

Environment, Development & Transport Committee

Item No.

Report title:	Hornsea Project Three Windfarm Consultation
Date of meeting:	15 September 2017
Responsible Chief Officer:	Tom McCabe - Executive Director, Community and Environmental Services
Strategic impact The above offshore windfarm and onshore grid connection infrastructure will be determined as a Nationally Significant Infrastructure Project under the Planning Act 2008. Norfolk County Council is a statutory consultee on such projects and therefore has the opportunity to comment and influence the final decision. Responding to such consultations will ensure the County Council's views are formally taken into account prior to a final decision being made by the Secretary of State.	

Executive summary

Consultation by DONG Energy for an offshore wind farm 120 km off the Norfolk coast and ancillary onshore supporting infrastructure including: a new booster/relay station (if required); buried cable route (55km); and a new substation (adjacent to Norwich Main). The proposal has a generating capacity of 2.4 million Giga Watts, which is sufficient to provide 2 million homes with electricity. Given the scale of the development it is deemed to be a Nationally Significant Infrastructure Project (NSIP) and will be determined by the Secretary of State for Business, Energy and Industrial Strategy.

This is a formal pre-application consultation under Section 42 of the Planning Act 2008. There will be a further opportunity to comment on this proposal when the application is formally submitted under Section 56 of the Act.

While there are a number of detailed issues to be resolved in respect of highway matters; environmental considerations including flood risk and visual impact/mitigation; and economic development opportunities to be more fully considered, overall it is felt that the proposal is consistent with national targets and objectives on renewable energy and climate change.

Recommendations:

It is recommended that:

- (1) The County Council supports the principle of this offshore renewable energy proposal, which is consistent with national renewable energy targets and objectives, subject to the detailed comments raised below being resolved with the applicant;
- (2) The detailed comments set out in the report and Appendix A are endorsed by this Committee and forwarded onto DONG Energy.

1. Proposal

- 1.1. This proposal for an offshore windfarm and onshore ancillary grid connection infrastructure in Norfolk will be determined by the Secretary of State for

Business, Energy and Industrial Strategy (Greg Clark) as it is defined as a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008. This is a formal pre-application consultation by DONG Energy under Section 42 of the above Act. It is important to note that the County Council as a statutory consultee will also have an opportunity to formally comment on the submitted application (under Section 56), which is expected in Spring 2018.

- 1.2. At this stage the County Council is invited to make comments on the Preliminary Environmental Impact Report (PEIR), made in support of the proposal. The PEIR presents the findings of the Environmental Impact Assessment (EIA) to date.
- 1.3. Members will recall that an information report was brought to this Committee in November 2016 setting the broad scope of this project and another Offshore Wind Project known as the Vanguard Scheme (see Appendix D Map 3 - Offshore Wind Farm Projects in the North Sea). This latter scheme is likely to come forward as a Section 42 consultation later in the year.
- 1.4. The proposal for the Hornsea Project Three Wind farm comprises:

(a) Offshore

Location and Distance Offshore	:	Located between 120 km - 160 km north east of Norfolk in the North Sea (see Appendix B Map 1 - Offshore Site Location Plan).
Total Site Area	:	696 sq.m.
Proposed Capacity and number of turbines	:	Installed capacity of 2.4 Giga-Watt (sufficient to supply 2 million households with electricity).
Number and size of turbines	:	Up to 342 turbines with a tip height of up to 325 metres
Offshore works	:	Interconnector Cables and foundations:
	:	Buried onshore export cable route (145 km) – 6 subsea export cables within 1.5 km corridor width.
	:	Offshore transformer sub-stations platforms (up to 12) plus up to 4 HVDC (High Voltage Direct Current) Converter Stations or HVAC (High Voltage Alternating Current) booster stations - all located within the Array Area;
	:	Offshore HVAC booster stations (up to 3) – located between 40 -80 km offshore (potentially on the sea bed).
	:	Up to 3 accommodation platforms for construction and maintenance staff located within Array Area.

(b) Onshore Work

Landfall Location	:	Weybourne – all associated infrastructure will be located underground.
HVAC Booster Station (if required)	:	Required if electricity brought ashore using HVAC technology within approx. 10 km of landfall. Proposed site located at Little Barningham (between Edgefield and Saxthorpe (see Appendix C Map 2 – Onshore Cable route and other Infrastructure).

		<p>Maximum height of buildings 12.5 m (excl. lightning protection).</p> <p>Site maximum footprint 25,000m² plus temporary area for construction works (25,000 m²)</p> <p>(NB the decision on whether to use HVAC or HVDC will be made after the project is consented.)</p>
Cable route		<p>Buried cable route between Weybourne and grid connection at Norwich Main National Grid Substation (55 km) – (See Map 2).</p> <p>Consultation route based on 200 metre corridor which will be reduced to 80 metres in the final application.</p>
HVDC Converter or HVAC substation Grid Connection	:	<p>A new onshore substation will be required with a footprint of up to 128,000 sq.m. including an area for visual mitigation with a maximum building height of 25 metres. Plus temporary construction area (100,000m²)</p> <p>The proposed substation will be located adjacent to the Norwich Main National Grid Substation – see Map 2.</p>
Ancillary Works	:	<p>The onshore work will require, <i>inter alia</i>:</p> <ul style="list-style-type: none"> Construction compounds (see Map 2)– i.e. support buildings private road and hard standing; Construction of temporary haul roads and access tracks along the onshore cable route; Archaeological and ground investigation; Improvements to highway verges; Highway and private access roads; Works to move sewers, drains; and cables; Works affecting non-navigable rivers, streams or water courses; Landscaping and other works to mitigate any adverse effects of the construction; operation, maintenance or decommissioning of the project including ecological monitoring and mitigation works.

The PEIR indicates that there are a range of transmission options involving using either: (a) High Voltage Alternating Current (HVAC); or (b) High Voltage Direct Current (HVDC). Traditionally HVAC systems have been used in the UK for transmission as the technology is readily available and cheaper. However, HVDC technology is developing and becoming more economically viable. A HVDC solution would remove the need for both an offshore and onshore Booster Station and therefore could be more acceptable in environmental terms.

Hornsea Project Three may use HVAC or HVDC, or could use a combination of both technologies. The PEIR shows the maximum infrastructure requirements needed (i.e. a worse case) based on a HVAC solution. The PEIR also shows the potential infrastructure requirements if a HVDC option is chosen.

2. Evidence

2.1. The principal role of the County Council in responding to the above wind farm proposals, and the onshore infrastructure requirements, will be in respect of the Authority's statutory role as:

- Highways Authority;
- Minerals and Waste Planning Authority; and
- Lead Local Flood Authority.

2.2. In addition the County Council has an advisory environmental role and economic development function, which also needs to feed into any response made to the above windfarm proposal.

2.3. Other statutory consultees include:

Natural England	Highways England
Historic England	Drainage Boards
Marine Management Organisation	Public Health England
Maritime and Coastguard Agency	Energy and utility companies with cable and pipeline interests
Civil Aviation Authority	Parish, District and other County Councils

2.4. The remainder of this section of the report assesses the PEIR in respect of the County Council's key functions and sets out the Authority's proposed response / comments. The response largely relates to the onshore infrastructure required to connect the electricity generated to the National Grid. Appendix A provides more detail on environmental and other matters.

ASSESSMENT of the Preliminary Environmental Impact Report

Overview

2.5. The proposal has a maximum capacity of 2.4 Giga Watts (2,400 MW) of electricity, sufficient to power approximately 2 million households (i.e. this represents almost five times as many dwellings in Norfolk (2011)). Current operational offshore capacity in the UK is just over 4 GW (2015), therefore if consented the Hornsea proposal would potentially increase the UK's installed capacity by 60%.

2.6. The proposal will generate forty times more energy than the Scroby Sands wind farm (60 MW) and more than seven times more energy than the Sheringham Shoal wind farm (317 MW). As such the proposal would contribute to the Government's Renewable Energy targets and objectives (see Section 5 below).

Comment

2.7. The principle of this offshore renewable energy proposal is supported as it is consistent with national renewable energy targets and objectives, subject to the detailed comments below being resolved with the applicant.

Electricity Supply Issues

2.8. As indicated above the proposal could involve either HVAC or HVDC technology or a combination of both. The advantage of using HVDC for transmission purposes would result in removing the need for a HVAC Relay station. The Booster Station has a footprint of 25,000 sq.m. and a height of 12.5 metres. While the applicant has not ruled out the use of HVDC technology, it is felt that

every effort ought to be made to enable a HVDC solution, which would remove the need for the HVAC Station between Edgefield and Saxthorpe.

- 2.9. County Council officers have been in discussion with DONG Energy and other potential offshore windfarm developers regarding the potential for electricity generated from these proposals to be used within the local distribution networks (132 kv and below) i.e. to assist where there are electricity deficits. These discussions have also involved National Grid who have made a formal and legally binding grid connection “offer” to DONG Energy.
- 2.10. National Grid have indicated that the onshore cables from the wind farms will ultimately belong to a future Offshore Transmission Operator (OFTO). In such circumstances, where the main connection point for the OFTO system is at a transmission substation (National Grid), the regulatory arrangements governing OFTO infrastructure do not provide for secondary interconnection between the OFTO system and a local distribution network operator (DNO)(i.e. UK Power Networks). In other words there is no opportunity of “tapping” into the transmission cables and feeding into the local electricity transmission network.
- 2.11. Members will be aware from the report which went to this Committee in November 2016, that there are other offshore Windfarm proposals, which will make landfall in Norfolk (i.e. the Vanguard and Boreas Windfarms). There have been on-going officer and member discussions/meetings with both DONG Energy and Vattenfall (Company behind Vanguard and Boreas) regarding the potential impact on the County’s infrastructure. As part of these discussions officers have sought assurances that there will be as much practical collaboration between the two companies as possible in order to minimise any environmental impact on the County. However, in practice the opportunities for collaboration will be minimal given that grid connection points and landfall sites are being made in separate locations, and both companies are operating in a competitive market. Notwithstanding these issues DONG Energy and Vattenfall are working together in respect of:
- (a) Where their two transmission cables cross;
 - (b) Stakeholder engagement; and
 - (c) Environmental data and survey work.

Comments

- 2.12. It is felt that DONG Energy should:
- (a) pursue a HVDC solution where economically viable in order to minimise the onshore environmental impacts arising from the proposal;
 - (b) Work with National Grid and UK Power Networks to consider options regarding the potential to feed electricity into the local transmission networks to assist, for example, with the electricity needs along the A 11 (T) corridor; and
 - (c) Continue to work closely with other offshore windfarm developers to minimise any onshore impacts arising from their development.

Socio-Economic Issues

- 2.13. There are potentially significant economic benefits that may arise from the Hornsea proposal in terms of:
- Local employment creation;
 - Business sectors affected by construction; and

- Operations and Maintenance (O&M) of the wind turbines;

However, these benefits are difficult to predict at the current time as it is uncertain which port, or ports, DONG Energy will elect to use in terms of construction and O&M. DONG Energy is currently constructing 3 other wind farms, including Hornsea Project One. All use bases in the Humber, and DONG has a major operational base in Grimsby. Both Great Yarmouth and Lowestoft ports have experienced considerable investment from other offshore energy developments and the prospects that this will continue in future are very good.

- 2.14. Notwithstanding the above comments, the PEIR recognises that Great Yarmouth does have the potential to benefit from the proposed development given its “supply chain capacity and capability”. The PEIR cites planned investments in Great Yarmouth arising from other offshore windfarms (e.g. Dudgeon Windfarm).
- 2.15. The County Council is working with all energy companies to promote this sector and the types of skills required for young people in schools and colleges. In addition the County Council is working to create:
- Apprenticeships,
 - Work experience; and
 - Internship opportunities at an appropriate stage.

Comment

- 2.16. The County Council strongly encourage, on economic development grounds and supporting the Norfolk economy, DONG Energy to use the Port facilities at Great Yarmouth for:
- Construction; assembly and manufacture of windfarm components; and
 - operations and maintenance.

Commercial Fishing

- 2.17. While commercial fishing is an offshore issue it is considered appropriate to comment on the impacts the above proposal may have on this sector as Norfolk is home to many commercial fishing activities from its numerous ports and landing areas (i.e. potential economic issue).
- 2.18. The PEIR considers the impact of the proposed windfarm and ancillary infrastructure (cable route; substations; convertor stations and accommodation blocks) on the commercial fishing sector. The type of fishing carried out in the Array area is typically trawling by UK; Dutch; Belgian; and German Vessels. Closer to shore the type of fishing is predominantly potting by UK vessels (i.e. for brown crab, lobster and Whelk).
- 2.19. The PEIR concludes there will potentially be a “moderate adverse” impact on the commercial fishing sectors referred to above both during construction and operation. The impacts could be long term in the Array area if floating turbines with mooring are used as this would prevent fishing in the area. However, if alternative technology is used (i.e. fixed turbines into the sea bed), then this would allow fishing in the Array area to continue.
- 2.20. The PEIR also considers the wider cumulative impacts arising from other offshore windfarms and other offshore operations (e.g. gas and oil extraction; pipelines; aggregate dredging). The PEIR recognises that the impacts could be “major adverse” on some commercial trawling fleets.
- 2.21. The applicant is, however, proposing the following mitigation:
- (a) Advance warning; accurate location details of construction operations and associated safety zones; advisory safety distances and on-going liaison

with all fishing fleets;

- (b) Disturbance payments will be made in accordance with the procedures as outlined in the Fishing Liaison with Offshore Wind and Wet Renewables Group guidance (2014 & 2015).

Comment

- 2.22. It is felt that where there is likely to be a demonstrable impact on commercial fishing affecting communities in Norfolk that DONG Energy should provide appropriate mitigation and compensation to those fishing communities affected.

Local Highway Issues

- 2.23. The PEIR presents the initial traffic and transport considerations and seeks comments upon various routing options. The construction phase is identified as generating the greatest number of vehicle movements. The transportation of materials and removal of spoil for the trenches will cause the greatest impact. The delivery of abnormal loads also needs to be taken into account.
- 2.24. The anticipated volume of construction traffic upon each route option is contained within the PIER. Officers are currently in the process of assessing the applicant's detailed calculations and need to complete this process before being able to comment upon the appropriateness of the various routes.
- 2.25. The formal planning application, when submitted, must be accompanied by a Transport Assessment (TA). The TA will use the feedback from the PEIR to set out proposed traffic routes and access points to the cable corridor. Baseline traffic scenarios will be assessed using data from the traffic surveys undertaken in June 2017. The TA will assess the effects of the anticipated traffic upon driver delay; severance; pedestrian delay; pedestrian amenity; accidents; road safety; and impact from abnormal loads. A draft TA is set out in skeleton form within the PEIR.
- 2.26. The County Council is working closely with the applicant on the above matters.

Highway Comment 1

- 2.27. Until such time as a Transport Assessment (TA) has been completed by the applicant assessing the finalised route options, the County Council (Highway Authority) is unable to endorse the proposal.

The County Council as Highway Authority continue to work closely with DONG Energy regarding their TA works.

Wider Strategic Highway Issues

- 2.28. Members will be aware of proposals to dual the A47 (T) between Easton and North Tuddenham. Highways England have recently announced a preferred route for the A47 (T) (August 2017). Proposals for the dualling of the A47 will follow the same NSIP procedures as the above application. It is understood that formal pre-application work on the A47 dualling will commence later in the year. In addition to the A47 (T) project, the County Council has prioritised the creation of a Western Link between the A47 (T) and the Northern Distributor Road (NDR). The precise alignment of any new Western Link road is not known at the current time and will probably go through the same NSIP procedures as the A47 (T).
- 2.29. Given the proposed cable route is located to the west of Norwich (see Map 2), it is felt that the applicant (DONG Energy) will need to liaise with both Highways England and Norfolk County Council (as Highway Authority) to ensure that the planned cable route does not fetter any future major road plans in the area and

cause additional costs and/or delay to such road schemes.

Highway Comment 2

- 2.30. DONG Energy should work closely with Highways England and Norfolk County Council (Highway Authority) to ensure that the proposed cable route to the west of Norwich does not fetter any future plans for the dualling of the A47 (T) or any potential Western Link Road.

Minerals and Waste

- 2.31. The County Council in its capacity as the Mineral and Waste Planning Authority has been involved in discussions with DONG Energy regarding mineral and waste safeguarding, both of sites and resources. Throughout the project preparation, information has been exchanged between the parties regarding these safeguarding issues. The County Council welcomes the recognition of mineral safeguarding issues contained within the PEIR.
- 2.32. The County Council considers that the PEIR correctly assesses the magnitude, sensitivity and significance of the effect of the project on Mineral Safeguarding Areas. The further mitigation suggested in the PEIR is considered to be effective. Therefore, the County Council in its capacity as the Mineral Planning Authority does not object to this proposal provided that the applicant continues to work with the County Council regarding the mitigation of impacts on the Mineral Safeguarding Areas as the final scheme design continues.

Comment

- 2.33. It is felt that DONG Energy should continue to work closely with the County Council with regard to mineral and waste planning issues.

Flood and Drainage Issues

- 2.34. DONG Energy have provided several documents relating to the hydrology and flood risk of the study area, including an overarching document plus 2 Flood Risk Assessments (FRA) for the HVAC onshore booster station and the onshore HVDC converter/HVAC substation. This has considered the impact of the development both during the construction phase and the operational and maintenance phase, including the impact of either trenchless or open cut construction.
- 2.35. The proposed development of the onshore HVDC converter/HVAC substation and HVAC booster station will result in the construction of low permeability surfacing, increasing the rate of surface water run-off from the site. A surface water drainage scheme is required to ensure the existing run-off rates to the surrounding water environment are maintained at pre development rates. The detailed design of the surface water drainage scheme would be based on a series of infiltration/soakaway tests carried out on site and the attenuation volumes outlined in supporting FRAs.
- 2.36. Preliminary results identify that over 90% of the study area is shown on Environment Agency flood maps as Flood Zone 1 (i.e. low probability of flooding) and is not directly at risk of flooding. However, there are localised areas of Flood Zone 2 and 3. An FRA has been prepared for both the onshore HVAC booster station and the onshore HVDC converter/HVAC substation.
- 2.37. The FRAs and supporting documentation show that the proposed development at present meets the requirements of the National Planning Policy Framework. At this stage it has not been determined what method of discharging surface water will be utilised in the final design.

Comment

- 2.38. The County Council would wish to see further ground investigation work including infiltration testing together with an outline drainage design as part of the final application and request that DONG Energy continue to work closely with the County Council in its role as Lead Local Flood Authority.

Local Member Views

- 2.39. The Local County Councillor for Melton Constable has made the following comments:
- 2.40.
 - There is generally little opposition to these proposals in absolute terms and local residents appreciate the importance of national infrastructure and securing future energy supply;
- 2.41.
 - There are concerns about the lack of mitigating measures planned in respect of the onshore HVAC Booster Station; and
- 2.42.
 - The Local Member strongly urges the County Council to insist that the developers provide detailed mitigating measures as part of their submission in respect of: height, visibility and noise – relating to the HVAC booster station at Little Barningham.

3. Financial Implications

- 3.1. Staff have engaged with the applicant at the technical scoping stage; attending steering group and topic based meetings and provided technical advice and information in respect of the County Council's statutory responsibilities. The County Council has charged for some of this advice and technical data provided.

4. Issues, risks and innovation

- 4.1. The County Council is a statutory consultee on any Nationally Significant Infrastructure Project determined by the Secretary of State within Norfolk or on the borders with Norfolk. The County Council will also be invited to submit a Local Impact Report (LIR), the content of which is a matter for the Local Authority and can include local transport issues and the local area characteristics.
- 4.2. The Council's Planning functions are subject to equality impact assessments. No EqIA issues have been identified at this stage.
- 4.3. The proposed internal procedures will allow for corporate response/s to be made to NSIP consultations ensuring all the County Council's statutory responsibilities are taken into account.

5. Background

- 5.1. At a national level the key energy objectives are:
- Reducing greenhouse gases (carbon reduction);
 - Providing energy security; and
 - Maximising economic opportunities.

In order to meet these objectives more infrastructure is required with an increased emphasis on energy generation from renewable and low carbon sources.

- 5.2. The government's long term aspiration is to increase the diversity of the electricity mix, thereby improving the reliability of energy supplies as well as lowering carbon emissions. The Government is committed to the following

targets by 2030:

- A 40% cut in greenhouse gas emissions compared to 1990 levels;
- At least a 27% share of renewable energy consumption; and
- At least 27% improvement in energy efficiency.

5.3. The Energy Act 2013 includes provision intended to incentivise investment in low carbon electricity generation, ensure security of supply and help the UK meet its emissions reduction and renewable energy targets. The Climate Change Act 2008 underlines the government's commitment to addressing both the causes and consequences of climate change. The Act aims to improve carbon management and help the transition towards a low carbon economy in the UK. The Planning Act 2008 also makes specific reference to the need for local authorities to tackle climate change.

5.4. In terms of planning the UK's commitment to renewable energy has been captured in the following National Policy Statements (NPSs):

- Overarching NPS for Energy (NPS EN 1);
- NPS for Renewable Energy Infrastructure (NPS EN 3);
- NPS for Electricity Networks Infrastructure (NPS EN 5).

The Planning Act 2008 requires the Secretary of State to have regard to the relevant NPSs when making their decision.

5.5. With regard to local planning issues the National Planning Policy Framework (NPPF 2012) indicates that the planning system has a key role in supporting the delivery of renewable and low carbon energy and associated infrastructure. To help increase the use and supply of renewable energy the NPPF (section 10) indicates, inter alia, that local planning authorities (LPAs) should:

- Have a positive strategy to promote energy from renewable and low carbon sources;
- Design their policies to maximise renewable and low carbon development;
- Consider identifying suitable areas for renewable development and supporting infrastructure.

5.6. As the above proposal is a NSIP it will be the Secretary of State (SoS) rather than the respective LPAs who will determine the application. The SoS will need to have regard to Local Plan policies and allocations when determining the application. The individual LPAs, including the County Council, are also statutory consultees in the NSIP process and will respond having regard to their Local Plan policies and other statutory responsibilities including environmental health (District Councils).

Background Papers

The Planning Act (2008)

<http://www.legislation.gov.uk/ukpga/2008/29/contents>)

The National Planning Policy Framework (2012) -

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Energy Act (2013)

<http://www.legislation.gov.uk/ukpga/2013/32/contents/enacted/data.htm>

Hornsea Project Three – Preliminary Environmental Impact Report – documents

<http://www.dongenergy.co.uk/en/Pages/PEIR-Documents.aspx>

Officer Contact

If you have any questions about matters contained in this paper or want to see copies of any assessments, eg equality impact assessment, please get in touch with:

Officer name : Stephen Faulkner

Tel No. : 01603 222752

Email address : stephen.faulkner@norfolk.gov.uk



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Detailed Environment Comments

Ecology and Nature Conservation

- 5.7. County Council staff have attended all of the Ecology Working Group meetings and have had the opportunity to contribute to the scoping and methodology of ecological survey work. From the information presented and on-going discussions, it is likely that the ecological surveys and data collection, although not yet complete, will allow for a robust assessment of impacts resulting from the on-shore infrastructure requirements. The PEIR recognises a number of ecological 'sensitivity hot spots' and the County Council agree with the assessments made.

The following comments refer to some specific issues:

- 5.8. (a) The County Council wish to highlight the need for maintaining ecological connectivity throughout the construction phases between the designated sites of Alderford Common SSSI, the River Wensum SAC and the area to the south. This connectivity is particularly important for bats, as there are known bat roosts in the area, including those of Barbastelle bats in the woodland in Morton-on-the-Hill. The County Council would expect that minimal disruption of features used by bats for feeding and commuting would be designed into the construction process.
- 5.9. (b) The County Council welcomes the detailed consideration of Local Wildlife Sites of county importance (CWS) in the PEIR. The County Council would wish to see Horizontal Directional Drilling used where the cable route crosses three CWS: Low Common CWS, Foxburrow Meadow CWS and Old Hall Meadows CWS, and also where the significance of impacts on habitats have been identified as major or moderate. This is important as maximum design scenario of 11 years means reinstatement might not happen until after that period, and that potentially an area could be impacted three separate times.
- 5.10. (c) Where the PEIR refers to White-clawed Crayfish, it should be noted that Weybourne Beck in the area of the landfall has been used as a relocation site for this species. Surveys will be required and mitigation may be necessary.

Landscape

- 5.11. The potential landscape impacts associated with the temporary construction compounds; HVAC Booster Station and Substation are only preliminary at this stage and the applicant will need to revisit and expand on this in their Environmental Statement (ES) accompanying the final submission proposal. The ES will also need to include specific elements of mitigation that will be required in order to alleviate any significant adverse effects where these arise. These mitigation measures will be set out within the outline Landscape Scheme and Management Plan (LSMP), which will form part of the EIA/ES. The applicant acknowledges that LSMP will need to be agreed with local planning authorities (LPAs).
- 5.12. Notwithstanding this pending further work (LSMP), the PEIR accepts that on a number of visual receptors, including for example Public Rights of Way (PROW), it is expected that the onshore infrastructure will have a major adverse significance in EIA terms.

- 5.13. Landscape and visual assessment is to be conducted using the Guidelines for Landscape and Visual Impact Assessment (GLVIA) 3rd Edition and other industry best practice guidance. It is noted that the PEIR simply contains viewpoints and wireframes. Viewpoints and visualisations through photomontage are a more useful tool in assessing the likely effects of a proposed development, and the emerging Landscape and Visual Impact Assessment (LVIA) should consider the production of such images, particularly for public consultation at the next stage of the application process. The PEIR indicates that photomontages will be undertaken as part of the Environmental Statement.

Comment

It is felt that DONG Energy should use photomontages as part of their LVIA and LSMP for assessing the potential impact of onshore infrastructure associated with the above proposal.

It is also recommended that any appropriate mitigation measures are agreed with LPAs including the County Council in respect of the HVAC booster station; the proposed new sub-station and any temporary construction compounds.

Public Rights of Way

- 5.14. The County Council have checked the Public Rights of Way and linear routes shown on Figure 6.2 and have identified two additional paths that may be affected by the cable route and that do not appear to be included in the PEIR:

- Salle FP9 may intersect the search area at TH10702428; and
- Keswick FP4 is within the search area, joining Keswick BR4 and East Carleton FP1.

- 5.15. In terms of PRoW, the network that will be affected comprise:

- The Norfolk Trails: the England Coast Path and the Marriott's Way.

Promoted circular walks that use PRoW and which will potentially be affected: "Explore More Coast" Weybourne Circular; Cromer and Sheringham Health Walk No.6 – Weybourne to Sheringham via Norfolk Coast Path; and Aylsham Health Walk No.10 – Reepham via Salle Church;

- Tas Valley Way; and
- The remaining PRoW network.

- 5.16. **Comments** - Although routes of regional and national importance are noted above, the wider un-promoted PRoW network serve a number of settlements within or near to the current search areas. Un-promoted PRoW should not be considered of lesser importance; settlements such as Reepham will see disruption to its PRoW network not only from this development but cumulatively through the Vattenfall Nationally Significant Infrastructure Project, which it is understood could co-exist with this project. The closure and diversion of routes near to populated areas such as this need to be considered in the wider context of both the type of use they receive and the potential implications of other projects.

- 5.17. In terms of mitigation, the County Council would therefore expect that:

- For all PRoW affected, Temporary Traffic Regulation orders should be put

in place to cover the periods of closure, with reopening as soon as possible i.e. the very minimum periods of closure. Signed and maintained alternative routes for the closures should be provided where appropriate. These alternative routes should consider cumulative effects and where possible be of equal value to the communities they affect.

- Alternative routes on the Marriott's Way and England Coast path should be as of high a standard as practicable, should be off-road where possible, and should be identified well in advance of closures so that the information can be advertised.
- Where phasing of works is necessary, the County Council would anticipate that reinstatement of PRoW is carried out between construction phases. This will be particularly necessary for the England Coast Path, the Marriott's Way, and other frequently used PRoW around settlements. Both the aforementioned Norfolk Trails have ecological value and designations and there may be opportunities for some holistic mitigation for both access and ecology during the potential 11 year maximum duration of construction phase.
- Consideration will need to be given to the public car park on the Marriott's Way at TG12801760 during construction.

Post-construction, the County Council would seek

- Opportunities for enhancements, such as surfacing and connectivity enhancements to the network where appropriate.
- That any trees or other vegetation that was removed during construction is replaced within a reasonable timeframe and that measures are put in place to ensure such reinstatement is delivered.

Norfolk County Council Environment Team would be happy to work with DONG to find effective solutions to issues relating to the PRoW network.

Historic Environment

- 5.18. The PEIR considers the impact of the proposed booster station, substation and onshore cable route on the setting of designated heritage assets (principally scheduled monuments, listed buildings, conservation areas and designated parks and gardens). It concludes that, once constructed, the scheme will not have a direct physical impact on any designated heritage assets. However, the booster station and substation will have a minor long-term reversible impact on some designated heritage assets through alteration of their settings. The applicant has indicated that they propose to review this impact as the design of the booster station and substation are further developed and provide visualisations in the EIA to support the conclusions about the level of impact on designated heritage assets (see comment/recommendation above on use of photomontages).
- 5.19. The PEIR provides a minimum baseline assessment of the impact of the onshore cable route, booster station and substation on undesignated heritage assets with archaeological interest. A desk-based assessment has been produced to review information (principally from the NCC Historic Environment Record) about known heritage assets.
- 5.20. The historic environment assessment so far is based only on the known

archaeological assets and the potential exists for previously unidentified heritage assets with archaeological interest (yet unestablished significance) to be present along the unevaluated sections of the onshore cable route. Norfolk County Council have previously advised the applicant that further archaeological survey work (including geophysical survey and trial trenching) will be required post-consent along the whole of the onshore cable route which will in turn inform the mitigation measures to be adopted (i.e. to avoid archaeological remains). Consequently, the assessment of the overall impact of the proposals on undesignated heritage assets with archaeological interest can only be provisional at this stage.

Comments

DONG Energy and their heritage consultant (RPS) should continue to review the setting of the designated heritage assets affected by the booster station and substation and produce supporting visualisations for the EIA in consultation with Historic England and Norfolk County Council.

The PEIR and EIA need to explicitly acknowledge that further archaeological survey work is required on the whole of the onshore cable route before mitigation measures for undesignated heritage assets can be agreed. A clear strategy and programme for this work needs to be agreed with Norfolk County Council and Historic England and be fully set out in the EIA.

Detailed Minerals and Waste Comment

- 5.21. There is a typographical error in the quote in section 1.7.3.2 which requires correction to remove 'isn't' and insert 'is' so that the quote reads, "*those areas where there is an underlying mineral resource which may be of economic interest, which should be protected from unnecessary sterilisation by non-mineral development*".