

## **1<sup>st</sup> December 2011 – Bideford Town Hall**

### **Atlantic Array – members' briefing and Q&A session**

The information below has been provided in response to specific questions received from the members of Devon County Council, Torridge District Council and North Devon Council in advance of a briefing session to be held with the Atlantic Array Project Team on 1<sup>st</sup> December.

The Atlantic Array proposal will require statutory consent, and an Environmental Impact Assessment (EIA) is currently being undertaken to support the application for such consent. The EIA will consider the effects of the proposal on physical, ecological and human receptors both onshore and offshore.

The legislative framework for EIA is set by European Directive 85/337/EEC, as amended by Directive 97/11/EC, Directive 2003/35/EC and Directive 2009/31/EC. Collectively, this is known as 'the EIA Directive'. The EIA Directive requires that EIA be undertaken in support of an application for development consent for certain types of project. For Nationally Significant Infrastructure Projects that require development consent under the Planning Act 2008, including offshore wind farms of over 100 MW, the requirements of the EIA Directive have been transposed into UK legislation by the Infrastructure Planning (Environmental Impact Assessment) Regulations (2009).

The EIA is currently being undertaken. Until it is complete it is not possible to provide definitive information on the likely effects of the project. A draft Environmental Statement will be produced in Q2 next year, which will provide details of the EIA, the methodology, baseline environment and results of the impact assessment on the physical, ecological and human environment. This will clearly identify the impacts of construction, operation and decommissioning of the wind farm. There will be a six week period during which you can view the documents and comment further on the proposals. The final application will be submitted towards the end of 2012.

The majority of questions which have been raised by the members are addressed in considerable detail in the two volumes of Preliminary Environmental Information (PEI) which were provided to support our recent community consultation required under Section 47 of the Planning Act 2008. These documents have been available on the Atlantic Array website, [www.npower-renewables.com/atlanticarray](http://www.npower-renewables.com/atlanticarray) since September 2011, and are still available for download. During the consultation period hard copies of the documents were available at local access points, including local libraries and Council offices. In addition the information was available on CD for visitors to the public exhibitions to take away, or to receive by post on request.

The responses provided below include references to the sections of the PEI where more information on a particular topic can be found. The offshore elements of the project are contained within Volume 1, and the onshore elements within Volume 2.

A number of specific questions have been raised in relation to current energy policy, the wider debate regarding climate change, the benefits of offshore wind and the Crown Estate's Round 3 site selection process. Channel Energy Ltd (CEL) recognise the urgent need for renewable energy to address the threat of climate change and to increase security of supply, however detailed discussion on these issues is beyond the remit of the consultation activities associated with the Atlantic Array proposal. We have provided information which is in the public domain in response to the specific questions raised on these wider issues. Further information regarding the Round 3 site selection process can be found on the Crown Estates web site

[www.thecrownestate.co.uk](http://www.thecrownestate.co.uk), and information on the benefits of offshore wind is available from Renewables UK, [www.renewable-uk.com](http://www.renewable-uk.com).

#### Location of the offshore site

1. What were the criteria for the selection of the Atlantic Array site? I understand that the sites round our coasts were identified by the Crown Estates, but I believe that the Crown Estates ownership extends only to the six-mile limit. If, as has been pointed out, the greater transmission distance and the greater loss of energy, at this site, why have all the sites not been located on the east and south coast where the bulk of the electricity consumption is expected?

**Councillor Sam Robinson (Bideford East) – unable to attend and sends apologies**

**Answer** – Details of the site selection process are provided in Chapter 4 of the PEI, Vol. 1. This provides an overview of the Crown Estate's Round 3 site selection process, and a description of the factors which have determined the current project boundary within the Bristol Channel Zone.

The Crown Estate has responsibility for management of the seabed up to the 12nm limit, and rights to the resources of the seabed up to the limit of the Exclusive Economic Zone, 200nm from the coast. More details regarding the Crown Estate's portfolio and the Round 3 site selection process are available on their website. [www.thecrownestate.co.uk](http://www.thecrownestate.co.uk)

A number of Round 3 Zones are located off the east and south coasts of the UK. However the south-west is currently a net importer of electricity and the existing National Grid transmission system there is capable of taking the electricity from Atlantic Array with the minimum of upgrading. More information on the discussions with the National Grid can be found in Volume 2 of the PEI, Chapter 4 and in response to question 8, in this document.

#### Shipping and boating

2. Has there been an assessment of the numbers of vessels, tonnage total, which will be affected by the Atlantic Array, which will be sited in one of the busiest channels of the world. If so, is it available? Is there any evidence of a similar array in such a busy shipping area?

**Councillor Alison Boyle (Bideford South and Hartland)**

**Answer** – An assessment of the use of the outer Bristol Channel by commercial and recreational vessel will be made as part of the Marine Navigation Safety Risk Assessment. Data has been collected from long term records, two 14 days traffic surveys, as well as and secondary sources, which shows the vessel types, lengths and tonnages that use the area. The MNSRA, and supporting survey information, will be presented as part of the Environmental Statement, and a summary of the survey results can be found in **Chapter 14** of the offshore volume of the PEI.

Wind farms around the UK and Europe are being built in similarly sited locations with respect to ports and navigation routes. On the UK east coast, in the Greater Wash and Thames Estuary strategic areas projects such as Greater Gabbard, seaward of the ports of Felixstowe and Harwich, and London Array and Thanet, are either operating or in construction, and situated in busier shipping areas than the outer Bristol Channel. The marine navigation community are key stakeholders in the project, and the MCA and Trinity House, as well as local port authorities, harbour masters, vessel owners and shipping agents are all involved in ongoing consultation.

3. What are the RYA sailing areas quoted in the consultation document?

**Answer** – The very southern edge of the project area overlaps with the northern edge of the north Devon RYA sailing area, and a number of RYA recognised sailing routes cross the project area. The site does not cover any RYA racing areas.

The RYA have been involved in consultation on the proposal, having provided a scoping response, and we have held a face-to-face meeting with them to discuss the project. Recreational craft will be free to pass through the wind farm once operational. The European Boating Association have stated that for vessels of less than 24m length there is no danger making passage through a wind farm provided they are taking reasonable care. In accordance with the RYA guidance (Sharing the Wind- available on their website), and agreed in direct consultation with them, the minimum clearance between the lowest blade tip and Mean High Water Springs (MHWS) will be 23m.

4. Will the more northerly Bristol Channel shipping lane be diverted through the Pembroke marine firing range as a result of the Atlantic Array?

**Councillor Andrew Eastman (Northam)**

**Answer** – The MoD PEXA at Manorbier has been taken into account when designing the northern project boundary. In consultation with the MoD Defence Estates and the base commander, we have designed a boundary that allows safe passage of vessels to the south of the PEXA during firing exercises, and will allow them to maintain their 'clear range' status.

#### Radar and maritime safety

5. Are there likely to be blank spots and distorted radar readings as a result of the Atlantic Array, particularly in the light of just having lost our Coastguard station at Swansea, a much reduced light from Hartland Lighthouse and MoD objections to other wind-farms on the east coast of England due to line of sight issues?

**Councillor Andrew Eastman (Northam)**

**Answer** – As part of the Aviation Assessment and the Marine Navigation Safety Risk Assessment (MNSRA) both land based and ship based aviation and marine and radars are examined.

For land based radars, we have been in discussions with military and civil radar operators to look at the potential impacts of the array on radars around the Bristol Channel, and to understand potential mitigations to any effects. The MoD is working closely with us to ensure their services are not adversely affected. More detail on the potential impacts and mitigations can be found in Chapter 21 of the offshore PEI.

We have undertaken a detailed study on the impacts of the wind farm on ships radar, which will be presented as part of the draft Environmental Statement, and is discussed in Chapter 14 of the offshore volume of the PEI. There is also considerable industry work ongoing, through navigation stakeholder led groups, to look at the potential impacts and mitigations. It is currently proposed that a radar or Automatic Identification System will be integrated into the wind farm to aid navigation in the area. The MNSRA also considers the Search & Rescue resources available, and a formal Emergency Response Cooperation Plan (ERCoP) must be agreed with the MCA prior to construction.

6. There have been reports of problems with mobile phone and TV reception in the Ilfracombe area, thought to be as a result of land-based turbines? Can assurances

be made that essential services such as the coastguard will not suffer reduced communications reception?

**Chris Hannington (Hartland Parish Council)**

**Answer** – The maintenance of essential communications links for services such as the coastguard is an important part of the MNSRA and Communications Assessment. The assessment of all communication links in the area, both terrestrial and marine is currently underway, and any potential impacts on these links will be presented in the draft Environmental Statement. Detail of potential impacts can be found in chapters 14 and 22 of the offshore volume of the PEI.

In the event that the MNSRA shows they will be affected it is currently proposed that a communication system is put in place, additional to the requirements for the system designed to manage wind farm traffic during construction and operation, which could be used to boost signals and to liaise with local ports and other marine stakeholders. This would ensure vital communications are not degraded.

#### Marine conservation / fisheries

7. What consideration and practical evaluations are to be made on the impact to the existing and proposed extension to the Marine Conservation Zone and Area of Special Scientific Interest around Lundy?

**Councillor Geoff Fowler (Ilfracombe); Councillor Andrew Eastman (Northam)**

**Answer** – The marine protected area (MPA) network, incorporating the Lundy MCZ, is addressed in PEI Vol.1, Nature Conservation Chapter, Paragraph 11.47. The final proposals for MPA network do not include an extension to the geographical limit of the current Lundy MCZ, although the existing no-take zone is recommended as a reference area under the proposed MCZ network, and revised conservation objectives for the MCZ have been proposed.

The potential effects of the Atlantic Array on the Lundy MCZ are outlined in a number of areas in the PEI Vol. 1. The potential for increased suspended sediment to have an effect upon the features of the MCZ are informed by the Coastal Processes assessment, described in Chapter 6, particularly paragraphs 6.8 – 6.9, and 6.35 - 6.38. The methodology for evaluating the potential effects upon the marine ecology features of the MCZ are described in Chapters 7 and 8, Benthic Subtidal and Intertidal Ecology, and Fish and Shellfish Ecology respectively.

The Impact Assessment is currently being completed for the effects on ecological receptors, and designated sites, including the current and proposed MCZs. The outcome of the assessment of impacts will be presented in a similar way in the draft Environmental Statement.

8. There is a question that in other parts of the county the new fuel efficient means of propulsion on the support vessels can kill or injure seals. Although the manner of death has not been proved, or disproved to be caused by these vessels, can you assure us that these types of support vessels which may be using this type of propulsion will not be used with Atlantic Array?

**Councillor Andrew Eastman (Northam)**

**Answer** – Corkscrew injuries are believed to be associated with ducted propellers and azimuth thrusters which are used for the dynamic positioning (DP) of vessels. These boats maintain their position by altering the speed and direction of their thrust. This type of activity increases the potential for animals to approach the propellers and be drawn into them. DP vessels are used in many marine activities, and this is not an issue related to a particular industry.

The statutory nature conservation bodies are currently undertaking more work to understand the possible causes of these injuries. The Joint Nature Conservation Committee (JNCC) is drafting guidance on the use of DP vessels, which will be revised as understanding of the issue increases. The guidance takes a risk based approach and proposes measures to mitigate potential effects, including use of alternative vessels, timing restrictions, and the use of on-board observers of seal behaviour.

The mitigation we propose in the Environmental Statement and adopt during construction and maintenance of the wind farm will conform to the current guidance. It is likely that when construction of the Atlantic Array commences there will be greater understanding of the problem, and technical mitigations may have been developed.

9. When do we get sight of the publication of research into the effect of electro-magnetic pulsing on pelagic fish species? Have any compensation measures been agreed with the North Devon Fishermen?

**Councillor Sam Robinson (Bideford East)**

**Answer** – There is a wide ranging body of evidence on the effects of EMF on marine organisms which is published in peer reviewed journals, and therefore in the public domain. A good starting point for this research is the COWRIE website, with reports such as:

[http://www.offshorewind.co.uk/Pages/Publications/Archive/Fish\\_Shellfish\\_and Benthos/EMF-sensitive\\_fish\\_res98fdb9e3/](http://www.offshorewind.co.uk/Pages/Publications/Archive/Fish_Shellfish_and_Benthos/EMF-sensitive_fish_res98fdb9e3/).

Use of this material in the context of Atlantic Array will be presented in the draft Environmental Statement. Potential impacts relating to EMF can be found in Chapter 8 (Fish and Shellfish Ecology) and Chapter 13 (Commercial Fisheries) of the Preliminary Environmental Information.

We are in discussion with the North Devon Fishermen's Association, and with individual fishermen who use the outer Bristol Channel. As dialogue is ongoing, the content of those discussions, and any mitigation measure to be employed, is a private matter between RWE and those individuals.

10. Will there be any significant effect with heat from the cables, as the electricity is transmitted from array to shore in the water?

**Councillor Ian Harper (Alwington Parish Council)**

**Answer** – The cables to be used are offshore specific, designed for long term deployment in the marine environment. The cables are designed to be well insulated, both from a thermal and electromagnetic viewpoint, and contain multiple layers of insulating material. Any residual heat will be dissipated quickly with distance from the cable, and as we will plan to bury all cables within the sediment that heat would be unlikely to affect the water in any way. Any impacts of an array or export cable will be small and highly localised. A detailed assessment of all potential impacts of the cables will be presented in the Environmental Statement, in Q2 2012.

#### Noise pollution and vibration

11. Noise travels faster and more effectively through and over water. With the number of turbines being proposed, what unbiased assurances can you give us that this will not affect either people on shore and wildlife at sea and exactly what studies have been undertaken? Will the vibrations affect marine mammal navigation systems and gestation?

**Councillor Andrew Eastman (Northam)**

**Answer** – As part of the EIA we are conducting assessments on the impacts of airborne and underwater noise and vibration associated with the construction, operation and decommissioning of the project. These studies are site specific, using site data, such as the bathymetry of the area, and will be presented in the Environmental Statement. A summary of the potential impacts can be found in sections 18 and 19 of the PEI.

For airborne noise, modelling has been conducted using known source values from turbines, known over-sea noise propagation (and assuming 'worst case' atmospheric conditions), and are being compared with background noise measurements taken at locations along the coast. These will then be compared with the World Health Organisation and other guidelines for preservation of sleep etc. The distance of the wind farm from land is considerable in terms of noise propagation, and the assessment is expected to show operational noise will not be heard on land.

For underwater noise and vibration we have contracted the National Physics Laboratory, a world leader in underwater noise propagation, to undertake site specific modelling on the underwater noise and vibration from foundation construction. Again, the results of this study will be presented within the ES. The results of these studies will then be discussed in the relevant chapters, such as Marine Mammals, and marine ecology.

12. Will there be significant noise, traffic movements and light pollution caused by the cable laying operation and are operations likely to be 24 hours? Additionally will road closures be likely?

**Councillor Ian Harper (Alwington Parish Council)**

**Answer** – As referenced in the onshore PEI, under chapters 7, 12 and 13, there are a number of areas where we will assess the impacts in terms of noise and light pollution and the effects that they may have upon human and other receptors. There are areas where work is proposed to be 24 hours a day, mainly at the significant Horizontal Direct Drilling (HDD) locations. These HDD locations are at the landfall and the river crossing. Other areas should not need 24 hour working.

It is possible that some local roads may be closed and diversions put in place as a temporary measure where the cable route crosses the local road network. All possible impacts will be assessed as part of the draft Environmental Statement and where necessary we will suggest mitigation measures to minimise the impacts, these may include restrictions in the number of our traffic movements per day or the hours when our construction vehicles can use the road network.

13. What will the noise effects be from Lundy?

**Steve Whitfield (Parkham Parish Council)**

**Answer** – See answer to Q11. Background noise values have been recorded on Lundy, and Lundy will be an import receptor to consider in the ongoing assessment.

Geology and seabed

14. Will the combined effect of a massive tidal range and the turbine structures cause significant changes to the flow of water and seabed, particularly the sand-waves present towards the north of the site? Is additional erosion and damage to sea defences likely to result on the northern Devon coast? Has this been verified by independent oceanographers?

**Councillor Andrew Eastman (Northam)**

**Answer** – As part of the Atlantic Array Environmental Impact Assessment (EIA) we are undertaking a full assessment of the potential impact on coastal processes. This will investigate if there are likely to be any impacts in both the near field (around the turbines) and far-field (at the coast), and will look at sedimentation, hydrodynamics, tides and waves. The study will follow industry best practise guidance, which can be found at:

[http://www.offshorewind.co.uk/Pages/Publications/Archive/Other/Coastal\\_process\\_modell6f6d2c53/](http://www.offshorewind.co.uk/Pages/Publications/Archive/Other/Coastal_process_modell6f6d2c53/)

An important aspect of this work will be to understand if the wind farm is likely to have any impact on beaches and beach defences along both the north Devon and south Wales coasts. The investigation will be based on the worst case foundation type and layout within our design envelope, so that any calculations are based on the greatest possible impact (as is normal in an EIA). Should the modelling work point to any significant impact on waves, tides or sediment at coastal locations then mitigation, such as a narrowing of the design envelope will have to be implemented.

The modelling work and assessments are being undertaken by specialist consultants ABPmer. However the methodologies have been agreed with the Marine Management Organisation (MMO) and their scientific advisors, CEFAS, who as statutory bodies will also be examining and commenting on the assessments.

15. Why are the results of the 'Pre Installation site survey' of the sea bed not available for public scrutiny?

**Steve Whitfield (Parkham Parish Council)**

**Answer** – Data from the offshore surveys we have undertaken as part of the development of Atlantic Array will be presented in the technical appendices to the Environmental Statement. This data will form a major part of the 'baseline' environment, against which the project will be assessed. All parts of the Environmental Statement, including those technical appendices with offshore survey data, will be available for public consumption when the ES is published in Q2 2012.

If consent is achieved then further surveys will be undertaken prior to installation, during installation, and post installation, in order to monitor the actual impacts of the project, and compare against those identified in the ES. The design of these surveys will be in accordance with best practice and in agreement with statutory bodies, such as Natural England.

#### Consultation process

16. In the light of the government's much trumpeted localism focus, when will the company begin to involve the Parish Councils of the affected cable corridor parishes – Abbotsham, Littleham, Bideford, Alverdiscott and Huntshaw in their public consultations and negotiations, rather than just statutory consultees, such as district and county councils?

**Councillor Sam Robinson (Bideford East); Alan Rayner (Senior Council for Devon - Bideford and District - deputy chairman)**

**Answer** – All of the above Parish Councils were invited to respond to the Scoping Report issues in April 2010 and we have held meetings with Alverdiscott and Huntshaw Parish Council on 14<sup>th</sup> September this year, Littleham Parish Council on 19<sup>th</sup> October (both of which Cllr Robinson attended) and will be meeting with Abbotsham Parish Council on the 6<sup>th</sup> December. Letters were sent to all affected Parish Councils to invite them to attend the public exhibitions and we met a number of councillors at those events.

17. Who gives planning permission for the associated land works?

**Chris Hannington (Hartland Parish Council)**

**Answer** – The onshore works will form part of the same application as the offshore wind farm as ‘Associated Development’. The onshore works are associated development as they are only necessary as a result of the offshore wind farm proposal. They will therefore be considered and given consent by the same body, the application will be made to the Infrastructure Planning Commission (or its successor as recently amended by the Localism Act). The offshore wind farm is a Nationally Significant Infrastructure Project (NSIP) and therefore the decision is made at a national level with input from Local Authorities affected by the proposal. The IPC will then make a recommendation to the appropriate Secretary of State, in this case the Department of Energy and Climate Change (DECC) who will then either grant planning permission or refuse it.

Alternative options for the site

18. Unlike wind power, tidal power is quantifiable, reliable, and constant within its twelve hour cycle. The Atlantic Array is situated in one of the most tidal areas of the world. Why are we not harnessing tidal power at the site?

**Councillor Andrew Eastman (Northam)**

**Answer** – The Bristol Channel Zone has been identified by The Crown Estate, under its Round 3 programme, as suitable for offshore wind generation. The form of the agreements is only for a wind farm and associated structures to be constructed.

Tidal energy is being considered by The Crown Estate and developers, and areas have been identified as suitable around the UK coast. Tidal energy comes in two forms; 1) a barrage and 2) tidal stream generators. The proposed River Severn tidal barrages has recently been reviewed by Government who concluded that the project is not economically viable and has too great an impact on the environment in the River Severn to be acceptable.

Tidal stream generators are only at the prototype stage, where wind energy generators were about 20-30 years ago. Therefore, whilst they might be possible to install in large numbers in the future, at the moment they have not been proven sufficiently to be a suitable technology for widespread deployment. The areas identified for tidal stream deployment in the UK have far higher average and peak current speeds than anywhere in the R3 Bristol Channel Zone. To find comparable speeds in the Bristol Channel means going either considerable closer to the coast or up-channel.

Wave generation is similarly in the prototype stage, with deployment centres such as EMEC and Wavehub (which is unfortunately yet to deploy a device) the focus of the UK industry. The costs of these forms of generation are greater than for offshore wind, and investment in them is slow. However the recent announcement by DECC of greater levels of support for wave and tidal generation will hopefully stimulate interest.

19. Would wave or tidal power options be more cost effective?

**Councillor Hugh Bone (Abbotsham Parish Council)**

**Answer** Grouped with the answer to question 18.

## Cable corridor and grid connection

20. The cliff face around Bideford Bay is fragile. How thorough has the testing been to ensure that the area can withstand any construction regarding cables etc?

**Councillor Alison Boyle (Bideford South and Hartland)**

**Answer** – The landfall at Cornborough Range has been chosen specifically because the cliff face drops away at that point along the coast and there is an area of around 150 – 200 metres where the land is much lower. The type of work that we are proposing at this location has already been carried out by South West Water – there is an outfall pipe at this location that was installed approximately 10 years ago using the same method. We have been consulting Natural England for over 2 years now about the project from an onshore perspective and part of our conversations with them are about the landfall and their role as statutory consultees for the geological SSSI that runs along the coast. We have undertaken desktop studies and geophysical surveys at this point in time and expect that we will undertake site investigation post consent.

21. What sized compound will be required to service the cable laying operation and where is it likely to be located?

**Councillor Ian Harper (Alwington Parish Council)**

**Answer** – There are a number of temporary works areas or compounds shown on Figure 5.4 ‘Construction Compound Locations’ of the onshore PEI. A copy of the PEI on CD has been sent to Alwington Parish Council. The exact size of the compounds is yet to be agreed and depend upon the activities that need to be undertaken.

22. Can we be assured that the agricultural usages of the land under which the 200ft width of cabling trenches will pass will be capable of operating as before without any impediment or hazard? If not can we be given a list of the prohibitions that will be in place following installation?

**Answer** – The cables will take up about 40 metres of the 60 metre width corridor, the land use over the area directly affected should largely remain the same, with almost all farming activities carrying on as before. There are a number of restrictions we will be requesting from the landowners in order that we can safely operate the plant and these include;

- No building over the cables
- No surfacing over the cables without agreement
- No increasing or decreasing of the ground levels without agreement
- No planting of trees over the cables (or shrubs without agreement)

We are in discussions with all of the landowners in terms of the commercial agreements with each of them.

23. Can you give, in terms of acreage/hectares, the size of the installations anticipated for the National Grid connection at Alverdiscott, and, total scale of the wider works required there?

**Answer** – The maximum footprint of the proposed RWE substation is 13.5 hectares, the National Grid extension is approximately 5 hectares in scale but some of this is over the existing site. This is described in Chapter 5 of the onshore PEI. The National Grid extension will now not form part of the RWE application as they have relocated their proposal to land under their ownership and are looking to carry out the work under permitted development rights. We are looking to secure further land for

screening and mitigation purposes, the footprint of this has not been agreed yet but will be described in the draft Environmental Statement.

24. (a) It has been claimed that the spare capacity on the Welsh Grid from the loss of heavy industry has been taken up by the output of the gas-powered station in Pembrokeshire. With that and other feed-ins, why was attention not given by the National Grid to enhancing the Severn River crossing?

(b) Has the National Grid been remiss in not seeking from yourselves and other electricity-providers the investment of funds to enable this enhancement?

**Councillor Sam Robinson (Bideford East)**

**Answer** – National Grid have connection agreements with a number of developers in South Wales, not just for the gas fired power station at Pembroke. National Grid recently carried out an exercise that looked at the relative merits of connecting Atlantic Array to a number of different locations and this included the possibility of locations along the coast in South Wales. The capacity of Atlantic Array would actually trigger the need for a new crossing of the Severn, not an enhancement of the existing one. National Grid estimated the cost of this to be in the region of £300 million. As they are a regulated company and have to justify all costs as they are eventually returned to the consumer they felt that this was an inappropriate course of action given the proximity of Alverdiscott to the wind farm location. South West England is a net importer of electricity from the rest of the UK; Wales is a net exporter already without the addition of Atlantic Array.

25. a) How much more of Devon's countryside will be destroyed in the upgrading of the National Grid?

b) Would it be more cost effective to lay underwater cables (UK is a world leader in this technology) to Hinckley Point where there is already a distribution sub-station which is underutilised? The distance is greater but would involve little civil engineering on land.

**Councillor Andrew Eastman (Northam)**

**Answer** – If the question in part a) is whether National Grid need to upgrade their existing infrastructure outside of the work described in Chapter 5 of the onshore PEI then the answer is none. All the work needed will be carried out at Alverdiscott substation.

b) The distance from the centre of the proposed site for Atlantic Array to Hinkley substation is roughly twice that of the distance to Alverdiscott (see Figure 4.1 in the onshore PEI). Offshore cable installation is somewhere between 15 to 20% more expensive, including installation costs, than onshore cable installation. Therefore we would have to carry the cable approximately 50kms further and pay extra for at least 10kms offshore that would have been onshore with the route to Alverdiscott. This would not be more cost effective.

26. What is the nature of the land-easement covenants with the relevant land-owners including the scales of compensation to be offered?

**Answer** – Any agreements signed between RWE and the landowners on the cable route are commercial contracts which include confidentiality clauses. We would not therefore divulge the details of the agreements nor the compensation included in them.

### Turbines

27. There have been a lot of rumours that the technology needed for the Array to be set in position has not fully been decided. My question is how are the turbine towers

going to be anchored to the sea bed or are they to be held in place by other means?  
**Councillor Caroline Chugg (Braunton Rural)**

**Answer** – We are including a range of options for foundations within our project design, in accordance with the principles of the Rochdale Envelope. This method involves assessing the project's impact with all 'worst case scenario' options within the envelope. These options can be found in Sections 5.24 to 5.63 of the offshore volume of the Preliminary Environmental Information, and more detail on the Rochdale Envelope approach in section 3.8.

The choice of foundation will be made following the process of Detailed Design, which, as with all offshore wind farms and the majority of large infrastructure projects, will take place post consent.

28. Do we have clearer idea of the number of turbines yet?

**Councillor William Mumford (Portfolio holder for Economy, Enterprise and Employment at Devon County Council)**

**Answer** – The number of turbines will be within the range of 188 to 417 stated, as stated in Table 5.2 of the Preliminary Environmental Information Vol. 1, and will be dependant on the generation capacity of the turbine. The capacity of the entire array will not exceed 1500MW.

The choice of turbine will be made following the process of Detailed Design, which, as with all offshore wind farms and the majority of large infrastructure projects, will take place post consent.

#### Construction and dismantling

29. Exactly how long is RWE expecting Atlantic Array to be operational? What happens once it has finished its active life? What assurances do we have that out sea bed will be restored to what it was? What by way of a bond is required to set against the costings of the dismantling of the apparatus and the return of the terrain both marine and onshore to its original condition?

**Answer** – The proposal is for an operational life of 25 years. At the end of this period we will consider whether to look to decommission the project or replant, as the lease with The Crown Estate is for 50 years. Both options will be subject to a separate EIA, and will follow best-practice at the time.

The requirement to decommission the Atlantic Array is a condition of the Crown Estate lease and is also incorporated in the statutory consenting process through the provisions of the Energy Act 2004. The requirement for funds for decommissioning to be set aside during operation of the wind farm are set out in BERR's Guidance Note for 'Decommissioning Offshore Renewable Energy Installations under the Energy Act 2004 (January 2011)'. There are a number of options for how a bond would be administered, which can be found in Section 8 of the document.

30. What proportion of the materials to be installed on those platforms is to be manufactured in this country, and can we have a break-down of the expected sourcing of these materials?

**Answer** – We are unable to provide a breakdown of expected sourcing of the different components of the offshore wind farm. Unfortunately historically the major components such as the turbines and foundations have been sourced outside of the UK, however following the launch of the Round 3 offshore leasing round a number of the major component suppliers are now looking to set up manufacturing facilities in

the UK. This provides a big opportunity for UK manufacturing and suppliers at all levels at these major component manufactures review their supply chains. RWE is committed to supporting the local, regional and UK supply chains capture as much benefit from the project as possible and to asset this being realised has developed a supply chain initiative which includes the following 3 objectives - Educate, Facilitate and Evaluate. For more information on the supply chain initiative see the answer to question 53.

31. Is it true that wind turbines require five times as much steel and concrete per unit of power as nuclear plants?

**Councillor Andrew Eastman (Northam); Councillor Sam Robinson (Bideford East)**

**Answer** – We are unable to comment on this question due to not having knowledge as to the level of steel required to build a nuclear power station

32. What is the estimated total cost of the installation of the whole off-shore and on-shore apparatus, compared to estimated cost of building a nuclear power station?

**Answer** – We are unable to comment on the costs of building a nuclear power station; however we are currently estimating that the cost total cost of installing the offshore and onshore components of the project will be 4.5-5 billion. Once the wind farm is in place however the fuel source, the wind, is essentially free and therefore the long term operational costs are relatively small. In contrast a nuclear power station is dependant on a non-renewable fuel source, uranium. In addition at the end of the wind farms life the decommissioning of offshore wind farm relatively straight forward (construction approach reversed), where as the decommissioning of a nuclear power station and the associated costs are very uncertain.

33. What are the dimensions of each of the slabs of foundations that will be laid?

- (a) Where the smaller 3.6 MW are installed? and
- (b) Where the 8MW ones are utilised?
- (c) How is it intended to protect them from the scouring effect of the fast currents in the Bristol Channel?
- (d) What will be the average height of the 3.6 and 8MW masts from base to rotor hub?

**Answer** – Answers to (a) and (b) can be found in **Tables 5.3 to 5.7** in the offshore volume of the Preliminary Environmental Information.

The answer to question (c) can be found in **Sections 5.64 to 5.71**.

The answer to question (d) can be found in **Table 5.2**.

#### Operation and power generation

34. How many power stations will be required to operate on stand-by to cut in when calm conditions prevail and energy demand will be greatest? Will areas of high pressure in winter be an issue when demand is at its highest?

**Councillor Sam Robinson (Bideford East); Councillor Andrew Eastman (Northam)**

**Answer** – The UK's electricity transmission system operates with a significant amount of back-up. This enables variations on power outputs to be managed. This is true of all energy sources. For example coal, gas and nuclear plants suffer from 'outages' when they must be shut down - sometimes for long periods of time. Back-up is also constantly required for other variations in output, such as surges in demand at meal times and during breaks in popular TV programmes.

Variations in wind speed are to a large extent predictable and therefore anticipated changes to the output of wind farms can be quantified. This means a degree of forecasting of potential energy generation is possible. Therefore accommodating significant amounts of wind capacity on the electricity system is not expected to pose any major operational challenge. This view has been confirmed by National Grid and by a comprehensive report commissioned by the Carbon Trust\*.

We do not suggest that all our electricity should come from wind energy; we will need a mix of energy generation types to meet the current and future energy demand. Wind power is one of the UK's greatest renewable energy resource and a very important part of the energy mix which can make a significant, valuable and clean contribution to overall electricity supply.

\*Sustainable Development Commission (May 2005) Wind Power in the UK (page 24), Sustainable Development Commission, London

35. Would be easier, more cost-effective and use less land if we forget wind power and combined new efficient gas operated power stations with tree planting?

**Councillor Andrew Eastman (Northam)**

**Answer** – Offshore wind farms do not rely on importing gas from outside of the UK, which gas operated power stations do, even if they are more efficient. This leaves the UK vulnerable to prices increases in commodities in the current market and would increase that vulnerability in the future if the UK were only to commission new gas powered stations. We will need a mix of energy generation types to meet the current and future energy demand. Wind power is one of the UK's greatest renewable energy resource and a very important part of the energy mix which can make a significant, valuable and clean contribution to overall electricity supply.

According to <http://www.carbonfootprint.com/plantingtrees.html> 'On average, one broad leaf tree will absorb in the region of 1 tonne of carbon dioxide during its full life-time (approximately 100 years).' The estimated figures for the amount of carbon dioxide that Atlantic Array will 'save', i.e. will not be produced by other means of electricity generation is set out in Chapter 4 of the offshore PEI, paragraph 4.25 and footnote 9 explain how the figure has been calculated. The figure is a range between 2.04 and 4.61 million tonnes per annum.

36. Are your figures for the number of homes for which the turbines are claimed to be capable of supplying based on the maximum output of the array or on an average? What is the assumed consumption per home of your calculations?

**Answer** – The estimated output, expressed in number of homes supplied, is a long-term annual average taking account of wind speeds at the site and planned and unplanned maintenance work.

Equivalent homes supplied is based on annual electricity consumption per home of 4700 kWh, which is derived from a total UK domestic electricity consumption of 117.589 terawatt-hours (TWh) and 25.2 million UK households giving 4,666 kWh per year per household. UK energy consumption is as stated for 2004 in The Digest of UK Energy Statistics 2005. Number of UK households is as stated for 2003 in the Mid-year Household Estimates published in 2004 by the Office for National Statistics.

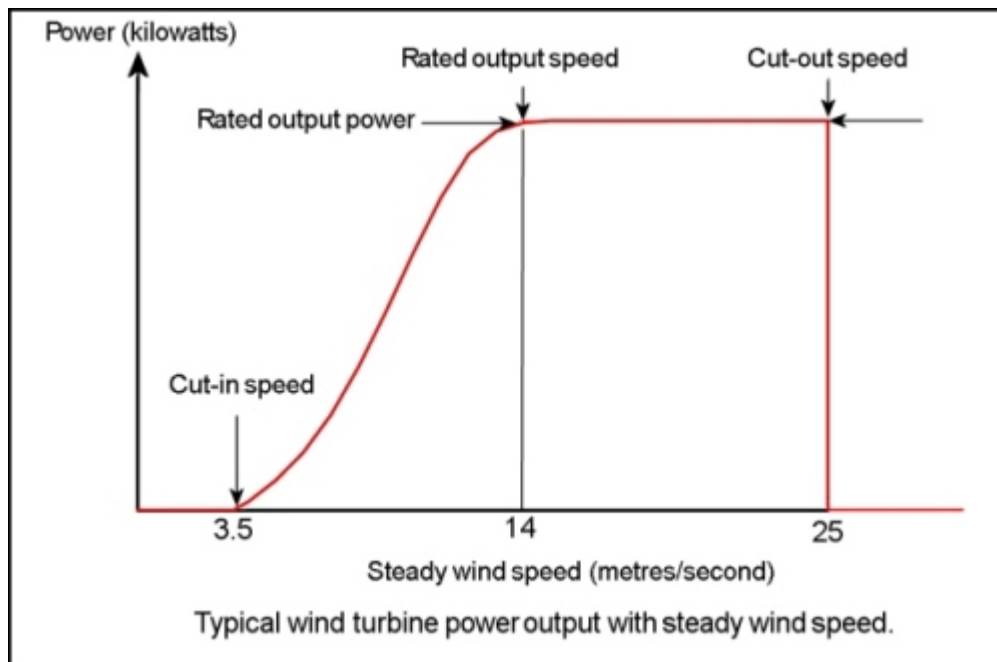
37. Can we be supplied with a graph to show the percentage drop-off of output from a turbine for each 5-knot drop in wind speed from the optimum? How many days per year does metrological data suggest that the array will be shut down due to excessive wind speed? Can you provide a graph of effectiveness versus wind-speed?

**Councillor Sam Robinson (Bideford East); Councillor Andrew Eastman (Northam)**

**Answer** – Below is a ‘power curve’ diagram for a generic turbine. It should be noted that offshore wind specific turbines, such as those which will be deployed at Atlantic Array, are designed to cope with high average and gust wind speeds, and are therefore likely to have a cut-out speed in excess of 25 m/s. (Storm 10 on the Beaufort Scale, 56 mph)

Offshore wind conditions are such that, on average, wind turbines generate for 80-85% of the time\*. That is to say that for this proportion of time the wind speed will be between the cut-in and cut out speed. The remaining proportion of the time the wind speed may be too low or too high to generate. More information on this can be found in the Renewables UK factsheet ‘Wind Power and Variability (June 2010)’.

\* 4 Environmental Change Institute (2005) Wind Power and the UK Wind Resource, Oxford University, Oxford (page 6)



38. I understand that wind turbines do not generate electricity when the wind is too low or too high. I believe the limitations on electricity production imposed by the effects of wind speed are roughly as follows:

- Up to 5 m/s wind speed, negligible production
- Between 5 and 15 m/s, production increases steadily with wind speed
- Between 15 and 25 m/s production continues but increasing wind speed has no effect on it because energy is being spilt
- At 25 m/s, production ceases to avoid damage to the turbine

Is this correct?

**Answer** – Please see the power curve above (and answer to question 37) which shows the values for cut-in, rated power output and cut-out speeds. It is worth noting that power is not ‘spilt’ as wind speeds rise, but that the generator continues to operate at maximum capacity output from ~14m/s to ~25m/s.

39. No test anemometer location has been recently logged with the MCA and given out as a navigation warning to shipping. Have any been situated by RWE within the

Bristol Channel and if so what actual wind recordings are showing per year compared to effectiveness of the turbines?

**Answer** – There isn't currently a meteorological mast within the Bristol Channel for the purposes of Atlantic Array. We are currently utilising a suite of hindcast mesoscale models, developed by specialist wind technology companies, which have been well calibrated against masts elsewhere in the UK and Europe, and give a very accurate record of wind speeds at the site.

It is unclear what the second part of the question is asking, but the wind regime at the site is highly suited to efficient generation of electricity using the type of offshore turbines described in the PEI, with general power curves as shown above.

40. Wind at sea is different to wind on land, due in part to the specific heat capacities of land and sea and the differences in land and sea temperatures. An on land anemometer reading will therefore be irrelevant. Please could you also explain how temperature affects this effectiveness and is RWE able to provide information on the difference locally?

**Answer** – As referred to in the answer to question 39, we do not rely on onshore masts for our understanding of the offshore wind regime. Our hindcast mesoscale models are calibrated against a wide range of data sources, both offshore and onshore, in order to give an accurate picture of the regional and site specific regime. The role of temperature in shaping the global, regional and local wind regime is therefore inherent in the models. Our internal wind resource team work on both onshore and offshore projects and have a firm understanding of the differences in the wind regimes different environments and sites provide.

41. Have you factored in any potential longer term changes to climate and wind patterns i.e. reductions in overall wind-speed?

**Councillor Andrew Eastman (Northam)**

**Answer** – Our annual average output figures are based on a long-term annual average of a recent 10 year period. Longer-term climatic variability is a very hard thing to forecast with any accuracy. Whilst there is work ongoing in the scientific community looking at refining those predictions to a regional scale (though not at a scale suitable for assessing changes in windiness at Atlantic Array), there is huge uncertainty over the direction of change, let alone the magnitude of any change. However, sensitivity testing on changes in wind speed (both up and down) are undertaken when looking at the long term efficiency and effectiveness of the project, over a 25 year operational period. Climatic changes are also factored into our Environmental Impact Assessment, in terms of potential sea level rise over the life of the project.

#### Subsidies

42. Please could you tell us exactly how much money in direct and indirect subsidies RWE is getting to build and run this proposed wind farm?

**Answer** – The subsidy mechanism for offshore wind, under the Renewable Obligation Certificate, only provides subsidy for generated energy. It is important to note that if the wind farm doesn't generate there is no subsidy. The recent announcement by DECC on ROCs have set out the levels of subsidy until 2017, which shows them reducing over the next 6 years, as costs decrease. The offshore renewable industry is relatively young, in comparison with gas, coal and nuclear, and the ROC system is in part to encourage investment in advancing technologies and construction and operating techniques which will drive costs down.

43. At what level will further reduction in subsidies make this wind farm a financially non-viable proposition?

**Answer** – The reduction in Renewable Obligation Certificates is expected to be offset by a reduction in construction and operating costs. We anticipate that the wind farm will remain viable.

44. Should the wind farm become non cost-effective in the future what would happen to its future, or maintenance?

**Councillor Andrew Eastman (Northam)**

**Answer** – This scenario is unlikely to occur, however once the wind farm is operational sufficient funds are required to be put aside for decommissioning of the components. Therefore at the end of the 25 year life, or sooner should economic factors or energy policy dictate, there would be adequate money available to decommission the wind farm. More information on decommissioning is provided in response to question 29 of this document.

#### Visual impact

45. Has RWE understated the visual impact on the North Devon and the Welsh coast when we can all recognise the distance from the Array to the coast is much closer than displayed in their public documentation? The height appears understated, particularly when compared to the height of Lundy. We would like to see exactly what it will look like on days of 'good' visibility?

**Councillor Andrew Eastman (Northam)**

**Answer** – Photomontages are optically accurate, static, computer-generated images superimposed onto real photographs and used to illustrate how the wind farm will look at different points along the coast. The photomontages are produced in accordance with the highest specification guidance (Landscape Institute/Institute of Environmental Management and Assessment Guidance, 2002, and Highland Council, Visualisation Standards for Wind Energy Developments 2010). The turbines included are at the height and distance specified in the key which is included for each image.

The camera used is that recommended in the Highlands Council Guidance. It is a Canon EOS5D Mkii, Digital SLR. It has a fixed focal length 50mm lens. It also has a full frame sensor. Full frame sensors remove the need for magnification (smaller sensors require magnification and therefore are subject to distortion). It currently produces the closest image to that seen by the human eye.

Using industry standard methodology we create a wireline from 3d Ordnance Survey height data (which gives you the 'net') and a 2d plan of the layout, which gives you the location of the turbines on that net. The turbines and other offshore structures are then added to the height and dimensions specified. The viewpoint is located by GPS and replicated in the wireline. The wireline is then overlaid on the photograph and then rendered.

We endeavour to take the photographs in the clearest conditions available. However, while the visibility on the Devon coast might be clear, it may not be so in Lundy or South Wales. In good weather there is often a haze on the horizon, which also reduces visibility. With nearly 100 viewpoints to photograph we are continuing our efforts to obtain photographs in the clearest conditions.

#### Costs vs. benefits for northern Devon

46. The visual impact of what is actually being proposed is highly significant from locations such as Morte Point and Lundy. We are concerned about the impact on our visitor industry and wonder whether other economic benefits for northern Devon of the project will outweigh any costs in terms of visitor attraction? Have surveys been undertaken as to the impact on tourism GVA and jobs?

**Councillor William Mumford (Portfolio holder for Economy, Enterprise and Employment at Devon County Council); Councillor Andrew Eastman (Northam); Richard Bence (Welcome Parish Council)**

**Answer** – There have been several surveys and reports investigating wind energy and tourism conducted by reputable poll companies and consultants. The results from all these surveys demonstrate that the effect of wind farms on tourism is negligible at worst, with many respondents taking a positive view to wind farms, and saying it would not affect their likelihood of returning to an area.

The impacts on tourism and wider socio-economic effects of the Atlantic Array proposal will be assessed through the environmental impact assessment process. The methodology and approach to the assessment of socio-economic effects of the offshore works is provided in Chapter 17 of the PEI Volume 1, and those associated with the onshore aspects of the proposal in Chapter 14, PEI Volume 2. The outcomes of the socio-economic assessments will be presented in the draft ES.

In March 2011, CEL commissioned an independent market research company (ICM Research) to conduct a survey to measure tourist's attitudes to the proposed Atlantic Array Wind Farm.

In order to collect a representative sample size, it was agreed between the market research company and CEL, that the survey work should be completed between the months of April and July 2011, during peak tourist periods, on good weather days. The survey was consequently completed during half-term week, 3<sup>rd</sup> and 11<sup>th</sup> June 2011. A number of points along the coastline of Devon and South Wales were selected to ensure that a representative sample of interviews could be completed. These sites were ones from which the proposed offshore wind farm would be visible and which are popular tourist locations. The locations in North Devon included Putsborough, Clovelly, Lynton, Ilfracombe, and Lundy.

CEL are not obliged to undertake a tourism survey as part of the formal EIA process, but made the decision to do so in recognition of the importance of the tourism industry to the coastal communities affected by the Atlantic Array proposal.

The data collected during the public opinion survey is commercially sensitive. It will be processed into a technical report which will be included in the draft environmental statement as part of the assessment of tourism. We have also received feedback in relation to potential impacts upon tourism from local people as a result of the S47 consultation activity. These comments are currently being analysed and will be considered during the production of the draft environmental statement which will be subject to statutory and public consultation in 2012 under S42 and S48 of the Planning Act 2008.

Renewables UK estimates that Round 3 could lead to 60,000 new jobs being created. On this basis the 1,500 megawatt Atlantic Array project would create up to 3,000 new jobs through the entire design, fabrication and construction process. Whilst some of these jobs may be outside the UK, given the current lack of UK turbine manufacturers, a large number will be within the UK. We are working with the supply chain at both a national and local level to ensure they recognise the opportunities a project such as this can bring.

CEL expects to employ some 200 full time workers at the local operations base for the duration of the project, which will be at least 25 years. The port(s) to be used hasn't been determined but North Devon is well placed to take advantage of those opportunities.

47. Has RWE undertaken any analysis as to how local house prices and property values will be affected by the Atlantic Array?

**Councillor Andrew Eastman (Northam)**

**Answer** – A 2007 survey by the Royal Institute of Chartered Surveyors on the potential impact of wind farms on house prices concluded that “proximity to a wind farm simply was not an issue.” Estate agents in the case study areas analysed reported that there were generally other factors that had a more significant effect on property prices than a wind farm. A Scottish Executive study found that those living nearest to operating wind farms are their strongest advocates, stating: “The overwhelming majority of people living within 20 km of a wind farm support an increase in the proportion of electricity generated in Scotland through the use of wind power over the coming 15 years (82%), while just 2% feel that there should be a reduction.”

In the worlds most comprehensive study on the subject to date, the USA's Renewable Energy Policy Project compiled a survey of house values in the vicinity of wind turbines compared with those with no turbines in the vicinity. They examined 24,300 property transactions from 10 locations within the US over a period of six years; and concluded that there was no evidence to suggest that wind turbines sited within a five mile radius of property had a negative impact on value.

48. Do you have a clearer idea of the impact of the Atlantic Array on northern Devon's fisheries and other existing employment in the area?

**Answer** – Work is currently underway on the assessment of impacts on the commercial fishing industry, and the full assessment will be presented in the draft Environmental Statement. The potential impacts can be found in the Preliminary Environmental Information, as described in Chapter 13.

We are in ongoing discussions with the local fishing community, including individual fishermen, the North Devon Fishermen's Association and other bodies such as the National Federation of Fishermen's Organisations. A full assessment of the potential impacts on employment will be available in the Socioeconomics chapter of the Environmental Statement. Details can be found regarding potential impacts in Chapter 17 of the PEI.

## Ports

49. Do you have a clear indication of the construction port location yet?

**Answer** – RWE has gone through a comprehensive process of reviewing the port facilities in the South West and South Wales. This process has involved assessing the capabilities or potential capabilities of each facility against key requirements such as access, available laydown space, access (both marine and land), availability of support infrastructure, availability of marine coordination. The consenting and environmental impact of proposed new developments has also been assessed.

In addition RWE have been working with local stakeholders to discuss their ambitions for the proposed locations. Alongside this work the engineering of the project has also been progressing. The final selection of facilities will be made when major

components are selected for the project. It is not possible to provide a confirmed date for when the final facilities will be selected, as this is dependent on the design of the wider project, and is also likely to be dependent on the facilities selected and the scale of their required infrastructure upgrades.

50. Can you provide any more clarity on the location of the supply and maintenance port?

**Answer** – A number of ports are currently being assessed for Operation and Maintenance (O&M) activities. Ideally the facility would be relatively close to the project and cost and accessibility modelling work carried out to date has suggested the use of satellite O&M approach may be beneficial. We have been discussing the potential for North Devon to support the O&M phase with the local authorities and are currently in the process of scoping some joint work to review what development would be required at Ilfracombe for it become suitable to act as a support O&M port.

The O&M phase of the project represents a long term opportunity for area (25yrs+) with the potential to support long term jobs and ongoing support services. The final selection of the O&M approach and port facilities are dependant on the wider design of the project and are unlikely to be made until major components have been selected for the project, primarily turbines and foundation structures

51. If not, when are you likely to have a clearer idea and what can be done locally to ensure we gain the maximum benefit in northern Devon? Can you convince us that Devon is not taking all the pain, while Wales gets all the gain?

**Answer** – RWE is committed to supporting the local and regional supply chains to capture as much benefit from the project as possible. To assist this being realised RWE has developed a supply chain initiative which includes the following three objectives - Educate, Facilitate and Evaluate.

In acting as an Educator RWE aims to make the local and regional supply chain aware of the potential opportunities the Atlantic Array project may represent. To realise this objective RWE has already supported a number of Crown Estate led supply chain events and also held a local supplier event at Petroc College, in partnership with RegenSW, this summer. RWE intends to hold further events in the future and is also considering other methods to make information available to the supply chain.

In acting as a Facilitator RWE has developed a supply chain registration database ([www.atlanticarraysupplychain.co.uk](http://www.atlanticarraysupplychain.co.uk)) and encourages all potential suppliers to register their details with us. RWE intends to supply this information to our major component suppliers and we will request that they provide evidence that they have considered local content as part of their bid when tendering for the project.

The last objective of acting is an Evaluator. We will introduce terms in our contracts which require suppliers to provide us with a breakdown of spend so that we can understand local content and identify further opportunities for increasing this in the future.

52. When will it be built and how do you propose to maximise value to those suffering diminution of value – aesthetic, or otherwise be it compensation, employment of local workers, or in another way?

**Councillor William Mumford (Portfolio holder for Economy, Enterprise and Employment at Devon County Council)**

**Answer** – See answers to questions 48 to 51 above and 53 to 55 below.

### Local compensation

53 There has been a suggestion that, whilst construction is taking place, there will be no payment to any small bed and breakfasts etc., who would therefore lose out on income. I would like this confirmed.

**Answer** – It is RWE's experience that during construction local businesses can also benefit from workers in the local area – it is possible that bed and breakfast businesses may find that they receive consistent business out of season and that local shops and cafes may also benefit from extra trade. The draft ES will look at the impact of the project in terms of the socio-economic impacts, with both potential beneficial and potential adverse effects as an outcome. To assume that these types of businesses will gain or lose out at this stage would be to pre-judge that assessment.

54. Additionally can you please identify those sectors likely to be affected by a lack of compensation?

**Answer** – At this stage of the project the only parties that we are intending to directly compensate are the landowners where the landfall, cable route or substation is proposed on land they own. We have been in contact with these landowners for some time now and are seeking to put in contractual agreements in place with them.

55. There has been a suggestion that there might be payment/benefits coming to this area over the next 25 years. What I would like to know is, is this true and, if so, what would happen if RWE were to fold? Who would take over the payments/benefits and what would be the criteria regarding any payments/benefits?

**Councillor Alison Boyle (Bideford South and Hartland)**

**Answer** – RWE npower renewables is the UK arm of RWE Innogy, which is owned by RWE, one of Europe's five leading electricity and gas companies. We believe that getting involved in the communities in which we work and being good neighbours. We have over 15 years experience of delivering community benefits in association with our renewable energy projects. A community investment package would not be made available until Atlantic Array became operational, but would most likely remain in place for the lifetime of the wind farm. We know that all of the communities in which we operate are different and therefore we work with individual communities to develop community investment packages that really meet their needs.

In the case of Atlantic Array we shortly intend to begin early consultation with local authorities in North Devon and South Wales on the type of package that may be suitable for the project.