> See 1 <http://www.sd-commission.org.uk/pages/060306.html>

<sup>23</sup> See Anderson, K., Shackley S., Mander S. and Bows, A, 2005, Decarbonising the UK - energy for a climate conscious future, Tyndall Centre for Climate Change. (p20), [http://www.tyndall.manchester.ac.uk/publications/tyndall\\_decarbonising\\_the\\_uk.pdf](http://www.tyndall.manchester.ac.uk/publications/tyndall_decarbonising_the_uk.pdf)

See also Agnolucci, P., Ekins, P., Iacopini, G., Anderson, K., Bows, A., Mander, S. and Shackley, S., (2009), Different scenarios for achieving radical reduction in carbon emissions: a decomposition analysis, *Ecological Economics*, 68, 6, 1652-1666.

<sup>24</sup> WADE / Greenpeace, Decentralising UK Energy: Cleaner, cheaper, more secure energy for the 21st Century, March 2006 <http://www.greenpeace.org.uk/media/reports/decentralising-uk-energy>

<sup>25</sup> See for instance

<http://news.bbc.co.uk/1/hi/business/6949026.stm>

<http://news.bbc.co.uk/1/hi/england/somerset/6085258.stm>

<http://news.bbc.co.uk/1/hi/england/bristol/6897062.stm>



**2.5.4 There was no open debate as to the costs and efficiencies of nuclear electricity generation as compared to Combined Heat and Power, greater end-use efficiency, greater system efficiencies and efficiencies of scale, and renewable technologies.**

The government's Energy White Paper in 2003 concluded that nuclear power is more expensive than wind: 'Technologies such as onshore and offshore wind and biomass are potentially – after energy efficiency and CHP – the most cost-effective ways of limiting carbon emissions in the longer term'<sup>27</sup>.

**2.5.5 There was no open debate as to the problem of waste generation from new nuclear power stations.**

The draft NPS En-6 suggests (Para 3.8.20) that: 'Having considered this issue, the Government is satisfied that effective arrangements will exist to manage and dispose of the waste that will be produced from new nuclear power stations. As a result the IPC need not consider this question'. This contravenes recommendations given by the Committee for Radioactive Waste Management (CORWM) who called in 2006<sup>28</sup> for an intensified programme of research and development into the long-term safety of geological disposal (the option favoured by Government and assumed to be possible). Four former CORWM members have suggested that it is impossible to conclude that effective arrangement for the long term disposal of waste 'exist or will exist'.<sup>29</sup> Researchers also suggest that there is currently, globally, *no known way of disposing of nuclear waste into the long term safely*<sup>30</sup>. See Section 4 for more on this issue.

**2.5.6 There was no open debate on the costs to the taxpayer of nuclear new build of up to 10 new reactors as proposed.**

Citigroup state that the Treasury has stated that they will underwrite the costs of new nuclear power stations, with special attention given to waste costs.<sup>31</sup> This is of course of legitimate interest to the public.

## **2.6 Phasing and timing of NPS/IPC deliberations**

Due to the timing of the consultation, significant uncertainties and unknowns of interest to the public remain. Two of these are significant. The first concerns the lack of a regulatory 'locus' in place for the UK for the spent fuel of new nuclear plants. The Environment Agency has recently suggested: "We think that coordinating the various decision-making processes will be challenging. This applies to managing interactions between RWMD, government and regulators and to aligning with the

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<sup>26</sup> Greenpeace complaint to the Marketing Standards Board concerning Opinion Leader Research and Talking Energy Consultation. Greenpeace, 10th October 2007: p8-9 <http://www.greenpeace.org.uk/files/pdfs/nuclear/MRScomplaint.pdf>

<sup>27</sup> <http://www.berr.gov.uk/files/file10719.pdf>

<sup>28</sup> CoRWM (2006) "Managing our Waste Safely", p. 15.

<sup>29</sup> A copy of the letter containing these views can be found at <http://www.nuclearwasteadvisory.co.uk/uploads/5647CoRM1Letter201109.pdf>

<sup>30</sup> Nuclear Waste Advisory Associates (2010) Submission to the House of Commons Energy and Climate Change Committee inquiry into the Energy National Policy Statements. 'Effective Arrangement for Waste from New Reactors Do Not Exist'. [www.nuclearwasteadvisory.co.uk](http://www.nuclearwasteadvisory.co.uk)

<sup>31</sup> <https://www.citigroupgeo.com/pdf/SEU27102.pdf> Citigroup suggest: "The returns for new nuclear development will need to be underpinned by the government and the risks shared with the taxpayer / consumer."

*decision-making processes in the communities*<sup>32</sup>. Furthermore, as the NDA have not yet made a formal application to the EA for a disposal facility<sup>33</sup> the role of the EA is to provide advice to the NDA. This is a commercial arrangement: the EA charge the NDA for the advice.<sup>34</sup> Although the EA state that this arrangement will not mean that they are compromised<sup>35</sup> it is the NDA – and not the EA – that are taking the lead on developing the “*permissioning schedule*”<sup>36</sup>. However, in January 2010 the Environment Agency published its ( 2008 / 2009) Annual Report on the NDA’s work on waste disposal<sup>37</sup> which concluded that there was the possibility that: “***fundamental environmental issues ...could ultimately prevent us issuing an environmental permit for the GDF [ geological disposal facility ]*** “ Issues of uncertainty and complexity surrounding nuclear waste disposal, the legitimacy of the public bodies regulating the sector, and how they go about this, are of great interest to the public. These questions will not be resolved and the answers will not be known before the IPC is called upon to take planning decisions about new-build, and so these very important considerations are therefore exempted from both public and planning deliberation. This is one example of ‘closing-down’ debate due to the fast-track nature of the NPS-IPC process.

A second example concerns further uncertainties – this time concerning the incidence of childhood cancer in the vicinity of nuclear reactors. A recent study commissioned and formally accepted by the German government is reported to have found increased cancer risks to be ‘unequivocally linked to proximity to nuclear reactors’<sup>38</sup>. The risks reported include increased solid cancer risk, and leukaemia risk among infants under 5 years old, living within 5 km of all German nuclear power stations<sup>39</sup>. The Government’s Committee on the Medical Aspects of Radiation in the Environment (COMARE) is currently undertaking a review of childhood cancer incidence around nuclear power stations with reference to the KiKK study. This review is not likely to be able to report until March 2010 at the earliest. Nuclear Free Local Authorities have requested that the deadline for the present consultation be postponed until after the COMARE review of KiKK. However this request has not, to our knowledge, been granted. Once again, significant uncertainties of great interest and significance for the public are bracketed off from the consultation, due to issues of timing, and are therefore not able to be taken into consideration.

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<sup>32</sup> “*Environment Agency scrutiny of RWMD’s work relating to the geological disposal facility - Annual review 2008/09*” Issue 1, Jan 2010, p. 7. <http://www.environment-agency.gov.uk/business/sectors/37483.asp>

<sup>33</sup> EA ( Jan 2010 ) page 5

<sup>34</sup> EA ( Jan 2010 ) page 5

<sup>35</sup> EA ( Jan 2010 ) page 5

<sup>36</sup> EA ( Jan 2010 ) page 7

<sup>37</sup> “*Environment Agency scrutiny of RWMD’s work relating to the geological disposal facility - Annual review 2008/09*” Issue 1, Jan 2010, page 13, emphasis added. <http://www.environment-agency.gov.uk/business/sectors/37483.asp>

<sup>38</sup> Press Release from Nuclear Free Local Authorities, ‘Cf. Review of German Study on Childhood cancer (KiKK)’, 23<sup>rd</sup> November 2009.

<sup>39</sup> This is known as the “*KiKK*” study or “*Kinderkrebs in der Umgebung von Kernkraftwerken*”.

## 2.7 Breadth, Openness, Inclusion, Precaution, Neutrality

Fourth, two of us having attended local public meetings about the prospect of a new nuclear power station in Heysham, near Lancaster, we have concerns about a further ‘closing down’ of public input to the NPS-IPC process. One meeting attended on the 28<sup>th</sup> November 2009 was managed in a highly orchestrated and controlling manner. Members of the public were requested to register their details prior to attendance which made many feel uncomfortable or even discouraged them from engaging at all. It was explained to those present that questions from the floor needed to be restricted to pre-defined themes. Issues of obvious relevance to the public were deemed outside of the debate. These included questions about waste generation and where waste would be sited, questions about nuclear proliferation, questions about effects on residents in adjacent Lancaster (the debate was only supposed to concentrate on the effect of those living within 5 miles of the proposed plant), and so on. Answers given to these very pertinent questions raised were perfunctory and often sounded complacent, as if there were few uncertainties to be considered around nuclear technologies. In a forum where the public had legitimate concerns to discuss, it was astonishing how little was actually deliberated upon. Instead, we witnessed a very skilful deployment of people and themes/arguments which really opened out very few issues for local people and failed to address many of the important uncertainties and unknowns. A bigger issue here for the legitimacy of the planning process is that such meetings were orchestrated by corporate entities such as EDF and their public relations teams rather than public bodies representing public interests. The way that the public meetings we attended were conducted contravened the principles of breadth, openness, inclusion, precaution, and neutrality, as described by Stirling et al.

## 2.8 Conclusion to Section 2

As Professor Grove-White et al. have suggested<sup>40</sup>, it has been shown many times that official understandings of public opinion often see public views as relatively ‘soft’ and insubstantial, relative to more ‘real’ material dimensions such as safety, performance, economic viability and environmental effects. These authors suggest that this tendency is misleading in at least two respects: ‘First, it fosters the impression that public reactions are only coincidentally related to ‘the facts’ about the technology in question’<sup>41</sup>. The authors suggest that, ‘by contrast, the record suggests that on nuclear related issues such as economic viability, the challenges of secure waste management, radiation uncertainties, and the commercial implications of prospective regulatory pressures, *wider public understanding have in the past proved more realistic than many of those of the industry or of government*’ (ibid, our emphasis). Their second and equally relevant point for this consultation is that this official tendency (to see public opinion as relatively insubstantial) ‘obscures the extent to which reactions by citizens may rest on a body of understanding of a technology *as experienced in the real world* on lines unrecognised by –and hence unrepresented in – supposedly objective official assessment processes.’(ibid. emphasis in original).

The insights of Grove-White et al. are telling for us today. What we have argued is that the consultation process has, first, structured the process so as to make *almost irrelevant* the responses of the public to the prospect of inserting new nuclear power stations into the national ‘energy mix’.

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<sup>40</sup> Grove-White, R. and Kearnes, M. B. and Macnaghten, P. M. and Wynne, B. (2006) ‘Nuclear Futures: assessing public attitudes to new nuclear power.’ *Political Quarterly*. 77 (2). pp. 238-246.

<sup>41</sup> Ibid p.241

The commitment to new nuclear power appears already to have been made upstream of any public consultation and the siting of the new power stations is the present pre-occupation.

Second the government consultation processes have repeatedly ‘closed-down’ issues of legitimate public concern surrounding the prospect of nuclear new-build. This has been achieved either by explicitly cutting issues of concern out of the debate (e.g. waste from new nuclear power stations, see more on this below in Section 4); or by timing the consultation process in such a way that significant uncertainties and unknowns cannot be included for consideration (e.g. how waste will be regulated; health effects of nuclear installations on local infants); or by controlling and limiting the possibility of debating issues of legitimate concern in public meetings.

Wynne (2001)<sup>42</sup> and Grove-White et al (2006) warn of the dangers of treating public attitudes and the factors shaping them as of minor, or secondary, significance in science and technology decision making. Official marginalisation of what prove subsequently to be valid and legitimate dimensions of public concern has, in the past, fed public mistrust of government, and may do so in the future. The government needs to ‘open-up’ for proper public scrutiny and debate many of the issues that publics are legitimately, and wisely, interested in, in relation to the building of nuclear power stations for a supposedly ‘greener’ society. Instead, what we have witnessed has been a process of consultation that has ‘closed down’ issues of legitimate concern to the British public. As such, the NPSs considered (EP1 and EP6) and the consultation process that has been built around them cannot be considered fit for purpose as planning tools responsive to public views.

### **Section 3: The NPSs are in conflict with wider policies and objectives:**

In this section we outline in summary some of our main objections to the National Planning Statements in terms of the ways in which the advice to be given to the IPC for its use in consent decisions are potentially in conflict with other policies and objectives.

#### **3.1 The NPS conflicts with the IPC’s sustainable development brief**

Section 1.6 of EN-1 “Appraisal of Sustainability” suggests that the only possible negative impacts effects of developments under the NPS-IPC system would be local ecological impacts through building on rural land, whilst all other effects would be positive through the securing of low carbon electricity in the longer term. This demonstrates a woefully inadequate approach to “sustainability”. Other site-specific impacts are assumed to be dealt with at EIA and Habitats Regulation level. This does not address whether the developments that will be processed through the NPS-IPC system will have more serious effects on more broadly-understood “sustainable development”.

As an example, section 1.14 of the CNPS states that the IPC-NPS system is to have “the objective of contributing to the achievement of sustainable development”.

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<sup>42</sup> Wynne, B. (2001) *Creating public alienation: expert cultures of risk and ethics on GMOs*. Science as Culture.10:4, 200, pp1445-81.

This is not in any way supported in the draft NNPS (EN-6), as commitment to nuclear build (and waste management and disposal) may in fact place such a burden on future generations that it outweighs the shorter term benefits expected in the present generations and thereby fails to achieve 'sustainable' sustainable development under the Brundtland definition.

To cite section 3.1 of the EN-1, the Government's conclusion on the **need** for new electricity infrastructure is that: "The IPC does not need to consider the relative advantages of one technology over another given the Government's view that companies should be permitted to determine the individual projects to bring forward within the strategic framework set by the Government"

This removes the ability to determine energy policy from the IPC, but also the power to review or critique the contribution to sustainability objectives which are given as its central remit, if one technology is more likely to damage long-term sustainability than another. The second part of the statement surrenders any form of energy policy planning in projects of national importance or public interest, to private companies, in their choice of what projects to bring forward. This is abysmal policy-making and a flawed basis for national planning policy. Friends of the Earth have also highlighted in their submission that the surrounding energy policy (for example the reliance on EUETS) will not necessarily address cumulative carbon dioxide emissions *per se* at all, meaning that there may be a net result of unsustainability; compromising the future.

### **3.2 The NPS conflicts with the promotion of renewable energy technologies and lifestyle change**

The messages from public deliberations on the future of nuclear power spell out that despite high levels of support for addressing Climate Change: "many participants wanted clear reassurances and guarantees that developing new nuclear power stations would not detract investment and research away from renewable energy and lifestyle change strategies...Many participants wanted the Government to limit reliance on nuclear energy and invest more heavily in alternative solutions, such as renewable energy." In addition, "65% agreed overall that nuclear power could make an important contribution to reducing the UK's CO2 emissions. Following deliberation on this, the number agreeing (that nuclear power could make an important contribution to reducing the UK's CO2 emissions) overall fell to 60% and the number who disagreed increased from 8% to 21%."<sup>43</sup> The important messages from this government-sponsored deliberative process deserve attention. As the public were able to identify, support for nuclear power would necessarily detract from support for renewable, in terms of resources available for research, support, and implementation. In addition the public highlighted problems with a focus on nuclear that might in effect secure supply in ways that militates against reducing demand through energy consumption behaviours.

### **3.3 The NPS conflicts with decentralised generation**

In addition, pursuing nuclear power would require locking the future electricity system into large centralised generators and a national grid. This has been pointed out by the government's own

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<sup>43</sup> BERR (2008) "MEETING THE ENERGY CHALLENGE The Future of Nuclear Power: Analysis of consultation responses" <http://www.berr.gov.uk/files/file43206.pdf>

advisors the SDC: 'By investing in big box grid rather than local energy, you are fixing us in to something considerably less efficient for another generation,' SDC chair Will Day."<sup>44</sup>

### 3.4 The NPS's emphasis on "predict and provide" conflicts with efforts at demand reduction

In EN-1, sections 3.3.16 to 3.3.19 grossly underestimate the potential for reducing electricity consumption through demand management. By setting out the arguments *against* demand management, the targets for achieving a low carbon society are, we suggest, set too low<sup>45</sup>. In effect, the government, in its desire to see new generation capacity, seems to be undermining the likely success of its own carbon reduction drive. Barriers to demand management that are cited include the electrification of heating and of transport (see comments below on electric cars), the unwillingness of business and households to change behaviours (should energy policy and planning be predicated on the impossibility to change behaviour?) and a growth in the number of households (in which case, containing the growth in numbers of households should be the Government's priority, rather than predicting and providing for increased consumption). Many of these arguments appear defeatist and/or misdirected to us.

The forecasts and summaries of the need for new energy generation capacity built into section 2 (of EN-6) also follow a policy of "predict and provide" which is contrary to a presumption of reducing carbon emissions through a reduction of energy consumption ("demand management") as an overall strategy most likely to fulfil Government's legally-binding targets. The transport (particularly road) sector supposedly abandoned "predict and provide" as an overall strategy in the mid-1990s (SACTRA 1994<sup>46</sup>). We believe it would be very unwise for the Government to hold to this discredited approach as its framing for energy policy.

To cite section 2.1.3 (EN-6), whilst we agree that "if the UK is to meet its objectives on climate change and become a low carbon economy, it needs its electricity supply to be almost entirely 'decarbonised' by 2050", it has not been adequately demonstrated that, "to achieve this nuclear power needs to be part of the UK's energy mix alongside renewable energy and coal with carbon capture and storage (CCS)". Based on a "predict and provide" approach, this simply reinforces "business as usual" on the demand side, and replicates the centralised and wasteful nature of energy infrastructure on the supply side. Section 2.2.2 (EN-6) outlines the "energy gap" and the

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<sup>44</sup> Will Day speaking to the Ecologist Magazine "Government approves ten new sites for nuclear power"  
[http://www.theecologist.org/News/news\\_round\\_up/358600/government\\_approves\\_ten\\_new\\_sites\\_for\\_nuclear\\_power.html](http://www.theecologist.org/News/news_round_up/358600/government_approves_ten_new_sites_for_nuclear_power.html)

<sup>45</sup> See also the following Briefing from Friends of the Earth who make this point.  
[http://www.foe.co.uk/resource/briefings/energy\\_nps\\_evidence.pdf](http://www.foe.co.uk/resource/briefings/energy_nps_evidence.pdf)

<sup>46</sup> In summary SACTRA 1994 pointed out that increased capacity (of road space) induced increased consumption (i.e. higher traffic levels), therefore it was misguided to build a way out of traffic congestion. The analogy to energy capacity and consumption is valid when increasing capacity assumes and also thereby helps create the conditions for increases in consumption.

supposedly indisputable need for more generating capacity. It contains hidden assumptions with serious consequences:

“To maintain levels of energy security similar to today, and because electricity is an essential component of any modern society, there is a need to replace capacity. The option of not doing so is not tenable. This is because of the harmful impacts on human health that could arise as a result of interruptions to essential services such as hospital equipment, water and sewage treatment facilities and public safety arising from interruptions to traffic and train signalling infrastructure and security systems.”

In the summary quoted above, for the NPS, replacing capacity is necessitated by the “need” to “maintain levels of energy security similar to today, and because electricity is an essential component of any modern society”. However, this neglects the possibility of reducing electricity usage whilst maintaining a modern society. *This* should be the aim of climate change, carbon reduction and energy policies.

The government’s illogical argument in EN-6 on this issue results in alarmist implications which we refute. For example, ‘interruptions to essential services’ would result only if energy was to be used by industrial, commercial and domestic consumers, and supplies to essential public services were, on the other hand, threatened. This SHOULD be an unthinkable policy. The consequences predicted, therefore, do not logically follow.

Section 2.2.3 (EN-6) backs up “need” with increased electricity usage under a reduced-consumption forecast/model. This increase is based in large part on the assumption of increased electric car usage (suggested in EN-1, section 3.1, Summary of Need, and section 3.2.1: “demand for electricity will increase if electric vehicles are widely deployed”), but this is highly speculative and in any event should not be the focus of low-carbon transport policies. Substituting electric cars for petrol and diesel ones does not address the “lock in” to the automobility and air transport systems which are at the base of the unsustainability of the transport sector, or the embodied energy required to replace substantial numbers of cars/vans with brand new electric fleet. Instead, the proven carbon-saving effectiveness of other transport modes should be exploited through spatial planning and transport policies, rather than shifting fossil fuel consumption and carbon dioxide emissions from the internal combustion engine to the energy-inefficient electricity generation sector.

### 3.5 The NPS falsely invokes the IROPI principle

The draft Nuclear NPS, and its presumption for “*Imperative Reasons of Overriding Public Interest* (IROPI)” are flawed<sup>47</sup>. The legislative context for IROPI is in terms of methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC during the Assessment of plans and projects significantly affecting Natura 2000 sites<sup>48</sup>. It states that ‘the public interest must be overriding’. ‘[T]he public interest **can only be overriding if it is a long-term interest**; short-term

<sup>47</sup> EN-6 Annex A p.269

<sup>48</sup> See Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (2001) p.14 [http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura\\_2000\\_assess\\_en.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf)

economic interests or other interests which would only yield short-term benefits for society **would not appear to be sufficient to outweigh the long-term conservation interests protected by the directive.**'

Paragraph A3<sup>49</sup> states 'In the absence of suitable alternative solutions, or in the presence of solutions potentially having more negative consequences on the Natura 2000 site(s) concerned, the Government examined the existence of IROPI to justify adopting the plan.'

As argued in Section 3.1, 3.2, 3.3 and 3.4 of this document the 'need' for nuclear power has not been demonstrated, and therefore cannot qualify as an imperative reason for overriding public interest. The assumption that the need for nuclear power has been properly demonstrated and that this 'need' will constitute IROPI is, we suggest, a false assumption. Paragraph A3 also falsely assumes an absence of suitable alternatives to nuclear such as Combined Heat and Power, greater end-use efficiency, greater system efficiencies and efficiencies of scale, and renewable technologies.

Paragraph A4 of EN-6 suggests: 'In demonstrating IROPI the Government acknowledges that the plan has the potential to have an adverse effect on the integrity of Natura 2000 sites, including possible impacts on priority habitats (coastal dune, heathland, dune grassland and lagoons). However, the grounds for IROPI in this case relate to the protection of human health and public safety, and to beneficial consequences of primary importance for the environment. In accordance with Article 6(4) of the Habitats Directive the Government is therefore not seeking an opinion from the Commission, despite the presence of priority habitat types within sites which may be affected.'

This paragraph, A4 of EN-6, quoted above, implies that the only conflict at stake is with Article 6 (4) of the Habitats Directive and not Pillar 2 of the Aarhus convention (as shown in the Introduction to this document, p. 3 above) which enshrines the 'right to public participation in environmental decision-making', and 'the right to review procedures to challenge public decisions that have been made'. This would appear to be rather a major oversight.

Furthermore there is a major unsubstantiated assumption here that the invocation of IROPI to justify nuclear new build will 'protect human health and public safety'. However, it is not at all clear that nuclear power would protect human health and public safety<sup>50</sup>. Furthermore as evidenced below the use of nuclear power to attempt to mitigate against climate change is deeply contested.

### **3.6 The NPSs are inadequate/confusing/dangerous as binding planning policy**

This section outlines how the advice given in the NPSs is sometimes contradictory and confusing as planning advice. On this basis the NPSs cannot be seen to "provide the IPC with the information it

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<sup>49</sup> EN-6 Annex A p.269

<sup>50</sup> See SDC Paper 6: Safety and security An evidence-based report by the Sustainable Development Commission with contributions from Large & Associates and AMEC NNC March 2006 <http://www.sd-commission.org.uk/publications/downloads/Nuclear-paper6-SafetyandSecurity.pdf>



needs to reach a decision on whether or not to grant development consent” (Consultation Question 17).

### ***3.6.1 Because of lack of democracy (local input etc)***

The criticisms of the NPS-IPC system of infrastructure planning have been well rehearsed by many organisations, united in condemnation of the removal of the right for citizens in a locality to have meaningful input into consultations on local developments. See, the points in our Introduction (p. 3) on the legal necessity of genuine public consultation if not participation under the Aarhus Convention.

“The planning system depends on public consent. That is why, as well as speeding up the process, the new system has more opportunities for public engagement in decision-making” (CNPS, p.6). This assertion in the introduction by the Secretary of State sets a disingenuous tone for the introduction of the NPS-IPC planning reform. The Executive Summary of the full consultation document outlines that: “The public will also have the opportunity to engage in the planning process during the IPC’s examination of applications. Individuals and groups will be able to send views in writing; those making relevant representations will be able to attend and speak at hearings held by the IPC (subject to the IPC’s powers of control over the conduct of the hearing).” (CNPS, 10) This does not represent an extension of opportunities for public engagement beyond the bare minimum of written responses already existing, and the power of the IPC to control inclusion in the process also represents a “closing down” of the decision making process (see Section 1) in comparison with traditional planning processes and public inquiry opportunities. In short, the IPC will be able to select the evidence it wishes to hear from the public.

Thus the “public consent” on which the Secretary admits the planning system depends could be seriously eroded by the reforms to introduction of the NPS-IPC system. Frustration with the ineffectiveness of the consultation process and the lack of public opportunities to influence decision making may paradoxically create a withdrawal of consent or even fuel opposition activities<sup>51</sup>.

It is likely that these measures will undermine the legitimacy of national and local authorities in relation to public confidence, as democratic procedures and accountability give way to governmental NP priorities via IROPI.

Section 1.15 p21 of CNPS spells out that the new planning regime is aimed at giving “clarity and a higher degree of predictability” to applicants. This aim is not questioned by us. Section 1.16 claims that: “This will give applicants a clearer framework with a higher degree of predictability and a planning environment in which they can make investment decisions with more confidence. At the same time, the new regime aims to be more transparent and to facilitate participation in decision-making, strengthening the voice of communities”.

This would certainly be a clear framework within which applicants could make confident investment decisions. It would however seriously compromise democratic accountability.

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<sup>51</sup> See outputs from the research project ‘Beyond Nimbyism: A Multidisciplinary Investigation of Public Engagement with Renewable Energy Technologies’ ESRC grant RES-152-25-1008-A, [http://geography.exeter.ac.uk/beyond\\_nimbyism/index.shtml](http://geography.exeter.ac.uk/beyond_nimbyism/index.shtml)

### ***3.6.2 Because of narrowness of remit of IPC's terms of reference***

Sections 1.21 and 1.22 (of the CNPS) spell out how the NPSs will be used to dismiss any discussion of policy merits or representations based on them, at the IPC consent stage. This is a fundamental aspect of the new regime where ***discussion is totally closed down***, and is the main flaw of the proposed system in democratic terms. In short, once these NPSs are confirmed by the government, no individual or organisation can attempt to raise criticism of the policy approach which the NPSs lay out.

Section 1.41 (of the CNPS) appears to address this point by stating that: “The draft energy NPSs are not intended to be exhaustive in their coverage of impacts and other issues. The IPC will also consider any other impacts it considers to be both important and relevant to its decisions. The omission of an impact from the energy NPSs will not affect the weight which the IPC may decide to give to it.” This, although encouraging, would not appear to be consistent with dismissing “representations relating to the merits of policy set out in an NPS”. Surely questioning the merits of a policy by pointing out impacts that have not been thought through should be allowed by the IPC according to section 1.41. The advice, in planning terms, is confusing and unclear.

### ***3.6.3 Because of lack of redress/review***

Section 1.22 (of the CNPS) stresses that the NPS can be over-ridden if its advice would “result in adverse impacts of the development outweighing the benefits”, and yet the possibility of arguing about the adverse impacts in terms of the merits of policy such as (in the case of nuclear new build based on a repository disposal waste management concept) intergenerational equity have been removed from the planning process altogether in construction of this NPS (see above). Therefore the NPS is “not fit for purpose” in that it removes the possibility of discussion of review which is essential in a democratic system. It is unclear whether or not the NPS advice allows the IPC to consider adverse impacts or not, if the discussion of adverse impacts is viewed as discussion of policy merits.

Section 1.30 of the CNPS reveals that Secretaries of State can introduce amendments to NPSs, and such amendments “must undergo an Appraisal of Sustainability, public consultation and Parliamentary scrutiny, unless the Secretary of State thinks that the amendments do not materially affect the policy in the NPS”. The onerous procedure for amendment might lead politicians to be wary of changing anything material in the NPSs, even if they consider such change needed. Both aspects, the fact that only the Secretary of State will have the power to vary the advice to the IPC and the onerous process for implementing such variations, make the new planning process highly inflexible to changes in knowledge or energy policy in the future.

### ***3.6.4 Because of the presumption of (early) consent***

Section 2.4.3 (of EN-6) is particularly worrying (especially given the issues raised in the Section 4 of this response about waste management) in suggesting that this NPS will oblige the IPC to give extra weight to early and more quickly implementable proposals. Locking the country into a particular form of energy production for the rest of the century is a significant decision, and until legacy and potential new-build waste management has been satisfactorily resolved, there is no basis for instructing the IPC to wave through early-as-possible proposals: “it is in the public interest to give priority to sites listed in this NPS where new nuclear power stations can be developed significantly earlier than the end of 2025. The IPC should give significant weight to the benefits that will arise

from significantly earlier development of new nuclear power stations.” This is phrased as clear and strong planning advice to consent quickly, when the issues discussed below are far from resolved.

Section 2.5.6 (EN-6) states that “France has already demonstrated that it is technically feasible to build nuclear power stations at the rate that would be needed in the UK if new nuclear power stations were to be constructed on all 10 sites listed in this NPS”. France has also demonstrated that violent demonstrations met with deadly force were involved in the roll-out of such a policy<sup>52</sup>. It may not be *politically and socially* feasible to do what the NPS suggests, even if it were *technically* feasible, because of a lack of public acceptability and a resulting massive rise in security and policing costs.

Section 2.5.6 goes on to advise that “Without prejudging the IPC’s decision on any application, it is, therefore, important for the IPC to consider and grant consent at a rate that is consistent with the rate at which energy companies may wish to build new nuclear power stations.”

We do not understand how installing in national planning policy advice the importance of granting consent at a rate consistent with the rate of applications, when this advice is to be considered as a material matter in the consent considerations, represents anything but a prejudging of the decisions on the applications. The inconsistency in this statement is indicative of the emphasis given by DECC to the principle of IROPI (see Section 3.5) over democratic scrutiny and accountability.

Section 1.6.1 of the NNPS states that its “objective is to deliver new nuclear power electricity generation on the sites listed in this NPS by the end of 2025.” This is a bald statement of intent, and the draft NPS confers a presumption in favour of development; the NPS only offers guidance on mitigation, rather than acknowledging that some impacts would be so serious that mitigation would not be able to sufficiently reduce them and could be grounds for refusing development consent. The structure and content of this document which is supposedly up for consultation prejudices application decisions through clear instructions on the expected outcomes.

### ***3.6.5 Because of a flawed justification of nuclear power***

Section 2.3.1 (EN-6) asserts that “Nuclear power is low-carbon, economic, dependable, safe, and capable of increasing diversity of energy supply and reducing our dependence on any one technology or country for our energy or fuel supplies. Excluding nuclear power as an option for generating electricity would make it harder and more expensive to meet our emission targets. It could also jeopardise the security of the UK’s energy supply.”

Of these assertions, only diversity is logically supported (as a truism). Different economic assessments, especially those involving the costs of decommissioning, waste management etc, do not render nuclear power economic, especially over the long term. It is only as dependable as any large piece of operating plant, and shut-downs of reactors (usually for safety reasons) are a common and familiar factor in their normal operations. It would increase dependency on one particular technology or rather on a particular form of large-scale, centralised supply system, and on supplies of fuel from the two countries currently supplying uranium to the UK, which hardly represents a

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<sup>52</sup> “In Creys-Malville, France, in 1977 thousands of antinuclear activists battled riot police, and in the ensuing battles one citizen was killed and another five seriously wounded.” Aldrich, D. (2003) “Controversial Project Siting: State Policy Instruments and Flexibility”, *Comparative Politics* 38/1, pp. 103-123 <http://www.jstor.org/stable/20072915>

response to energy security in comparison with decentralised and fuel-less renewable energy systems. The idea of comparing nuclear (in a diverse energy portfolio) with dependence (on a single technology or fuel) in section 2.3.3ff is therefore a straw man, an illusory choice, especially given the concerns that nuclear power will absorb a disproportionate amount of finance and resources in the development of low carbon energy infrastructure.

The safety of nuclear power has been challenged over the decades, is in doubt in the public domain (and therefore does not have “public consent”), and accidents would be catastrophic in comparison to other energy generation technologies. Section 2.3.9 ties nuclear power’s “proven” nature to the willingness of business to invest in it (based in turn on it “generating sufficient returns”). This is not the definition of a proven technology and should not be used as such. If the NPS is about public interest and need, then it should not be founded on the market.

The low carbon assertion is also deeply problematic. The SDC suggests that any carbon benefits from nuclear new build would take years to be realised<sup>53</sup>. In addition, as Greenpeace also note, the DTI Energy Review Consultation document, issued in January 2006 suggests: ‘Nuclear power plants emit almost zero carbon, and could therefore contribute to the Government’s goal of reducing emissions. However the mining, refining and enriching of uranium and plant construction and decommissioning are carbon intensive processes, especially when low quality uranium is being processed’<sup>54</sup>. One product of this processing is uranium hexafluoride – another potent greenhouse gas. No mention of these issues which should be part of the public debate is found in EP1 or EP6.

## **Section 4: The fallacy of nuclear waste disposal**

### **4.1 NNPS (EN-6) is based on the fallacy of a solution for legacy and therefore new build wastes**

Amongst our most serious concerns relate to section 3.8 of EN-6, and its conclusion that “Having considered this issue, the Government is satisfied that effective arrangements will exist to manage and dispose of the waste that will be produced from new nuclear power stations” and “As a result the IPC need not consider this question” (Section 3.8.20). The idea that disposal arrangements will be in place to deal with legacy wastes, never mind new-build ones, is simply an assertion of overweening ambition and confidence, not a rational assessment of the history and current state of (international) nuclear waste management policy.

There are a number of grounds for asserting that the Government’s satisfaction is not grounded, and that it is not even grounded based on the considerations put forward in this consultation document. Our objections to this satisfaction are based on a number of nested reasons, explored below.

<sup>53</sup> <http://www.sd-commission.org.uk/publications/downloads/IsNuclearTheAnswer.pdf> p.4 in Greenpeace 2007: 21.

<sup>54</sup> <http://www.dti.gov.uk/files/file25079.pdf> p. 64, in Greenpeace 2007: 21.

#### **4.1.1 Legacy (inventory) wastes and new build wastes are qualitatively different**

In the Government's summary of public deliberation on the future of nuclear power<sup>55</sup>, the public responses sum up concerns about nuclear waste and express a desire not to see new wastes created by new build:

- "The creation of waste, both now and for future generations, was of primary concern to participants.
- However, participants felt unsure about how to gauge acceptable levels of future waste. For some participants, no level of nuclear waste is acceptable.
- At the start of the day, and prior to hearing any specific information on waste and safety issues, 90% were concerned about the creation of new nuclear waste. Following discussions on the issue, participants' overall level of concern did not alter (89.5%).
- The main concerns were about the long-term timescales involved and therefore the certainty of storage and costs of waste.
- Opinion on the justification of producing new nuclear waste was divided. Many participants struggled to reconcile how something which could offer potential environmental benefits in terms of CO2 emissions could also have serious environmental implications in terms of the hazardous waste produced....
- ***Following a discussion about dealing with current and future waste, participants were asked how satisfied they were with the Government's proposal to manage new nuclear waste in the same way as existing nuclear waste. 24% were satisfied overall whilst 51% were dissatisfied.*** (emphasis added)

The clear message from the Government's own engagement exercises<sup>56</sup> is that **the development of new-build nuclear power is not supported by the public**, based largely on concerns about waste.

There are both technical and ethical differences between legacy and new build wastes. The technical differences have been raised by other organisations, and are summarised by the NWAA in their document.<sup>57</sup> They point out that new build waste "(known as 'high burn up fuel') would be physically hotter and also far more radiotoxic"<sup>58</sup> requiring longer interim storage. NWAA point out that the Environment Agency is yet to carry out its Part 3 consultation on the NDA's Generic Design Assessment (GDA) and its 'disposability arrangements' (expected in Spring 2010), meaning that section 3.8.10 of the EN-6 consultation document is unfounded, as the NDA's GDA is there relied upon to prove that new-build wastes are compatible with legacy wastes and disposable by the same means.

In addition, members of the public who can expect to be long-term hosts to nuclear waste will not have a chance to be consulted on the arrangements until after the NPS consultation has determined

<sup>55</sup> BERR (2008), *Meeting the energy challenge: The Future of Nuclear Power, Analysis of consultation*, [www.berr.gov.uk/files/file43206.pdf](http://www.berr.gov.uk/files/file43206.pdf) p.104

<sup>56</sup> Ibid p104

<sup>57</sup> See: **NWAA** Submission to the House of Commons Energy and Climate Change Committee Inquiry into the Energy National Policy Statements" January 2010, section 1.9 (p.4) and section 15 (pp.16-17) <http://www.nuclearwasteadvisory.co.uk/page.asp?Id=3&preview=0>

<sup>58</sup> Ibid p16

their potential status as hosts. This is unacceptable given that potential new-build host communities would also be waste management communities for up to 160 years (60 years operation and 100 years initial waste cooling), without having volunteered to be such, as proscribed by the CoRWM MRWS process.

There is also the ethical objection that has been raised by many different actors through the CoRWM and MRWS processes, that whilst there may be some ethical argument for finally dealing with wastes that were produced without thought for a management and disposal policy, and which would otherwise represent a burden on future generations that have seen no benefit from the processes that produced the burden, this cannot be converted into an argument for creating more such wastes for which there is no certain or effective management and disposal solution. Imposing a burden on the future which is more certainly known (to be a costly and uncertain burden) than that which we have inherited, through the creation of an “unpredictable and unnecessary burden of radioactive wastes from a new build programme”<sup>59</sup> is unjustifiable, both in terms of its lack of necessity (see earlier sections addressing “need”), and the fact that we have learned to our cost that creating waste without having a satisfactory solution to it is burdensome.

Furthermore, **‘CoRWM made clear that its recommendations did not suggest a green light for new nuclear build.’** The political and ethical issues raised by the creation of more wastes are quite different from those relating to committed —and therefore unavoidable — wastes, the committee argued<sup>60</sup>.

#### ***4.1.2 No solution has been proposed for new build wastes***

As Blowers<sup>61</sup> points out, the point above means that the “ethical issues surrounding radioactive waste were a major reason why CoRWM<sup>62</sup> was quite clear in stating that a new-build programme would require ‘a quite separate process to test and validate proposals for the management of the wastes arising’. It follows then that:

***“Any new build programme should not proceed until it has been subjected to a thorough process of citizen and stakeholder engagement on the issue of radioactive waste including the quite distinctive and separate ethical issues that arise.”***

#### ***4.1.3 MRWS/CoRWM processes still being explored***

Adding new-build wastes to legacy wastes, for joint management and disposal (this, we assume, is the intention of the Government), means that consent and volunteerism may be detrimentally affected even while those processes and approaches are being tested out for legacy wastes in the UK: it would make the decision to volunteer as a host community for geological disposal a potentially open-ended one, to host as much waste as may subsequently be decided. No such decision can truly be represented as informed consent, which has been the basis for an ethical approach in policy for

<sup>59</sup> Blowers, A. (2008), Radioactive Waste And New Nuclear Build – The Ethical Issues, in Dorfman, P. (Ed.) Nuclear Consultation: Public Trust In Government, Nuclear Consultation Working Group. p.27

<sup>60</sup> ‘A blatant failure of moral vision’ Tim Jackson The Guardian, 16 January 2008  
<http://www.guardian.co.uk/environment/2008/jan/16/nuclearpower.energy>

<sup>61</sup> Blowers (2008)

<sup>62</sup> CoRWM (2006) p.15

some decades. Blowers<sup>63</sup> again summarises that “While effective implementation will be difficult for legacy wastes, it will become almost impossible if new build is added. In particular it will be very difficult to provide accurate and credible information on the extent of the community’s future commitment to hosting radioactive wastes.... **All communities which express a willingness to participate must be able to understand the extent of the commitment they are making. New build waste must be ruled out on the grounds that it represents an open ended commitment on the part of a potential host community.**”

The CoRWM recommendations of 2007 unequivocally stated that: “The construction and operation of a new generation of nuclear power stations will make it difficult to define a waste inventory once and for all; there will be uncertainties over the volumes of waste and the timescale over which they will be generated’<sup>64</sup>. As Nuclear Engineering International observe: “In other words, besides the fact that CoRWM’s recommendations do not apply to waste arising from new build, should this be overruled, then the inclusion of new build waste would jeopardise a waste repository programme.”<sup>65</sup> In practice the process of voluntarism for finding a host community is very much at an early stage (only the Sellafield area, West Cumbria, has expressed interest) and problems and objections have been raised by elements within the organisation that has been formed to explore the process, the West Cumbria MRWS Partnership. The Cumbrian Association of Local Councils, for example, issued a discussion paper in January 2010 based on “dissatisfaction with the way the national MRWS process is playing out” and urging that with “such widespread scepticism about the MRWS process in West Cumbria, CALC believes that the Partnership should take a hard look at the way it is functioning and consider making significant changes”. It is far too early for the government to be able to state with any certainty that the MRWS process will succeed in establishing a disposal host community for legacy wastes.<sup>66</sup>

#### **4.1.4 No commitment to MRWS/CoRWM process from Government in NPS**

“3.8.15 The Government is committed to making the voluntarist and partnership approach to site selection work through the MRWS process. However, the Government recognises it has a responsibility to deal with long-term higher activity waste management and is committed to geological disposal as the technical solution, such that it will seek to develop alternative ways to implement that solution if the current framework, as set out in the MRWS White Paper, ultimately proves to be unsuccessful in the UK.” (EN-6, 24)

This statement in the EN-6 makes a mockery of the MRWS process if, having given the commitment to making this voluntarist and partnership approach work, the Government via the IPC have the power to ignore and circumvent it. This is to the detriment of public trust and confidence in these issues. What are these alternative ways of implementing the solution? And how, given the IROPI principle, would they be given over to proper public scrutiny? What would count here as being

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<sup>63</sup> Blowers (2008)

<sup>64</sup> DTI p177

<sup>65</sup> Nuclear Engineering International (2008) *Decontamination and decommissioning: New unclear liabilities*, <http://www.neimagazine.com/story.asp?storyCode=2048544>

<sup>66</sup> West Cumbria MRWS Partnership CALC Paper for Discussion CoRWM doc. 2753

‘unsuccessful’? Would this be on cost grounds, scientific /geological or other grounds? The text referred to in a footnote to the text above offers further support for the advised path:

“6.1 Government believes that nothing has emerged from the MRWS consultation that alters its view that an approach based on voluntarism and partnership is the best means of siting of a geological disposal facility.”<sup>67</sup>”

The following section essentially overrules this stated commitment? “6.5 In the event that at some point in the future, voluntarism and partnership does not look likely to work Government reserves the right to explore other approaches.” The government’s pronouncements on voluntarism are unconvincing and confusing.

#### ***4.1.5 Legacy (inventory) wastes do not have a solution yet***

“The Sustainable Development Commission said they were ‘very sceptical’ about the Government’s statement that it is ‘satisfied that effective arrangements had been made for nuclear waste’, in evidence to the Energy and Climate Change Committee. ‘If we haven’t gone far enough down the line of actually constructing a process to deal with the legacy waste [waste from present and past nuclear programmes], should we be adding to the problem by commissioning new reactors’, asked Greenleaf.”<sup>68</sup>

This brings us to the objection, which has also been raised by other consultees, that it is **factually inaccurate** to state that effective management and disposal arrangements exist even for the legacy wastes here and abroad:

“[T]here is, as yet, no proven technical solution for the long-term management of radioactive wastes. The creation of more wastes cannot be justified unless there is a scientifically sound and socially acceptable solution”<sup>69</sup>.

“[T]he assumption that adequate arrangements for the long term management of radioactive waste from new reactors will exist when required is unfounded and therefore renders the NPS invalid at this point in time. Co-disposal of legacy and new build wastes was neither examined by CoRWM(i) nor considered within the extensive public consultation held in conjunction with CoRWM(i).”<sup>70</sup>

We concur with CoRWM that the problems with the Government’s assumed “solution” are both technical and social/political/ethical. These problems are addressed next.

#### ***4.1.6 Technical doubts about interim storage/disposal option***

CoRWM recommendations do not support Geological Disposal in a Repository as a “solution” to RWM. They offer it as the best approach, hedged with a suite of caveats. Section 3.8.7 of the EN-6 document cites them as recommending that: “within the present state of knowledge, geological

<sup>67</sup> Managing Radioactive Waste Safely (MRWS) p47

<sup>68</sup> Ecologist 15th Jan 2010  
[http://www.theecologist.org/News/news\\_round\\_up/398268/sustainability\\_watchdog\\_slams\\_governments\\_energy\\_plans.html](http://www.theecologist.org/News/news_round_up/398268/sustainability_watchdog_slams_governments_energy_plans.html)

<sup>69</sup> Blowers 2008, p.27

<sup>70</sup> NWAA 2010 submission, p.5



disposal is the best available approach for the long-term management of all the material categorised as waste in the CoRWM inventory when compared with the risks associated with other methods of management.”<sup>71</sup> The 4<sup>th</sup> recommendation added a caveat, that the repository approach should be pursued only with an “intensified programme of research and development into the long-term safety of geological disposal aimed at reducing uncertainties at generic and site specific levels’. Such uncertainties are what render recommendation 1 so contingent “within the present state of knowledge”, and they explain why the 5<sup>th</sup> recommendation calls for flexibility, for example if a geological disposal concept should with future research prove unfeasible.

What grounds are there for believing that a geological disposal concept (hereafter “a repository”) is not technically feasible? The grounds given in the EN-6 document itself are far from conclusive.

Section 3.8.9 of the EN-6 document asserts that: “A number of geological disposal concepts, based on the use of multiple containment barriers, have been shown to be capable of meeting high standards of safety and security<sup>71</sup>. The technology to implement these disposal concepts, such as engineered barriers and materials, is already available<sup>72</sup>”.

Footnote 71 cites the OECD Nuclear Energy Agency as publishing “a statement that geological disposal provides an acceptable and technologically feasible method” (EN-6, 22), whereas the NWAA 2010 point out that an EU Joint Research Centre report highlights 40 technical issues with the currently envisaged geological disposal concept, including the problems associated with the assumed performance of clay backfill used in the OECD NEA concept.<sup>72</sup>

Footnote 72 cites the 2008 Environmental Impact Assessment produced by Posiva.<sup>73</sup> But Posiva’s work has been criticised on a number of fronts. First, it is claimed that their safety case rests in turn on the Swedish safety case, which has not been assessed and passed by the appropriate regulator (the Swedish Radiation Safety Authority), and will not be for 3 to 4 years. An assessment of Posiva’s EIA carried out for the Finnish Radiation and Nuclear Safety Authority (STUK) has raised a number of issues also summarised by NWAA (2010) in their Annex E. In Sweden too there are doubts: “the interactions between barrier properties, processes and events during the long period of time are very complex. Even after three decades of extensive research and development, considerable uncertainties remain with regard to the description of processes, events and barrier properties, as well as with regard to the calculations of the repository’s ability to prevent radionuclides from escaping and harming man and the environment.”<sup>74</sup> Further uncertainties have been raised by the NWAA among others, centring on the feasibility of the proposed copper containers, with a recent paper reassessing corrosion of copper and suggesting that ‘According to a current concept, copper canisters of thickness 0.05 m will be safe for nuclear waste containment for 100,000 years. We show that more than 1 m copper thickness might be required for 100,000 years durability based on water exposures of copper for 20 h, 7 weeks, 15 years, and 333 years...These findings cast additional doubt

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<sup>71</sup> CoRWM 2006, p.111

<sup>72</sup> NWAA 2010, Annex C

<sup>73</sup> the Finnish nuclear waste company that will be responsible for disposal

<sup>74</sup> *Report 2007:2e from the Swedish National Council for Nuclear Waste Safety assessment of final disposal nuclear waste – role, development and challenge*

on copper for nuclear waste containment and other important applications.<sup>75</sup> As other contributors have pointed out, if a metre thickness of copper containment is required for high levels wastes, the disposal concept becomes impossibly expensive and unrealistic.

In addition, contrary to the ideal of a hermetically sealed underground nuclear repository the reality of deep disposal concerns a much more dynamic space engineered to interact with its surroundings. Such interactions will occur in unpredictable ways. Far from being designed to 'isolate' the radioactive waste material, the repository and concrete is designed to be porous and let ground water in to cool the material.<sup>76</sup> Furthermore the chamber has to be vented (to allow hydrogen gas to escape) and even the drums too are porous. Add to this the possibility of CH<sub>4</sub> (Radioactive methane being produced from the corrosion of the steel drums over 40 years) and the tendency of CH<sub>4</sub> to escape i.e. go upwards through the ventilation designed for the hydrogen release. There is also considerable uncertainty about the tendency of ground water to leach in and out of the porous repository.

#### ***4.1.7 Ethical concerns with disposal option***

We refer again to Blowers<sup>77</sup> as the most succinct summary of the ethical issues surrounding radioactive waste and the proposed geological disposal "solution". Intergenerational equity has been identified as the key ethical issue relating to radioactive waste management, due to the long timescales of radioactive decay. He suggests that combining intergenerational equity with issues of choice and participation in decisions leads to an argument against disposal, as: "it may be argued that geological disposal cannot provide sufficient assurance about safety in the very long term and, consequently, wastes must be stored or be retrievable for the foreseeable future. This position also enables future generations to participate in decisions affecting them." In addition, different ethical positions on intergenerational equity that lend support to either storage or disposal are equally affected by a decision to proceed with new build, given that: "the time-scales involved in finding a site, constructing and operating a repository before closure are likely to involve one or more generations up to a hundred years or so. If new build wastes are added then the time-scales of implementation stretch forward interminably. In short, whatever view is taken about the extent of responsibility to the future, new build will inevitably impose a greater and longer lasting burden of radioactive waste. Radioactive wastes will require secure and safe storage and, if eventually disposed of, will need, for some time, careful and continued monitoring."

## **4.2 Conclusion**

We conclude this submission with a brief summary of the points we would like the government to consider.

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<sup>75</sup> See: G.Hultquist, P.Szakalos, M.J.Graham, A.B.Belonoshko, G.I.Sproule, L.Grasjo, P.Dorogokupets, B.Danilov, T.Aastrup, G.Widmark, G.K.Chuah, J.C.Eriksen and A.Rosengren, Catal.Lett., DOI 10.1007/s10562-009-0113-x, published online; 28 July (2009)

<sup>76</sup> See <http://www.sgr.org.uk/newsletters/NL36.pdf> p.12

<sup>77</sup> Blowers 2008 p.31

We believe the government's public consultation process on the draft National Policy Statements for Energy Infrastructure to have been an inadequate consultation process, one that 'closed down' many issues of legitimate public interest and debate, and one that is thus in breach of the Aarhus Convention and the government's responsibilities to public participation in environmental decision making. Second, we believe that the NPSs relevant to our response (EN-1 and EN-6) are in conflict with existing government policies and objectives - including policies of sustainability, commitments to renewable technologies, lifestyle change, and energy demand reduction policies. Thirdly we believe that the NPSs falsely invoke the IPROI principle, further restricting the already highly limited opportunities for public scrutiny of infrastructural projects. Finally, we believe that NPS EN-6 is based on a false assumption that suitable waste management procedures will be in place by the time new-build nuclear reactors are operational. We suggest that this assumption is problematic for both technical and ethical reasons.

In answer to the two important questions set by the consultation: first, as to whether the draft energy National Policy Statements (NPS's) are 'fit for purpose' (that is, whether they provide a suitable framework for the new Infrastructure Planning Commission to make decisions on applications for consent for nationally significant energy infrastructure), our response is 'No' . We do not consider either the Overarching National Policy Statement for Energy (EN-1), or the draft National Policy Statement for Nuclear Power Generation (EN-6) to be 'fit-for-purpose' as frameworks for energy, or nuclear power, decision making.

Second, the government has also sought views on its assessment of arrangements to manage and dispose of waste from new nuclear power stations. Our response here is that we are not confident about the government's assessment that 'effective arrangements to dispose of waste from new reactors will exist' (EN-6, consultation question 19).