

Robin Clarke  
OPM  
252b Gray's Inn Road  
London  
WC1X 8XG



22 February 2010

Dear Robin,

### **Consultation on draft National Policy Statements for Energy Infrastructure**

EDF Energy is one of the UK's largest energy companies with activities throughout the energy chain. Our interests include nuclear, renewables, coal and gas-fired electricity generation, combined heat and power plants, electricity networks and energy supply to end users. We have over 5 million electricity and gas customer accounts in the UK, including both residential and business users.

EDF Energy believes that, as well as concerted efforts to improve energy efficiency, large scale investment in electricity infrastructure is urgently required to replace existing plants, ensure security of supply, and meet our climate change targets. It is important that the transition to a low carbon economy is progressed efficiently to ensure that the competitiveness of UK energy supplies is maintained while also ensuring the stability and affordability of energy prices. It is essential that the right decisions are made now to secure investment in large-scale low-carbon electricity generation and promote the transition to a low carbon economy incorporating a diverse energy mix.

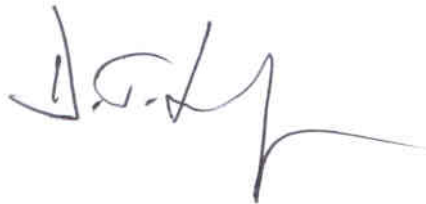
We welcome the draft Overarching National Policy Statement (NPS), together with the technology-specific draft NPSs, as they clearly set out the Government's policy for the delivery of major energy infrastructure, including new power generation facilities and the necessary transmission and distribution infrastructure. We believe that the NPSs, as currently drafted, will help establish a clear policy framework for nationally significant infrastructure projects (NSIPs) and help ensure more timely and transparent decision-making. It is our view that the NPSs should be accorded a very strong presumptive weight by the Infrastructure Planning Commission (IPC), that can only be displaced by evidence of compelling adverse local consequences that cannot be suitably mitigated by the developer.

EDF Energy agrees with the Government's conclusion on the need for new low-carbon generation by 2025, a significant proportion of which is expected to be filled by nuclear power. However, despite a strong statement of need, we remain concerned that in its current form, the draft still does not fully inform the IPC of the Government's climate change policy objectives and the role that low carbon generation has to play in achieving these objectives. We believe it would be useful to reinforce the policy context by making an explicit reference to the UK's legally binding target to deliver an 80% reduction in carbon emissions by 2050, which was established in the 2008 Climate Change Act. This will entail the almost complete decarbonisation of the power sector over the next 20 years or so. The IPC should be made explicitly aware of this essential long term requirement for low carbon generation in the UK as this will help provide a much needed longer term context to its decision making.

Reaching the generation figure quoted in the NPS for 2025 is not the end goal in itself and is simply a milestone on the path towards longer term climate change mitigation objectives. EDF Energy believes that this will require continued investment in new nuclear power stations up to and beyond 2025 and in our view establishes Imperative Reasons of Overriding Public Interest (IROPI) for investment in new nuclear build. With this mind, we believe that all the sites listed in the draft Nuclear NPS will be needed in the future, as well as Dungeness. For reasons that we cover in our response, we believe there is no valid and objective reason why the Dungeness site should be excluded at this stage.

I attach our detailed response to the consultation in the attachment to this letter. If you have any queries on this response, please do not hesitate to contact my colleague Ravi Baga on 020 7752 2143, or myself.

Yours sincerely,

A handwritten signature in black ink, appearing to read "D. Linford".

**Denis Linford**  
Corporate Policy and Regulation Director

## Attachment

### Consultation on draft National Policy Statements for Energy Infrastructure

#### EDF Energy's detailed response to questions 1 to 29

#### Chapter 2: Draft Overarching Energy NPS (EN-1)

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

Yes. While we have some suggestions in this response for improving this draft National Policy Statement (NPS), we believe that it is fit for purpose and should be designated. EDF Energy has supported the reform of the planning system, including the majority of the Planning Act 2008 provisions, as a means of delivering an efficient and effective system that is conducive to supporting large-scale investment in major energy infrastructure projects. However, without prompt implementation of this reform, there is a serious risk that the UK will not be able to meet its long-term objectives of addressing climate change and ensuring the continued security of its energy supplies, due to continued planning uncertainties and delays. Undertaking the transition to a low-carbon economy, incorporating a diverse energy mix, will require a sustained multi-billion pound programme of investment and we believe that this NPS is a vital component in the process of investment as it helps establish a clear policy framework for nationally significant infrastructure projects (NSIPs) and provides a strong signal of political support for secure, affordable, low carbon energy. Where a project is of national importance, its benefits may be largely national in nature but its impact may be local. It is appropriate that such projects are judged against national policy objectives but also with proper scrutiny of these benefits against any local impact. This approach will allow for a co-ordinated process for delivering environmental, economic, and social objectives and sustainable development for the UK as a whole. Separating the establishment of national need from the assessment of local impact will remove a major source of delay from planning inquiries.

As an example of a project hampered by protracted planning delays, the last nuclear power station built in the UK, Sizewell B, took over six years from planning application to consent and the public inquiry alone lasted for almost three years. However, the delays and uncertainty caused by the planning system are not restricted to nuclear projects alone. For example, EDF Energy is developing an offshore wind farm near Teesside and this project took 41 months to gain its original consent. Similarly, the time taken to fully consent the North Yorkshire grid upgrade took 77 months. These examples demonstrate that it is essential that Government policy is clear, and that the consenting process is predictable, timely and transparent to allow the private sector to come forward with confidence to invest in very large infrastructure projects and reduce the risk of any projected capacity shortages.

We recommend that the Government should finalise the draft NPSs as soon as practicable, following proper consideration of views expressed during the public consultation and the recommendations of the Energy and Climate Change Committee. Not only will this help reduce risk in the process for investors, it will also provide clarity to the Infrastructure Planning Commission (IPC) and limit the scope for re-examination of policy issues, which are properly determined by the Government. The designation of the draft NPSs after a rigorous parliamentary examination will, in our opinion, enhance the authority of the statements, ensuring both the integrity of the process as well as securing greater confidence in their actual content.

**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?**

We believe that this draft NPS helps establish a clear and stable policy framework for NSIPs and, as currently drafted, generally provides clear and specific direction to the IPC which should lead to more timely and transparent decision-making. The draft NPS provides sufficient detail for all affected parties and stakeholders, in terms of the implications of a proposed development and as a means of providing a comprehensive list of issues that they might wish to understand further. As investors, we support the need for public consultation and rigorous parliamentary scrutiny to ensure that the IPC has the opportunity to consider all the information it requires in order to make an informed decision.

The role of the NPS is to provide guidance and direction to the IPC, in effect forming a checklist of the issues to be assessed. The role of the NPS is not to provide a detailed manual on the assessment of every aspect of a development proposal. Existing practice in planning assessment (including environmental impact assessment) already involves extensive published guidance on techniques and criteria for assessing development impacts.

Should other consultees request more detail in the NPS on the treatment of environmental or other planning impacts, then it would be most appropriate to insert cross-references to other documentation and guidance. However, the primary purpose of the NPS is to articulate national need and provide a framework for the IPC to assess applications.

Additionally, we would expect there to be a type of memorandum of understanding between the IPC and the Marine Management Organisation (MMO) so that the working relationship between the two organisations is adequately defined and duplication of responsibilities is avoided.

**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?**

EDF Energy strongly supports the Government's analysis that there is a need for around 60GW of new electricity generation capacity by 2025, of which as much as possible should be low carbon. We also endorse the Government's conclusion that the UK's need for additional supplies of low carbon electricity should be based on a diverse mix, including both renewable and low carbon thermal (i.e. nuclear or, possibly, fossil with carbon capture and storage) generation.

However, despite a strong statement of need, we remain concerned that in its current form, the draft still does not fully inform the IPC of the Government's climate change policy objectives and the role that low carbon generation has to play in achieving these objectives. We believe it would be useful to reinforce the policy context by making an explicit reference to the UK's legally binding target to deliver an 80% reduction in carbon emissions by 2050, which was established in the 2008 Climate Change Act. The Committee on Climate Change (CCC), in providing its first report to Parliament in October 2009, confirmed that delivering this target will require the power sector to be almost, if not completely, decarbonised by 2050. In fact the CCC, along with other stakeholders, believes that an early reduction in carbon emissions from the electricity generating sector (to be almost entirely complete by 2030) is key to achieving this.

We believe that the IPC should be made explicitly aware of this essential long term requirement for low carbon generation in the UK. This will help provide a much needed longer term context to its decision making. Reaching the generation figure quoted in the NPS for 2025 is not the end goal in itself and is simply a milestone on the path towards longer term climate change mitigation objectives. Further investment in low carbon technology such as nuclear power will be needed beyond this date and this will depend on a number of factors including electricity demand growth assumptions, plant asset life and fossil fuel price volatility. We believe that this robustly establishes Imperative Reasons of Overriding Public Interest (IROPI) for the investment in new nuclear build. With this mind, it is more than likely that all the sites listed in the draft Nuclear NPS will be needed in the future, as well as Dungeness.

We believe that the role of the IPC should be to support the implementation of Government policy rather than to develop new policy, the responsibility of which should clearly sit with the Government. The Government has made good progress in establishing the institutions that can guide the UK towards a low carbon economy and it is important that we retain clarity on the respective roles and responsibilities of these institutions. We see that the role of the Committee on Climate Change (CCC) as being to assess the effectiveness of Government policy and advise on areas where the Government may have to do more (or less) to achieve the adopted target.

**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?**

EDF Energy believes that the case for national need for new energy infrastructure has been established and we already have well-advanced plans for investment. The Government has assessed that the generation 'gap' that new, non-renewable generation will need to fill in 2025 is around 25GW, based on analysis forecasting that 35GW (of the 60GW) could be provided from renewable sources. We believe that the 35GW figure is ambitious and represents the top end of what is likely to be delivered from renewable sources. As a result there is a significant probability that by 2025 the UK's need for new non-renewable generation could turn out in practice to be significantly greater than 25GW. It is therefore important as part of the NPS to contemplate what actions could be necessary were this renewable contribution not to be achieved, and the 'gap' to be filled by non-renewable generation turned out to be larger than currently expected.

We believe that this draft NPS, in conjunction with the technology specific NPSs, provides sufficient clarity on the need for the different types of generation. However, we feel that the draft NPSs could still benefit from strengthening the need case from 'significant' to a stronger term that reflects the critical importance of securing new investment. It is our view, that once need has been demonstrated, the NPSs should be accorded a very strong presumptive weight by the IPC that can only be displaced by evidence of compelling adverse local consequences that cannot be suitably mitigated by the developer.

**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?**

In general we believe that the principles in the draft NPS provide a comprehensive list of the issues that the IPC should consider and how they are best assessed. However, while we agree with the majority of them we believe that clarification is required on the following:

**Section 4.4: Alternatives**

We welcome the proposal that the IPC should consider alternative sites to that proposed in certain circumstances. However, we believe the NPS should state more clearly that it will not be for the IPC to ensure that the proposed development is taking place at the best site but that it should instead assess whether any local impacts would outweigh the national policy in favour of development on the site.

#### **Section 4.5: Criteria for ‘good design’ for energy infrastructure**

While EDF Energy is not opposed to the principle of energy infrastructure developments being subject to ‘good design’ (this being a requirement for NPSs imposed by the Planning Act 2008), we are concerned that, as stated, the requirement is too subjective and could be open to misinterpretation. The expectations of ‘good aesthetic and functional design’ should be required to be balanced against the relevant cost implications. The guidance may benefit from being more technology specific than is currently the case.

#### **Section 4.6: Consideration of Combined Heat and Power (CHP)**

We support the requirement for a developer to explore opportunities for CHP. However, it would be more balanced for the guidance to note also the very real technical and economic barriers to CHP for many power plants, including the difficulty of matching an independent heat demand to power station operational patterns. The guidance should make it clear that the IPC should not mandate inherently uneconomic CHP schemes as a planning requirement.

#### **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?**

Yes, in general we believe the generic impacts and potential options to mitigate the impacts are adequately covered. In particular, EDF Energy recognises the importance of climate change adaptation and supports the requirement to consider the potential effects of climate change.

A number of conventional power stations (fossil fuel and nuclear) are likely to be proposed for coastal or estuarine sites, and we agree that applicants should in particular set out how the proposal would be resilient to:

- coastal changes and increased risk from storm surge;
- effects of higher temperatures, including higher temperatures of cooling water; and
- increased risk of drought leading to a lack of available cooling water.

However, there is currently a high level of uncertainty on the actual changes that will be caused by climate change. Developers apply business principles when making decisions, based upon risk assessments, and will need to strike a balance between implementing additional measures now, increasing project costs, and the probability that those measures will actually be required.

We believe a more effective approach may be to monitor changes and to ensure that there are no barriers to implementing additional measures at a later date, if the need should arise.

We consider it important that the IPC take account of this uncertainty and should be prepared to accept the option of active monitoring and demonstrable plans for adaptation, rather than implementing advance measures to deal with uncertain outcomes, recognising

that regulatory bodies already have a role to play in ensuring that critical infrastructure is protected against external hazards such as flooding. We believe that the IPC should take account of where the regulatory process already plays a role in monitoring such issues. For example, the power generation sector already undertakes significant reporting under current regulations. This includes being Category 2 responders under the Civil Contingencies Act 2004, members of the Energy Emergency Executive Committee, and the Critical Infrastructure Resilience Programme. There are also specific industry regulations. For example, the nuclear industry is regulated by the Nuclear Installations Inspectorate (NII) and as such is required under its site licence conditions to:

- Maintain and test emergency arrangements at all of its sites (Condition 11);
- Maintain and review a safety case for the safe operation of its power stations (Conditions 14 and 15);
- Maintain operating rules and instructions for the safe operation of the site (Condition 23 and 24).

The above emergency arrangements, safety cases and operating instructions all have to take account of internal and external hazards. A significant section of the external hazards considered are natural hazards including flooding. A safety case will consider the necessary engineered defences to be built to mitigate these hazards, operating instructions to be adjusted and emergency arrangements to be reviewed in order to ensure that the station can be safely operated.

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

We have the following additional comments:

- EDF Energy supports the need for flexibility concerning the submission of different elements of a project, with the option for each in their own right to be submitted as a separate NSIP. This is particularly relevant in the context of maintaining the option for separate power station and grid connection applications, as it may be necessary to consider applications for nuclear development in advance of any applications for related network reinforcement, because of the long lead time for nuclear power plant construction, and the fact that network reinforcements are often related to more than one project or that these reinforcements provide wider benefits in terms of system security.
- We believe that the draft NPS could be improved by providing greater guidance on the definition of 'associated development', and what this specifically covers. While the list does not need to be exhaustive, a more comprehensive, indicative list would provide promoters with greater clarity on the developments for which the IPC is able to grant consent.
- Carbon dioxide pipelines, which are required in the development of CCS plants, are not currently included in either the draft Overarching NPS or the draft fossil-fuels NPS, and this omission should be amended accordingly, to set out the relevant consenting process and the role of the IPC.

**8. Do you think that the Government should formally approve ('designate'):**

- a) **The draft National Policy Statements for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

Yes. While we have some suggestions in this response for improving this NPS, we believe that it is fit for purpose and should be designated as soon as possible.

**b) The draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

Yes. While we have some suggestions in this response for improving this NPS, we believe that it is fit for purpose and should be designated as soon as possible.

**c) The draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

We believe this NPS provides a useful guide for companies wishing to invest in UK gas supply and oil pipeline infrastructure. However, care should be taken when implementing them to ensure that all processes and procedures are fit for purpose. It is also important to check that all the requirements for consent under the NPS are robust as some conditions such as noise and vibration mitigation might not achieve the desired outcome.

For example, implementing the noise mitigation measures as outlined in section 2.6.16 through cutting out low frequencies might actually increase noise from extra vibration from higher frequencies which could be more audible. The accuracy of these requirements need to be reviewed if these conditions become legally binding.

**d) The draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

EDF Energy supports the approach proposed in this draft NPS for considering the application by network operators for extensions to the transmission or distribution system driven by the need to connect specific projects or for strategic reasons.

**9. Do the following draft National Policy Statements provide the Infrastructure Planning Commission with the information it needs to reach a decision on whether or not to grant development consent:**

**a) The draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

Yes, in general this NPS provides sufficient information for the IPC, subject to the need to reference the Government's climate change mitigation objectives articulated in our response to Question 3. The role of the NPS is to provide guidance and direction to the IPC, in effect forming a checklist of the issues to be assessed. The role of the NPS is not to provide a detailed manual on the assessment of every aspect of a development proposal. Existing practice in planning assessment (including environmental impact assessment) already involves extensive published guidance on techniques and criteria for assessing development impacts.

Should other consultees request the provision of more detail in the NPS on the treatment of environmental or other planning impacts, then it would be most appropriate to insert cross-references to other documentation and guidance. However, the primary purpose of the NPS is to articulate national need and provide a framework for the IPC to assess applications.

We have some specific comments on the draft NPS as follows:

In section 2.3.3, the guidance notes that the IPC should not give development consent unless it is satisfied that the applicant has provided appropriate evidence that opportunities for CHP have been properly explored.

We support the requirement for a developer to explore opportunities for CHP.

However, it would be more balanced for the guidance also to note the very real technical and economic barriers to CHP for many power plants, including the difficulty of matching an independent heat demand to power station operational patterns. The guidance should make it clear that the IPC should not mandate inherently uneconomic CHP schemes as a planning requirement.

### **Spatial Dimensions**

We strongly support the non-spatial approach to this NPS, for a number of reasons including:

- The importance of the market in determining where and when to develop energy projects;
- The range of technical, operational, commercial, ecological and other environmental considerations that determine where to build a project, e.g. the geological constraints affecting underground gas storage or the proximity of the grid network for all forms of generation;
- The evolution of energy technologies and mitigation measures, which could quickly affect the legitimacy of the NPS assumptions, thereby rendering this NPS out of date.
- The resource intensive nature of undertaking detailed spatial planning (be it centrally, regionally or locally), which would inevitably delay the introduction of this NPS;
- The planning regime is based on a plan-led system based on Local Development Frameworks/Regional Spatial Strategies, which look holistically at the needs of communities.

#### **b) The draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

Yes, in general this NPS provides sufficient information for the IPC, subject to the need to reference the Government's climate change mitigation objectives articulated in our response to Question 3. The role of the NPS is to provide guidance and direction to the IPC, in effect forming a checklist of the principal issues to be assessed. The role of the NPS is not to provide a detailed manual on the assessment of every aspect of a development proposal. Existing practice in planning assessment (including environmental impact assessment) already involves extensive published guidance on techniques and criteria for assessing development impacts.

Should other consultees request the provision of more detail in the NPS on the treatment of environmental or other planning impacts, then it would be most appropriate to insert cross-references to other documentation and guidance. However, the primary purpose of the NPS is to articulate national need and provide a framework for the IPC to assess applications.

We have some specific comments on this draft NPS as follows:

#### **Devolved Administrations**

In sections 1.4.2 to 1.4.4 for projects located in areas administered by devolved administrations, there is the possibility of appealing or overriding the decision taken by Ministers in Wales and Scotland but not in Northern Ireland.

However, it is not clear whether a project applying for consent through the IPC in Wales could be blocked by Welsh Ministers or, if applying to the Welsh Ministers first, could then reapply through the IPC, if turned down by the Welsh Ministers.

It is also less clear if nationally significant generating stations or electricity network infrastructure projects turned down under Scottish Ministers could be reapplied for under the NPS and be approved by UK Ministers.

In all cases for development and submission across the UK, we would welcome a flow-chart demonstrating the stages involved for a developer in submitting a project application to the IPC.

### **Regional Spatial Strategies**

We refer to the requirement in EN-3 Section 2.2.1 for the IPC to have reference to regional spatial strategies.

We support this requirement. However, it is essential that regional authorities respond to this requirement by ensuring that the regional spatial strategies are up to date and consistent with overall government policy objectives and, in particular, the national need for renewable electricity generation.

We believe that the spatial nature of the Crown Estate leasing process should be included within the draft Renewable NPS (EN-3) for offshore renewable technologies but that the non-spatial approach for the remaining technologies and onshore wind is the most sensible approach and important for a number of reasons, as for EN-2, including:

- The importance of the market in determining where and when to develop energy projects;
- The range of technical, operational, commercial, ecological and other environmental considerations that determine where to build a project;
- The evolution of energy technologies and mitigation measures which could quickly affect the legitimacy of the NPS assumptions thereby rendering this NPS out of date.
- The resource intensive nature of undertaking detailed spatial planning (be it centrally, regionally or locally) which would inevitably delay the introduction of this NPS;
- The planning regime is based on a plan-led system based on Local Development Frameworks/Regional Spatial Strategies, which look holistically at the needs of communities.

### **c) The draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

Yes, in general this NPS provides sufficient information for the IPC, subject to the need to reference the Government's climate change mitigation objectives articulated in our response to Question 3. The role of the NPS is to provide guidance and direction to the IPC, in effect forming a checklist of the principal issues to be assessed. The role of the NPS is not to provide a detailed manual on the assessment of every aspect of a development proposal. Existing practice in planning assessment (including environmental impact assessment) already involves extensive published guidance on techniques and criteria for assessing development impacts.

Should other consultees request the provision of more detail in the NPS on the treatment of environmental or other planning impacts, then it would be most appropriate to insert cross-

references to other documentation and guidance. However, the primary purpose of the NPS is to articulate national need and provide a framework for the IPC to assess applications.

It is not clear how consenting will be delivered for offshore Gas Storage projects. It would be helpful to clarify how such offshore infrastructure will be covered and whether for example an offshore gas storage project with an onshore section could apply for consent to the IPC.

**d) The draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

Yes, in general this NPS provides sufficient information for the IPC, subject to the need to reference the Government's climate change mitigation objectives articulated in our response to Question 3. The role of the NPS is to provide guidance and direction to the IPC, in effect forming a checklist of the principal issues to be assessed. The role of the NPS is not to provide a detailed manual on the assessment of every aspect of a development proposal. Existing practice in planning assessment (including environmental impact assessment) already involves extensive published guidance on techniques and criteria for assessing development impacts.

Should other consultees request the provision of more detail in the NPS on the treatment of environmental or other planning impacts, then it would be most appropriate to insert cross-references to other documentation and guidance. However, the primary purpose of the NPS is to articulate national need and provide a framework for the IPC to assess applications.

We have some specific comments on the NPS as follows and refer to the following sections where the IPC is directed to:

*2.3.3 ...take account of certain criteria to determine if it is reasonable for an individual network infrastructure to be considered in isolation rather than as part of a generation application.*

We believe this is important as there may also be cases where strategic infrastructure is required which is not solely related to one generation project. Indeed, strategic electrical infrastructure investment not directly related to generation might in any case be required in support of the Government's energy and climate policy, for example, to supply increased levels of electricity demand arising from electrification of heat and transport.

*2.3.5 ...take account of the fact that National Grid is required to propose the most efficient network design solution.*

This is already required by the transmission licences of National Grid and other TNOs, as well as by the distribution licences of DNOs, since this is both a Grid and Distribution Code obligation. This is confirmation that the existing practice to deliver the most efficient design overall should be continued.

*2.3.6 ...be willing to accept development applications that seek consent for the entire set of works.*

We believe this is important, as there may also be cases where strategic infrastructure is required which is not solely related to one generation project.

*2.4.2 ...expect that climate change resilience measures will form part of the impact assessment in the Environmental Statement*

This is already being taken account of and indeed being reviewed retrospectively for existing installations, as required by the Government's critical national infrastructure review.

*2.5.2 ...expect applicants to demonstrate good design in respect of landscape and visual amenity*

This is current practice in networks businesses, normally through the use of specialist consultants.

*2.7.3 ...recognise that the Holford Rules originally set out in 1959 still form the basis of sound routeing principles for overhead lines*

These are well established rules that have stood the test of time and are well understood by network designers.

*2.7.8/2.7.10 ...take into account that the cost of under grounding cables is between 10 and 20 times as much per unit length / ...should not refuse consent for an overhead line on the basis that under grounding is preferable*

We believe that this is useful guidance to the IPC.

*2.8.10/2.8.12 ...ensure that relevant assessment methodologies for noise from emissions have been used and evidence presented but noise from overhead lines is unlikely to lead to a refusal / ...expect applicants to have considered a range of mitigation measures for noise abatement.*

The use of acoustic barriers and enclosures for substation equipment is already standard practice in sensitive locations.

*2.9.5 ...expect compliance with ICNIRP guidelines for limiting the exposure of the public to electric and magnetic fields*

This should be a standard part of any routeing study.

*2.9.14 ...take account of statutory safeguarding zones where there is a possibility of electromagnetic fields affecting potentially vulnerable installations.*

The National Radiological Protection Board provides guidance on human exposure levels to electromagnetic and electric fields arising from 50Hz electricity lines, cables and plant. Proposals for new infrastructure will take full account of this guidance in determining routes and locations of new infrastructure. Proximity limits determined by this guidance will generally be sufficient to eliminate concerns over the electromagnetic compatibility of sensitive equipment. However, should such concerns arise in a specific case, network designers will consult with the affected parties to ensure any legitimate concerns are addressed.

**10. Do the following draft National Policy Statements appropriately cover the impacts of the specific types of new energy infrastructure covered in them, and potential options to mitigate those impacts:**

**a) The draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

In general, this draft NPS appropriately covers the impacts of the new energy infrastructure considered. We have some comments on specific issues raised in the NPS as follows:

### Choice of cooling technology

We refer to Section 2.6.9 of EN-2 as follows:-

*2.6.9 Modern hybrid cooling systems, e.g. mechanical draught, do not exhibit visible steam plumes except in exceptional adverse weather conditions. When considering visual impacts, the IPC should expect the applicant to justify use of a cooling system that involves visible steam plumes. It should be satisfied that application of modern hybrid cooling technology is not reasonably practicable before giving consent.*

There is an over-riding presumption specified in Section 2.6.9 that hybrid cooling technology should be used, unless it is shown that this is not reasonably practicable. This is not appropriate.

Hybrid systems impose an efficiency penalty compared to evaporative systems. Although the reduction in efficiency is not large, over the lifetime of the fossil fuel project it will result in additional CO<sub>2</sub> emissions for the energy produced. All else being equal, a better environmental outcome would be achieved by using an evaporative system.

If the visual sensitivity of the surrounding area is low, then the CO<sub>2</sub> emission penalty of the hybrid system is likely to be more significant than the visual impact of visible plumes.

We recommend that this paragraph is rewritten to highlight the trade-off between the additional CO<sub>2</sub> emissions from a hybrid cooling system and the reduction in plume visibility. The paragraph could be rewritten as follows –

*2.6.9 Modern hybrid cooling systems, e.g. mechanical draught, do not exhibit visible steam plumes except in exceptional adverse weather conditions. However, hybrid systems do reduce the overall efficiency of the generation process, so there is a trade-off to be considered between visual impact and a small amount of additional CO<sub>2</sub> emissions per unit of fossil fuel output. When considering visual impacts, the IPC should expect the applicant to justify use of a cooling system that involves visible steam plumes. The IPC should be satisfied that the visual impacts of a plume, in the site specific context, are sufficiently low such that the loss in process efficiency from a hybrid cooling system is not justified.*

### Carbon Capture Readiness

We refer to Sections 2.3.4 of 2.3.5 of EN-2 and cross-reference to the Government's policy and criteria for a CCR requirement for all generating stations with a generating capacity at or over 300MW which are set out in Section 4.7 of EN-1.

We refer to the particular CCR condition as follows:

*In order to assure the IPC that a proposed development is CCR, applicants will need to demonstrate*

- ...
- *the economic feasibility within the combustion station's lifetime of the full CCS chain, covering retrofitting, transport and storage.*

We are concerned that this economic test for carbon capture readiness sets a new precedent for planning applications. It is not usual for planning policy to introduce tests of future

economic viability. This is a risk for the developer on which to make a judgement. It is difficult to see how a planning decision maker could make an objective assessment of the developer's application on this point, without an independent financial assessment of the project. This would go far beyond current practice in planning, which has long-established precedent of dealing with the appropriate use of land and not judgement of economic evaluation.

We recommend that Government reviews this criterion for CCR. We believe that the CCR requirements should focus on the demonstration of "no barriers" to subsequent CCS, given the current uncertainties in the feasibility and ultimate form of CCS. A project may still be viable and appropriate even if CCS is not economic, if the operator limits CO<sub>2</sub> emissions by reducing output. This could be a more appropriate arrangement for coal stations operating as peaking plant with low annual load factors and correspondingly low emissions.

### Carbon Capture and Storage

We refer to the statement in EN-1 Section 4.7.15 and EN-2 2.3.8 that:

*...it is the Government's expectation that new conventional coal-fired generating stations consented under the policy framework described in EN-1 Section 4.7 will retrofit CCS to their full capacity by 2025.*

We support this expectation for stations that will continue to operate at moderate to high load factors beyond 2025.

We refer to the statement in EN-1 Section 4.7.15 and EN-2 2.3.8 that:

*...it is the Government's expectation that new coal-fired generating stations will be fully CCS from day one once CCS has been shown to be economically and technically viable, and that this will be possible from 2020.*

We support this expectation.

We refer to the statement in EN-1 Section 4.7.15 and EN-2 2.3.8 that:

*In the event that CCS is not on track to become technically or economically viable, preventing retrofit, an appropriate regulatory approach for managing emissions will be needed. The review will consider what additional measures, consistent with and complementary to the EU ETS and any other market interventions that are in place, are necessary – for example an emissions performance standard by way of a plant level cap.*

We support this approach.

### Climate Change adaptation

We refer to the statement in EN-2, 2.3.15:

*As fossil fuel generating stations are likely to be proposed for coastal or estuarine sites, applicants should in particular set out how the proposal would be resilient to:*

- *coastal changes and increased risk from storm surge;*
- *effects of higher temperatures, including higher temperatures of cooling water; and*
- *increased risk of drought leading to a lack of available cooling water.*

We support the requirement to consider these potential effects of climate change.

However, there is a high level of uncertainty on the actual changes that will be caused by climate change. Based on risk assessment, developers will need to strike a balance between implementing additional measures now at additional cost and the probability that those measures will actually be required. A more effective approach may be to monitor and to ensure that there are no barriers to implementing additional measures at a later date, if the need does arise.

The IPC will need to take account of this uncertainty and should be prepared to accept the option of active monitoring and demonstrable plans for adaptation, rather than implementing advance measures to deal with uncertain outcomes.

### **Environmental impacts summary (sections 2.5 onwards)**

We believe that these sections provide sufficient guidance for the IPC to assess the environmental impacts of a proposed station.

These sections should be treated as a checklist of the issues to be assessed, rather than a manual on the practice of Environmental Impact Assessment (EIA). Existing EIA practice and precedent already involves extensive published guidance and criteria for assessing all these impacts. It is impractical to reproduce this in a single document.

EN-2 takes the checklist approach of identifying the issues and principles. This is the correct approach because expert input will be required to prepare and assess the detailed environmental assessment.

Should other consultees request the provision of more detail on the treatment of environmental impacts in EN-2, then it would be more appropriate to insert cross-references to existing guidance on the different aspects of EIA. However, we do not consider this to be necessary.

### **b) The draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

In general, this draft NPS appropriately covers the impacts of the new energy infrastructure considered. We have some comments on specific issues raised in the NPS as follows:

#### **Fuels (Section 2.5.7)**

We agree that the classification of biodegradable waste as “renewable” for Renewables Obligation (RO) purposes and the source or sustainability of a proposed biomass fuel do not need to be considered by the IPC, as these matters are adequately addressed under RO legislation, Waste Incineration Directive (WID) and Environment Agency (EA) guidance.

#### **Biomass plant**

We agree with the IPC criteria in EN-1 Section 4.7.1 to demonstrate carbon capture readiness for plants at or over 300MW:

- that sufficient space is available on or near the site to accommodate carbon capture equipment in the future;
- the technical feasibility of retrofitting their chosen carbon capture technology;
- that a suitable area of deep geological storage offshore exists for the storage of captured CO<sub>2</sub> from the proposed combustion station;

- the technical feasibility of transporting the captured CO<sub>2</sub> to the proposed storage area; and
- the economic feasibility within the combustion.

### Offshore Wind (Section 2.6)

We refer to the statement in EN-3 Section 2.6.5 that:

*The applicant should identify the impacts of a proposal and these impacts, together with proposals for their avoidance or mitigation wherever possible, should be set out in an Environmental Statement (EN-1) that should accompany each project application. Guidance on Environmental Impact Assessments can be found in Part 4, Section 4.2 of EN-1. In this NPS, the terms ‘effects’, ‘impacts’ or ‘benefits’ should accordingly be understood to mean likely significant effects, impacts or benefits.*

We support this approach.

We refer to the statement in EN-3 Sections 2.6.42/2.6.43 that:

*Owing to the complex nature of offshore wind farm development, many of the details of a proposed scheme may be unknown to the applicant at the time of the application to the IPC, possibly including:*

- *precise location and configuration of turbines and associated development;*
- *foundation type;*
- *exact turbine tip height;*
- *cable type and cable route; and*
- *exact locations of offshore and/or onshore substations.*

*The IPC should accept that wind farm operators are unlikely to know precisely which turbines will be procured for the site until some time after any consent has been granted. Where some details have not been included in the application to the IPC, the applicant should explain which elements of the scheme have yet to be finalised, and the reasons. Therefore, some flexibility may be required in the consent. Where this is sought and the precise details are not known, then the applicant should assess the maximum potential adverse effects the project could have to ensure that the project as it may be constructed has been properly assessed (the “Rochdale Envelope”). In this way the maximum-adverse case scenario will be assessed and the IPC should allow for this uncertainty in its consideration of the application and consent.*

We agree with this approach.

### Monitoring

We refer to the statement in EN-3 Section 2.6.51 and 2.6.52 that:

*2.6.51 Owing to the relatively new and complex nature of offshore wind development, the IPC should consider requiring the applicant to undertake monitoring prior to and during construction and during its operation in order to measure and document the effects of the development. This enables an assessment of the accuracy of the original predictions and may inform the scope of future EIAs.*

*2.6.52 The IPC may consider that monitoring of any impact is appropriate. Monitoring should be presented in formal reports which should be made publicly available.*

We support a requirement to monitor in cases where there is the potential for a significant environmental effect and/or knowledge of a particular effect is limited.

However, we do not think that the IPC should apply a blanket requirement to monitor impacts. It would be useful to provide or develop more guidance on which effects in particular may benefit from future monitoring, working with stakeholders and wind project developers.

### **Ecologically sensitive areas**

We refer to the statement in EN-3 Section 2.6.62 that:

*Evidence from existing offshore wind farms demonstrates that it has been possible to locate wind farms in ecologically sensitive areas in some circumstances where careful siting of turbines has been undertaken following appropriate ecological surveys and assessments.*

We support this approach.

### **Natura 2000 sites**

We refer to the statement in EN-3 Section 2.6.69 that:

*The designation of an area as Natura 2000 site does not necessarily restrict the construction or operation of offshore wind farms in or near that area.*

We support this statement. There are many potential mitigation measures that can enable a project to proceed in proximity to a Natura 2000 site without resulting in a significant adverse effect on the site.

### **Onshore wind**

We refer to the statement in EN-3 Section 2.7.5 that:

*The applicant should identify the impacts of a proposal and these impacts, together with proposals for their avoidance or mitigation wherever possible, should be set out in an Environmental Statement (EN-1) that should accompany each project application. Guidance on Environmental Impact Assessments can be found in Part 4, Section 4.2 of EN-1. In this NPS, the terms 'effects', 'impacts' or 'benefits' should accordingly be understood to mean likely significant effects, impacts or benefits.*

We support this approach.

### **c) The draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

In general, this NPS appropriately covers the impacts of the new energy infrastructure considered.

However, little guidance is provided for offshore gas infrastructure and in particular offshore storage facilities which will become increasingly needed. We recommend that the guidance on these particular categories be expanded.

**d) The draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

In general, this NPS appropriately covers the impacts of the new energy infrastructure considered.

**11. Do you have any comments on any aspect of the following draft National Policy Statements not covered by the previous questions:**

**a) The draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

We refer to the statement in EN-2 Section 2.2.9 that:

*Applicants will usually have assured themselves that a viable connection exists before submitting the development proposal to the IPC and where they have not done so, they take that commercial risk. In accordance with Section 4.9 in EN-1, any application to the IPC must include information on how the generating station is to be connected and whether there are any particular environmental issues likely to arise from that connection. Further advice on the relationship with grid applications is in EN-1 and EN-5.*

We strongly support this approach to the interface with grid connection development. It is essential that flexibility is retained in the relationship with grid applications.

**b) The draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

No.

**c) The draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

We note that the UK gas demand figures in 2020 seem lower, and the gas production figures higher, than those produced by Ofgem's Project Discovery report and the National Grid's Transporting Britain's Energy 2009 document. It would be useful to understand the source of the data used and any key assumptions that have been made, because any apparent inconsistencies might otherwise undermine the need case for investment in new gas supply infrastructure. It is our view that the need for new gas storage could be expressed more strongly in this draft NPS, particularly when this is taken in the context of declining UKCS reserves and increasing physical security of supply concerns.

**d) The draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

No.

**Chapter 4: Appraisal of Sustainability and Habitats Regulations Assessment for EN 1-5**

**12. Do you agree with the findings from the following Appraisal of Sustainability reports:**

**a) Appraisal of Sustainability report for the draft Overarching Energy National Policy Statement (EN-1)?**

We agree with the findings.

We consider that the Appraisal of Sustainability has applied an appropriate set of criteria and has drawn correct conclusions based on the assessment of these criteria.

**b) Appraisal of Sustainability report for the draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

We agree with the findings.

In particular, it is appropriate that the Appraisal of Sustainability has compared different policy outcomes for this non-locational NPS. We consider that to be the correct approach for this policy document and it is entirely consistent with the requirements of the Strategic Environmental Assessment Directive.

**c) Appraisal of Sustainability report for the draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

We agree with the findings.

In particular, it is appropriate that the Appraisal of Sustainability has compared different policy outcomes for this non-locational NPS. We consider that to be the correct approach for this policy document and it is entirely consistent with the requirements of the Strategic Environmental Assessment Directive.

**d) Appraisal of Sustainability report for the draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

We agree with the findings.

In particular, it is appropriate that the Appraisal of Sustainability has compared different policy outcomes for this non-locational NPS. We consider that to be the correct approach for this policy document and it is entirely consistent with the requirements of the Strategic Environmental Assessment Directive.

**e) Appraisal of Sustainability report for the draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

We agree with the findings.

In particular, it is appropriate that the Appraisal of Sustainability has compared different policy outcomes for this non-locational NPS. That is the correct approach for this policy document and it is entirely consistent with the requirements of the Strategic Environmental Assessment Directive.

**13. Do you think that any findings from the following Appraisal of Sustainability reports have not been taken account of properly in the relevant draft National Policy Statements:**

**a) Appraisal of Sustainability report for the draft Overarching Energy National Policy Statement (EN-1)?**

No, we believe that all the findings from the Appraisal of Sustainability report have been taken into account properly in this draft National Policy Statement.

**b) Appraisal of Sustainability report for the draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

No, we believe that all the findings from the Appraisal of Sustainability report have been properly taken into account in this draft National Policy Statement.

**c) Appraisal of Sustainability report for the draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

No, we believe that all the findings from the Appraisal of Sustainability report have been properly taken into account in this draft National Policy Statement.

**d) Appraisal of Sustainability report for the draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

No, we believe that all the findings from the Appraisal of Sustainability report have been properly taken into account in this draft National Policy Statement.

**e) Appraisal of Sustainability report for the draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

No, we believe that all the findings from the Appraisal of Sustainability report have been properly taken into account in the draft National Policy Statement.

**14. Do you have any comments on any aspect of the following Appraisal of Sustainability reports not covered by the previous questions:**

**a) Appraisal of Sustainability report for the draft Overarching Energy National Policy Statement (EN-1)?**

We would like to highlight our support for the approach taken for the Appraisals of Sustainability, including the criteria adopted. These address the key factors. The extensive stakeholder consultation process in the preparation of the criteria and assessment has enabled the full range of potential issues to be discussed and evaluated.

In addition, the alternatives to the NPSs that have been considered in the Appraisals of Sustainability are credible and thorough and provide a robust supporting case for the decision to proceed with the NPSs under the current approach.

**b) Appraisal of Sustainability report for the draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?**

No.

**c) Appraisal of Sustainability report for the draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?**

No.

**d) Appraisal of Sustainability report for the draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?**

No.

**e) Appraisal of Sustainability report for the draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?**

No.

15. Do you have any comments on the Habitats Regulations Assessment reports for the following draft National Policy Statements:

a) Habitats Regulations Assessment report for the draft Overarching Energy National Policy Statement (EN-1)?

We agree with the approach that has been taken in the Habitats Regulations Assessment report. We consider that the findings and conclusions are correct.

In particular, we strongly support the following statement in Section 8 of the Assessment:

*8.2 Given the strategic nature of the HRA process for EN-1 to EN-5, the inherent uncertainties and limitations of the HRA conclusions, and the potential changes that may occur as the NPSs are implemented, it is not possible at this stage to specify the precise nature or location of any compensation measures that might be required.*

*8.3 The role of the NPS is, therefore, to provide a robust framework through the direction it provides to the IPC that sets out the broad parameters for compensation measures, should they be required following the more detailed project level assessments undertaken for plan implementation.*

This is our understanding of how the requirements of the Habitats Directive are to be applied to guidance documents such as the NPSs.

b) Habitats Regulations Assessment report for the draft National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)?

We agree with the approach that has been taken in the Habitats Regulations Assessment report. We consider that the findings and conclusions are correct.

c) Habitats Regulations Assessment report for the draft National Policy Statement for Renewable Energy Infrastructure (EN-3)?

We agree with the approach that has been taken in the Habitats Regulations Assessment report. We consider that the findings and conclusions are correct.

d) Habitats Regulations Assessment report for the draft National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)?

We agree with the approach that has been taken in the Habitats Regulations Assessment report. We consider that the findings and conclusions are correct.

e) Habitats Regulations Assessment report for the draft National Policy Statement for Electricity Networks Infrastructure (EN-5)?

We agree with the approach that has been taken in the Habitats Regulations Assessment report. We consider that the findings and conclusions are correct.

## Chapter 5: Draft Nuclear NPS (EN-6) and associated documents

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

Yes. Following proper consideration of views expressed during the public consultation and parliamentary scrutiny of the draft Nuclear National Policy Statement, the Government should proceed to finalise and designate the statement as soon as practicable. This will provide clarity to the IPC and limit the scope for re-examination of policy issues which are properly decided by Government. It will provide a level of certainty of outcome for developers, by eliminating the assessment of national need from the IPC examination process. Without this, a commitment to invest in very large and urgently needed capital projects cannot be made.

### 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?

Yes, in relation to national policy matters. The IPC will need to take evidence from developers, local authorities and other regulators, as well as the views of people living in the vicinity of the proposed development, as part of its examination process leading to decisions on whether to grant development consent. The developer in particular will be expected to provide detailed information on the impact of the proposed development, and the measures proposed to mitigate or avoid adverse impacts, and to enhance the benefits of the development for the local community. The developer will also be expected to provide evidence of consultation with the local community prior to finalising the application to the IPC.

We recommend that the Government provide further clarification of the relationship between the regulatory framework for nuclear power stations and the planning regime, which is described in section 3.4 of the draft Nuclear NPS. In particular the final NPS should make a clearer distinction between the responsibilities of the IPC and the regulatory bodies responsible for other consents, licences and authorisations. The purpose and legal status of any "letter of comfort" that might be provided needs to be made clear, to avoid any ambiguity through the planning and consenting process.

It is useful that the NPS identifies a number of specific issues to be considered, but responsibility must lie with the IPC to weigh these issues appropriately in their assessment of specific proposals. It is, however, important that the final Nuclear NPS confirms that the IPC should attach "substantial weight" to the statement of need.

### 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?

Yes. EDF Energy welcomes the fact that Government made a clear policy statement in its White Paper on Nuclear Power<sup>1</sup> that it is in the public interest that new nuclear power stations should have a role to play in the future electricity generating mix for the UK alongside other low carbon sources.

The draft National Policy Statement for Nuclear Power Generation provides an essential quantification of the need for new nuclear investment, both in terms of scale and urgency.

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<sup>1</sup> A White Paper on Nuclear Power, CM 7296, January 2008

Such an explicit statement of need is of great importance, as it means that the Government has clearly outlined its specific vision for nuclear power and also how it can contribute towards delivering energy policy objectives. This is now more consistent with the approach for renewables and Carbon Capture and Storage (CCS), which have their own funding mechanisms.

EDF Energy strongly supports the Government's analysis that there is a need for around 60GW of new electricity generation capacity by 2025, of which as much as possible should be low carbon. We also endorse the Government's conclusion that the UK's need for additional supplies of low carbon electricity should be based on a diverse mix including both renewable and low carbon thermal (i.e. nuclear or, possibly, fossil fuels with CCS) generation.

The Government has assessed that the generation 'gap' that new, non-renewable generation will need to fill in 2025 is around 25GW, based on analysis forecasting that 35GW (of the 60GW) could be provided from renewable sources. We believe that the 35GW figure is ambitious and represents the top end of what is likely to be delivered from renewable sources. As a result there is a significant probability that by 2025 the UK's need for new non-renewable generation could turn out in practice to be significantly greater than 25GW. It is therefore important as part of the Nuclear NPS to contemplate what actions could be necessary were this renewable contribution not to be achieved, and the 'gap' to be filled by non-renewable generation turned out to be larger than currently expected.

However, despite this strong statement of need, we remain concerned that in its current form, the draft still does not fully inform the IPC of the Government's climate change policy objectives and the role that low carbon generation has to play in achieving these objectives. We believe it would be useful to reinforce the policy context by making an explicit reference to the UK's legally binding target to deliver an 80% reduction in carbon emissions by 2050, which was established in the 2008 Climate Change Act. The Committee on Climate Change (CCC), in providing its first report to Parliament in October 2009, confirmed that delivering this target will require the power sector to be almost, if not completely, decarbonised by 2050. In fact the CCC, along with other stakeholders, believes that an early reduction in carbon emissions from the electricity generating sector (to be almost entirely complete by 2030) is key to achieving this. The rationale supporting this assertion is:

- Unlike many other sectors, the electricity sector already has a number of low carbon technologies such as nuclear power and wind farms that are capable of being deployed.
- Low and zero carbon electricity will make a significant contribution to the decarbonisation of other sectors, such as heat and transport. Early decarbonisation of electricity may therefore support a more rapid uptake of these technologies.
- Moving to a carbon free electricity sector will not be easy. It will require a number of developments, including many years of investment in the skills and supply chain needed to support the delivery of these technologies, and probably large changes to the way in which the electricity market operates to ensure that there is sufficient incentive for investment.
- If we make these changes now, and use the upcoming capacity gap as an opportunity to switch to low carbon sources, then the UK will be in a very strong position to deliver its 2050 commitments. The alternative is to delay change and invest in another generation of unabated fossil fuel generation. Because of the long lived nature of these assets this alternative pathway would delay decarbonisation by

many years and even decades, thus threatening the ability of the UK to ‘gear up’ in time to achieve its 2050 commitments.

We believe that the IPC should be made explicitly aware of this essential long term requirement for low carbon generation in the UK. This will help provide a much needed longer term context to its decision making. Reaching the generation figure quoted in the NPS for 2025 is not the end goal in itself and is simply a milestone on the path towards longer term climate change mitigation objectives. Further investment in low carbon technology such as nuclear power will be needed beyond this date and this will depend on a number of factors including electricity demand growth assumptions, plant asset life and fossil fuel price volatility. We believe that this robustly establishes IROPI for the investment in new nuclear build. With this mind, it is more than likely that all the sites listed in the draft Nuclear NPS will be needed in the future, as well as Dungeness. This is especially true given that, as the draft Nuclear NPS points out, it is possible that not all of the sites listed will see projects emerge and that some may be rejected by the IPC following the examination of local and/or technical issues.

**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?**

Yes. EDF Energy agrees with the Government’s preliminary conclusion that effective arrangements will exist to manage and dispose of the waste that will be produced from new nuclear power stations in the UK. There are no unsolved fundamental technical difficulties associated with long term management and disposal of radioactive waste, and worldwide experience is accumulating. The Government White Paper on radioactive waste<sup>2</sup> provides a pathway for implementing geological disposal, based on gaining public confidence for a safe, secure and environmentally acceptable solution. It is important that steady and consistent progress is made along this pathway.

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

Yes. However, the strategic siting assessment (SSA) and strategic environmental assessment must not pre-judge project specific assessment that will need to consider all relevant impacts and potential impacts of the development proposal. It is unreasonable to expect the work at a strategic level to have covered all the potential options to mitigate adverse impacts of new nuclear power stations. These are matters for the IPC to consider on a project specific basis. The strategic assessments provide an appropriate level of detail for the purposes of a strategic assessment. This approach would, in particular, allow for a full and fair assessment of the suitability of Dungeness.

**21. Do you agree with the Government’s preliminary conclusion on the potential suitability of sites nominated into the Strategic Siting Assessment, as set out below? You can respond in general terms on the assessment as a whole, or against one or more specific sites.**

**a) General comments**

The requirements for the siting of a nuclear power station are complex. The sites already in use for nuclear power generation (including decommissioning sites) were chosen for good

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<sup>2</sup> Managing Radioactive Waste Safely – A framework for implementing geological disposal, CM 7836, DEFRA, BERR and the Devolved Administrations for Wales and Northern Ireland, June 2008.

reasons and have a proven track record in demonstrating their ability to successfully accommodate nuclear power. Both historic studies and more recent work have confirmed that the availability of such suitable sites in the UK is limited and it therefore makes sense to continue to make use of these locations for new development. This will reduce the need for new supporting infrastructure such as transmission lines. The communities around existing sites are familiar with nuclear power, and value the economic contribution and employment opportunities provided by the power station. We agree that, unlike the other energy NPS documents, it is appropriate for the Nuclear NPS to adopt a spatial approach.

Industry nominated a total of eleven sites for assessment, and the draft Nuclear NPS proposes that ten of these are suitable, at a strategic level, for new nuclear development, and that all ten are needed. However, as the draft Nuclear NPS points out, it cannot be guaranteed that projects will come forward for every one of these sites. For example, it is possible that some proposals are rejected by the IPC following examination of local issues, or are found to be unsuitable for technical reasons. Some, but not all, of the sites may be capable of accommodating more than one modern reactor.

The Government's stated aim is to ensure that as much as possible of the 25GW of thermal generation required by 2025 is filled by low carbon technologies to meet its climate change and energy security goals. Annex A of the draft Nuclear NPS makes it clear that the need for nuclear new build is urgent and sustained: "For this to happen there is a need to maximise the contribution of nuclear as soon as possible as a proven low-carbon technology and to make a contribution to the delivery of even more ambitious climate change objectives for 2050."

Given the considerations outlined above, it is quite possible that ten sites would not be enough to meet this policy aim by 2025. The draft Nuclear NPS states (section 2.5.1) that:

'...in principle new nuclear power should be free to contribute as much as possible towards meeting the need for 25GW of new non-renewable capacity'.

Further sites are therefore likely to be needed in the Nuclear NPS and this has relevance to the status of Dungeness as explained below.

**The Government considers the following sites to be potentially suitable for the deployment of new nuclear power stations by the end of 2025:**

- b) Bradwell
- c) Braystones
- d) Hartlepool
- e) Heysham
- f) Hinkley Point
- g) Kirksanton
- h) Oldbury
- i) Sellafield
- j) Sizewell
- k) Wylfa

EDF Energy welcomes the listing within the draft Nuclear NPS of the five sites, where it owns potential development land, as suitable at a strategic level for deployment of new nuclear power stations. These sites are at Bradwell, Hartlepool, Hinkley Point, Heysham and Sizewell. EDF Energy also owns potential development land at Wylfa, which has been sold (subject to contract). It is helpful that the NPS identifies issues that the IPC should have

regard to at each site, based on the strategic level assessment, although the more detailed project level environmental assessment should consider these issues in any event.

We have no comments to make on the suitability of the following sites listed in the draft Nuclear NPS: Braystones, Kirksanton, Oldbury, Sellafield and Wylfa.

**The Government does not consider the following site to be potentially suitable for the deployment of new nuclear power stations by the end of 2025:**

**l) Dungeness**

EDF Energy nominated land at Dungeness in Kent, adjacent to the existing nuclear power stations, for the Government's strategic siting assessment process. Having assessed Dungeness, the Government has said it is not satisfied that Dungeness is potentially suitable for the deployment of a new nuclear power station by 2025, and has therefore not included the site in the draft Nuclear NPS. We believe this is not an appropriate conclusion to be drawn at this stage.

The Government concluded in its draft Nuclear NPS that nuclear development at Dungeness could deliver power on the 2025 timescale. So, on this criterion, Dungeness is clearly not in a different position to the other ten sites that were included in the draft Nuclear NPS as 'potentially suitable'. Nor is it suggested that new nuclear development at the Dungeness site would be any different in terms of the scale of benefits provided through the supply of much needed additional, low carbon electricity.

Therefore, if the national need is to 'maximise the contribution of nuclear as soon as possible,'<sup>3</sup> and Dungeness is a site that could, if developed, make a valuable contribution, we find it difficult to understand why the overriding public interest arguments that the Government advances for the ten sites should not equally apply to Dungeness. The reasons for including Dungeness within the IROPI statement in the draft NPS are made even stronger by the arguments above. These suggest that it is probable that the 'gap' for nuclear to fill could by 2025 turn out to be even larger than estimated and that ten sites could well prove insufficient for the Government's low carbon energy needs to be met. We are concerned that the current approach is not rational. There is no valid and objective reason why the Dungeness site should be excluded at this stage.

The only criterion within the Government's Strategic Siting Assessment process which the Dungeness site does not meet is D6 - 'Internationally designated sites of ecological importance'. D6 is a 'discretionary' criterion, which means that the Government can include the site even where the criterion is not met. All of the nominated sites have the potential to impact on internationally designated sites, and so it is not clear why the Dungeness site alone should be excluded on the basis of this discretionary criterion. The Government's assessment of Dungeness notes that the scope for mitigation of adverse effects is perhaps greater at other sites, and that, unlike other sites, direct land take is likely to be unavoidable at Dungeness. However, neither of these makes it inevitable that a well-designed project at the site could not be demonstrated to meet the requirements of the EU Habitats Directive or UK Regulations.

Significant weight appears to have been placed on the advice from Natural England that suggests it would be 'very difficult, if not impossible in some cases' to compensate for the loss of habitat should a new nuclear power station be built at Dungeness. While EDF Energy agrees that some land take from the designated shingle habitat is likely to be required, it is

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<sup>3</sup> Annex A, section A11 of the Draft NPS for Nuclear Power Generation (EN-6)

not possible to conclude at this stage, and in the absence of project-specific plans, that a suitable compensatory habitat could not be identified or created.

EDF Energy believes that the basis for the Government to use its discretion to exclude Dungeness at the strategic assessment stage on the basis of criterion D6 is not robust, and it is premature to rule out Dungeness as a potentially suitable site based on the evidence available, and in advance of any project-specific proposal. The test of whether compensation is or is not needed and, if it is, whether it is possible on the scale required is a matter that the IPC should be allowed to consider at the project development stage – just as it will for all other sites. It will be for the promoter to demonstrate compliance with the requirements of European law, and there is currently no sound evidential basis to conclude that this would be impossible. These difficulties, which a promoter of the site would have to address, are not a logical basis for saying that the site is not needed, or could not fall within IROPI.

EDF Energy has commissioned additional studies on the feasibility of providing suitable compensatory habitat for the loss of land within the Special Area of Conservation (SAC). An initial report on experience of providing compensatory habitats for Natura 2000 sites identified eight relevant case studies. This study<sup>4</sup> (attached as Appendix 1) found that, although not common and strictly controlled in their application, compensatory measures have been successfully adopted in a range of different circumstances both in the UK and across continental Europe. The case studies also demonstrated that:

- Early engagement with Natural England to develop a shared understanding of the need for compensation in the case of port developments in particular has enabled consents to be granted following agreement of compensatory measures;
- In some cases, habitats have been created which differ from those lost, although wherever possible 'like for like' compensation is preferred;
- Compensatory measures can involve habitat creation that will take a considerable time to establish, and may take place on a different site within the same biogeographic zone;
- Where the outcome of restoration work is uncertain, the compensatory measures may include trials of different establishment techniques, provided other more certain measures are also included.

EDF Energy has also commissioned a review of recent practice in restoring vegetated shingle habitats<sup>5</sup> (this is attached as Appendix 2). This study provides an expert review to inform judgements on the feasibility of restoration of shingle habitats at Dungeness which may be affected by proposed nuclear new build at these sites. The review highlights a number of vegetated shingle restoration techniques which have been used in the UK, and concludes that there is sufficient evidence to suggest that restoration of vegetated shingle habitats can be achieved. The conclusions draw on previous restoration work at Dungeness and Sizewell where shingle ridges have been recreated. This includes an example of high quality mature shingle ridge vegetation on an artificially raised shingle ridge of recent origin, and work to carefully excavate previously buried shingle ridge systems.

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<sup>4</sup> Review of Compensatory Measures agreed for Proposed Developments in Natura 2000 Sites, Entec UK Ltd, August 2009.

<sup>5</sup> Dungeness Shingle Review – A Review of Guidance and Recent Practice on Restoring Vegetated Shingle, Entec UK Ltd, November 2009

An initial review of potential areas where compensatory habitats could be created and mitigation measures might be undertaken has also been completed<sup>6</sup> (this is attached as Appendix 3). This review identified a number of areas across the Dungeness foreland that are worthy of consideration. Five areas were identified that appear to present opportunities for exposing buried shingle, and which could offer opportunities for restoration of vegetated shingle habitat. The total area recommended for further study is 339 hectares, although it should be noted that not all of the areas have been visited, and not all of this area is likely to prove suitable for providing compensatory habitat. Further investigation work would be needed to progress any restoration proposals, but there is sufficient information at this stage to claim that the creation of compensatory habitats may be feasible.

Coastal protection is also identified as an area of concern, but the Government has concluded, on the basis of advice from the Environment Agency, that there is potential to protect the site from the risk of flooding and the impact of coastal processes. The impact of coastal protection measures on European designated habitats would be the subject of detailed work at the project level. Coastal protection measures will be required for the existing Dungeness A and B power stations until they are safely decommissioned. Under the current strategy for decommissioning of these plants, coastal protection is likely to be required for at least 100 years.

The risk of planning blight is cited in the draft NPS as a factor to justify limiting the number of sites to ten, and therefore excluding Dungeness but without any more detailed explanation. However, there has been nuclear power at Dungeness since the 1960s, and for at least 25 years the site has been included within lists of locations where future nuclear development might take place. There is a high level of local support for nuclear power operations at Dungeness, and the potential economic benefits of development more than offset any issues of blight caused by uncertainty over whether development would proceed.

**22. Do you agree with the Government’s preliminary conclusion that the three sites identified in the Alternative Sites Study, as listed below, are not potentially suitable for the deployment of new nuclear power stations by the end of 2025? You can respond in general terms on the sites identified in the Study as a whole, or against one or more specific sites.**

- a) General comments
- b) Druridge Bay
- c) Kingsnorth
- d) Owston Ferry

EDF Energy is grateful for the opportunity to comment on the report by Atkins entitled “*A Consideration of Alternative Sites to those Nominated as Part of the Government’s Strategic Siting Assessment Process for New Nuclear Power Stations*”.

We welcome this study as an important contribution to the Government’s Strategic Siting Assessment process as it represents an independent assessment of the availability of credible alternative sites for deployment by 2025.

EDF Energy nominated four of the ten sites (Hartlepool, Heysham, Hinkley Point and Sizewell) which are included in the draft Nuclear National Policy Statement (NPS). We also nominated a fifth site, Dungeness, which Government has not included in the draft Nuclear NPS, and provided a letter of support for the nomination of Bradwell.

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<sup>6</sup> Dungeness Vegetated Shingle Compensation Area Search and Mitigation Review, Royal Haskoning, January 2010

EDF Energy nominated these sites because we believe that each one is strategically suitable for the deployment of at least one nuclear power station before 2025, taking account of other important factors such as whether it is credible that they can be connected to the National Grid in good time, the strong planning case we believe we can put to the Infrastructure Planning Committee for each of them, and commercial considerations.

We selected these sites following a review of alternative locations throughout England and Wales using a similar screening methodology to that followed by Atkins, although we also took account of other criteria, described further below. These included:

- The likelihood of being able to connect to the National Grid in time, as this is a vital and fundamental component of a functioning power station.
- Access to the site for very large indivisible loads particularly during the construction phase of the project. This necessitates access to the sea or major navigable river systems without hindrance by low bridges etc.
- The ability of the site to sustain once-through direct cooling of the power plant. This restricts sites to coastal/estuarine locations with access to deep water. Direct cooling is strongly preferred, because it increases the efficiency of the plant and therefore enhances its ability to reduce greenhouse gas emissions.
- Planning issues including proximity to development with similar physical characteristics and status of local supporting transport infrastructure etc.

We came to similar conclusions, that is to say that there are few strategically suitable sites available for the deployment of new nuclear power stations within the required timeframe.

We note that some of the above factors were cited by the Government in its reasoning for deciding not to include Druridge Bay, Kingsnorth and Owston Ferry in the draft NPS, despite being considered by Atkins as worthy of further consideration. We agree with the Government that none of these sites is credible for deployment by 2025, and that this could disqualify them from inclusion in the NPS.

We consider that it is reasonable to consider the advantages offered by building adjacent to existing sites, which include access to existing transmission infrastructure, availability of a trained workforce, reduced planning risk, demonstrated ability to operate a direct cooling system and a greater understanding of a wide range of technical issues associated with sites. These advantages will have a considerable impact on the project programme and are therefore relevant to the requirement that the plant should be completed and commissioned by 2025.

We strongly believe that it is possible for new nuclear power stations to be designed, constructed, operated and decommissioned, without causing significant adverse effects on the ecology of surrounding areas, in all but the most sensitive of areas. Indeed, we are committed to ensuring that impact avoidance and mitigation strategies are built into our proposals to ensure our power stations are good neighbours.

There are references in the report to several instances where nuclear power stations co-exist with internationally and nationally designated areas along their boundaries. This indicates that the presence of a designated site is not always an insuperable problem.

The assessments carried out by CEGB are extremely useful but need to be reassessed in respect of their suitability for the PWR designs currently being considered for use in the UK, and against changes to the site in terms of designations for environmental protection and development.

We consider that a few of those sites ruled out by the Atkins study will be worthy of further consideration, but that they are not preferable to the sites nominated and are not credible

sites for deployment by 2025, as they would require a longer development programme. We therefore agree that these sites are not preferred for new nuclear development at this stage.

We therefore strongly agree with the report's conclusion, supported by the Government, that there are few strategically suitable sites available for new nuclear power stations in England and Wales that are credible for deployment by 2025. Notwithstanding EDF Energy's strongly held belief that Dungeness (which was not considered in the Atkins study) is a credible site for deployment by 2025, if Dungeness is put aside for the purposes of this response, we agree that the only remaining sites that appear to be credible for deployment 2025 are the ten locations listed in the Government's draft NPS.

In addition, we do not agree that Dungeness should be omitted from the list of potentially suitable sites, although we accept that further detailed work will be required to demonstrate that a suitable compensatory habitat can be established.

**23. Do you agree with the findings from the Appraisal of Sustainability reports for the draft Nuclear National Policy Statement?**

Yes. The Appraisal of Sustainability (AoS) reports for the draft Nuclear NPS provide a reasonably comprehensive summary of the issues of sustainability. There are a number of areas which will require more detailed appraisal at the project level, and it may be helpful if these were identified in the AoS to provide direction to the IPC and developers. In particular, detailed assessment and possible modification of the infrastructure network to support the construction and operation of a new nuclear power station may be required. Cumulative effects, between new power stations and existing power stations on adjacent sites will also need to be considered.

The findings of the AoS are based on a generic design of a nuclear power station, and the outcome of the assessment may change once a specific design has been chosen and applied for a specific site.

We have the following minor comments on the site-specific AoS reports:

**Dungeness**

There is an inaccuracy in paragraph 4.73 of the AoS Site report for Dungeness. Dungeness is on the south coast, not the east coast of England, and the general direction of sediment transport is towards the east along the frontage of the nominated site, not the south.

**Hartlepool**

Paragraph 4.1 on page 22 is incorrectly numbered, and refers to grey seals whereas it should refer to common seals.

**Heysham**

Paragraph 4.20 should include the existing Heysham 1 and Heysham 2 power stations within an 80km radius of the nominated site. The total electrical generating capacity of Heysham 1 and Heysham 2 is 2.4 GW, not 3.4 GW.

Paragraph 4.12 should make clear that the Lune Estuary is part of the Morecambe Bay Special Protection Area (SPA), and is not a separate SPA.

Table 6.2 refers to Morecambe Bay SAC, whereas it should refer to Morecambe Bay SPA.

## Sizewell

Paragraph 4.9 refers to Great Yarmouth as the nearest large shipping facility. Lowestoft and Felixstowe ports are closer than Great Yarmouth and either could potentially be used for delivery of large items.

- 24. Do you think that any findings from the Appraisal of Sustainability reports for the draft Nuclear National Policy Statement have not been taken account of properly in the draft Nuclear National Policy Statement?**

No. We agree that the draft Nuclear NPS takes account of the findings of the Appraisal of Sustainability. Further work will be required at the project level by developers in order to fulfil the requirements of the Planning Act 2008 to provide an Appraisal of Sustainability.

- 25. Do you have any comments on the Habitats Regulations Assessment reports for the draft Nuclear National Policy Statement?**

The Government's approach to the Habitats Regulations Assessment (HRA) and examining the evidence on whether the proposed plans will have an impact on the integrity of European sites appears to be thorough and is supported by appropriate evidence. Further work will be required at the project level by developers in order to fulfil the requirements of the Habitats Directive.

We would like to point out an inaccuracy in paragraph 3.22 of the HRA Site Report for Dungeness. EDF Energy provided a supplementary report detailing the results of surveys for Great Crested Newts in the nominated land and surrounding area. Great Crested Newts are a primary reason for the selection of the Dungeness SAC which comprises 3223 hectares of the Dungeness foreland and includes numerous water bodies. This report has been misrepresented and we wish to make clear that (a) the area surveyed extended well beyond the nominated area of approximately 91 hectares and (b) there are no water bodies within the nominated area capable of sustaining this species.

- 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?**

No.

## Chapter 6: Impact Assessment and other questions

- 27. Do you have any comments on the Impact Assessment report for the draft energy National Policy Statements?**

We agree that the clarity and increased certainty provided by the NPSs will provide investors with greater confidence to proceed with NSIPs, which will also help reduce the costs of renewing the UK's electricity infrastructure and will benefit both the UK economy and energy consumers.

- 28. Does this package of draft energy National Policy Statements provide a useful reference for those wishing to engage in the process for development consent for nationally significant energy infrastructure, particularly for applicants?**

Yes, we believe that the package of draft energy NPSs, as currently drafted, provide a useful reference for different stakeholders in terms of providing a clear and stable policy framework for NSIPs. This will help to give applicants greater confidence in their investment plans by, in effect, forming a checklist of the principal issues to be assessed and so will deliver a higher degree of predictability and transparency for the process by informing applicants of the main issues that the IPC will consider when assessing applications for development consent.

**29. Do you have any comments on any aspect of the draft energy National Policy Statements or their associated documents not covered by the previous questions?**

We believe that the role of the NPSs under the Town and Country Planning Act 1990 (TCPA) needs to be clarified. As currently drafted, the NPSs state that they 'may' be a material consideration in decision making by local planning authorities on applications that fall under the TCPA but EDF Energy is firmly of the view that this should be strengthened to 'will be a material consideration' and that the NPSs should be afforded the same status under the TCPA as Planning Policy Statements and other relevant planning policies.

We are aware of the letter sent by Communities and Local Government (CLG) to the Chief Planning Officers dated 16 July 2009 that sought to address this issue. That letter refers to The Planning System: General Principles published by CLG in 2004, which states that the Government's statements of planning policy are material considerations that must be taken into account, where relevant, in decisions on planning applications. We consider that it would be sensible for this to be referred to directly in the NPSs.

**EDF Energy**  
**February 2010**