From:	[redacted]
To:	East Anglia ONE North
Subject:	Written Representations of Suffolk Energy Action Coalition (SEAC) in relation to East Anglia ONE North Offshore Windfarm – Planning Inspectorate Reference: EN010077 [TH-THL.FID118736201]
Date:	29 October 2020 10:48:58
Attachments:	SEAC Summary of Written Representations EA1N_THL_144672707_1.pdf SEAC Written Representations EA1N_THL_144672541_1.pdf

Dear Sirs

Please find attached the Written Representations of Suffolk Energy Action Coalition (SEAC) in relation to East Anglia ONE North Offshore Windfarm – Planning Inspectorate Reference: EN010077, together with a summary of these representations.

Please can you confirm whether the documents should be uploaded onto the Planning Inspectorate portal also.

Kind regards

Helen

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Dated 29 October 2020

Summary of the Written Representations of Suffolk Energy Action Coalition (SEAC)

in relation to East Anglia ONE North Offshore Windfarm - Planning Inspectorate Reference: EN010077

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dated 29 October 2020

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(A) This summary has been prepared as SEAC's written representations exceed 1500 words. The full written representations have been submitted together with this summary and are supplemental to SEAC's relevant representations submitted on 27 January 2020.

(B) The Planning Act 2008 requires that the Secretary of State must decide an application for energy infrastructure in accordance with the relevant National Policy Statements (**NPS**) except to the extent it is satisfied that to do so would:

a. lead to the UK being in breach of its international obligations;

b. be in breach of any statutory duty that applies to the IPC;

c. be unlawful;

d. result in adverse impacts from the development outweighing the benefits; or

e. be contrary to regulations about how its decisions are to be taken

(C) NPS EN-1 provides that, given the level and urgency of need for infrastructure of the types covered by the energy NPSs, a presumption in favour of granting consent will apply to applications for energy Nationally Significant Infrastructure Projects (**NSIPs)**. That presumption applies unless any other specific and relevant policies set out in the NPSs clearly indicate that consent should be refused. The presumption set out in EN-1 is at all times subject to the provisions of the Planning Act 2008 as set out in (B) above.

(D) SEAC submit that it would be unlawful for development consent to be granted for the application by East Anglia ONE North Limited (the **Applicant**) for an order granting development consent for the East Anglia ONE North Offshore Wind Farm and allocated Planning Inspectorate Reference: EN010077 (the **Application)** by reason of material flaws in the Application documents and non-compliance with mandatory legal requirements. Further, and in addition to the legal flaws in the Application, granting development consent would result in severe adverse impacts that would outweigh the benefits. The inevitable delays that would arise from legal challenges would seriously prejudice the UK Government's ability to meet its climate change targets, whilst securing a sustainable and secure energy supply.

(E) We have presented our representations under nine broad categories as summarised below:

a. **Representation 1:** That the Applicant has failed to provide sufficient information for the Secretary of State to determine that, beyond a reasonable scientific doubt, that there will be no adverse effect on the integrity of the Southern North Sea Special Area of Conservation (**SNS SAC**) arising from the proposed development and this lack of information should lead to the refusal of development consent for the Application. Significant harm to the integrity of the SNS SAC could occur should development consent be granted.

b. Representation 2: That the approach taken to site selection for the onshore substation(s) is flawed. Had the Applicant properly conducted the site selection process, a different site (or alternative solution) with significantly less severe environmental and socio-economic impacts may have been settled upon.

c. **Representation 3:** That the Applicant has erred in failing to mention the reasonable alternative to the proposed development that it has studied and considered, namely alternative offshore transmission structures which could result in significantly less environmental and socio-economic impacts both locally and regionally.

d. **Representation 4:** That the Applicant has made a number of fundamental factual and technical errors in its assessment of the local road network around the onshore substation(s) site and in its assessment of the cumulative impacts of traffic and transport with other developments. This has resulted in an absolute failure of the Environmental Statement (the **ES**) to adequately consider the traffic and transport impacts related to the construction and operation of the substation(s) and associated permanent access road.

e. **Representation 5:** That the Applicant's assessment of the air quality impacts of the construction and operation of the onshore substation(s) as being "not significant" is flawed and untenable. The assessment of air quality is inextricably linked to the assessment of traffic and transport, and given that the traffic and transport assessment has not been undertaken correctly, the findings of the air quality assessment fundamentally understate the significant adverse impacts on air quality.

f. **Representation 6:** That the findings of the cumulative impact assessment are incorrect due to the assessment failing to consider other relevant developments both at a local and regional level, as well as those reasonably likely to come forward, such as Nautilus and Eurolink. In addition, reliance on a qualitative impact assessment of factors that can only be assessed quantitatively, including air quality, noise and traffic and transport, is inadequate. If the assessment was undertaken correctly it is highly likely that the level of the impact overall would be assessed as being significantly higher.

g. **Representation 7:** That the Applicant has included an 'impact assessment' for decommissioning of the onshore substation(s) but has failed to provide any information or detail about the end-of-life scenarios envisaged in the area of the onshore substation(s). Accordingly, this part of the ES and the impact assessment is completely without substance, and it is not possible to properly assess the environmental impacts of the proposal without this detail.

h. **Representation 8:** That the Applicant has failed to undertake an assessment of the impacts on Grove Wood, an area of ancient woodland, in particular, the impacts from a decrease in air quality during the construction phase of the onshore substation(s). Accordingly, appropriate mitigation has not been made for the protection of Grove Wood.

i. **Representation 9:** That the funding statement relies entirely on a draft funding agreement between ScottishPower Renewables and the Applicant to satisfy the Secretary of State that funds will be in place to meet compensation claims. That funding agreement has not been entered into, but in any event could be easily extinguished by mutual consent. A funding commitment from ScottishPower Renewables should be entered into in favour of the Secretary of State in a legally binding form whereby funding is guaranteed from the date that statutory blight might arise.

Dated 29 October 2020

Written Representations of Suffolk Energy Action Coalition

in relation to East Anglia ONE North Offshore Windfarm - Planning Inspectorate Reference: EN010077

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Written Representations

dated 29 October 2020

Introduction

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(D) SEAC submit that it would be unlawful for development consent to be granted for the Application by reason of material flaws in the Application documents and non-compliance with mandatory legal requirements. Further, and in addition to the legal flaws in the Application, granting development consent would result in severe adverse impacts that would outweigh the benefits. The inevitable delays that would arise from legal challenges would seriously prejudice the UK Government's ability to meet its climate change targets, whilst securing a sustainable and secure energy supply.

(E) We have presented our representations under nine broad categories as summarised below. Each representation begins with a summary of the background and issues including relevant legislation and guidance, together with an overview of how the Applicant has addressed this within the Application. The detail of each objection is then set out:

a. **Representation 1:** That the Applicant has failed to provide sufficient information for the Secretary of State to determine that, beyond a reasonable scientific doubt, that there will be no adverse effect on the integrity of the Southern North Sea Special Area of Conservation (**SNS SAC**) arising from the proposed development and this lack of information should lead to the refusal of development consent for the Application. Significant harm to the integrity of the SNS SAC could occur should development consent be granted.

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binding form whereby funding is guaranteed from the date that statutory blight might arise.

Agreed Terms

1 **Definitions and interpretations**

The following defined terms apply to these written representations:

Applicant means East Anglia ONE North Limited.

Application means the application by East Anglia ONE North Limited for an order granting development consent for the East Anglia ONE North Offshore Wind Farm and allocated Planning Inspectorate Reference: EN010077.

CION means the Connection and Infrastructure Options Note.

DCO means Development Consent Order.

EA1 means the project described in the application for a development consent order allocated Planning Inspectorate Reference EN010025, and also referred to as East Anglia ONE.

EA1N means the project described in the Application.

EA2 means the project described in the application for a development consent order allocated Planning Inspectorate Reference EN010078, and also referred to as East Anglia TWO.

EA3 means the project described in the application for a development consent order allocated Planning Inspectorate Reference EN010056, and also referred to as East Anglia THREE.

EC means the European Commission.

ECJ means the Court of Justice of the European Union.

EIA Regulations 2017 means the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572)

ES means the environmental statement submitted as part of the Application.

Habitats Directive means Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

Habitats Regulations means the Conservation of Habitats and Species Regulations 2017 (within 12nm) and the Conservation of Offshore Marine Habitats and Species Regulations (between 12nm and 200nm or the UK Continental Shelf).

Harbour Porpoise Case means European Commission v UK (Case C-669/16).

IPC means the Infrastructure Planning Commission, or the relevant Major Infrastructure Planning Unit within the Planning Inspectorate.

JNCC means the Joint Nature and Conservation Committee.

LVIA means the Landscape Visual Impact Assessment.

NE means Natural England.

NETS means the national electricity transmission network.

NPS means National Policy Statements.

NSIP means Nationally Significant Infrastructure Project.

NTS means the non-technical summary (of the ES) submitted as part of the Application.

Review means the Offshore Transmission Network Review terms of reference, published 15 July 2020 by the Department for Business, Energy and Industrial Strategy.

Scoping Opinion means the Scoping Opinion provided as part of the Application.

SEAC means the coalition of interested individuals known collectively as the Suffolk Energy Action Coalition on behalf of whom this relevant representation is submitted.

SNS SAC means the Southern North Sea Special Area of Conservation.

2 Representations

On behalf of SEAC we make the following written representations in connection with the above mentioned Application.

3 Representation 1 – Southern North Sea Special Area of Conservation for harbour porpoise

3.1 Background and issues

3.1.1 The Southern North Sea Special Area of Conservation (**SNS SAC**) lies along the east coast of England, predominantly in the offshore waters of the central and southern North Sea, from north of Dogger Bank to the Straits of Dover in the south. It covers an area of 36,951km^2, and is designated for the protection of the harbour porpoise (*Phocoena phocoena*). This area supports an estimated 17.5% of the UK North Sea Management Unit (**MU**) population of harbour porpoise. Approximately two thirds of the SNS SAC, the northern part, is recognised as important for harbour porpoise during the summer season, whilst the southern part supports persistently higher densities in the winter. The offshore component of EA1N is located wholly within the SNS SAC winter area and partially overlaps the summer area.

3.1.2 The SNS SAC was designated less than one year prior to the Application being submitted, and was designated as a result of the Court of Justice of the European Union (**ECJ**) finding that the UK had failed to designate sufficient special areas of conservation (**SAC**) for the harbour porpoise under the

Habitats Directive in *European Commission v UK (Case C-669/16*) (the **Harbour Porpoise Case**).

3.1.3 The background to the Harbour Porpoise Case is that in 2012, the World Wildlife Fund complained to the European Commission (**EC**) that the UK had failed to designate sufficient SACs for the harbour porpoise – a European protected species and species listed within Annex II of the Habitats Directive. The complaint was supported by an expert report ('*Protecting the harbour porpoise in UK Seas*'), identifying six sites that, it claimed, should be designated as SACs for the species. In 2014, the EC charged the UK with failure to fulfil its obligation to propose a sufficient number of SACs for the harbour porpoise or to meet its Natura 2000 obligations due by 2012. The EC also stated that it was concerned that the failure to propose and designate SACs meant that applications for offshore windfarms were being processed without due regard for the impact of those applications on the harbour porpoise populations. The UK responded that identification of suitable potential SACs for the harbour porpoise is extremely difficult, particularly as the Habitats Directive expressly requires that only clearly identifiable sites should be proposed. There was a need for rigorous scientific assessment to avoid expenditure of resources on sites that would not contribute to the aims of the Habitats Directive and Natura 2000 network. The EC subsequently applied to the ECJ for a declaration that the UK had failed to fulfil its obligations under the Habitats Directive. On 17 October 2018, the ECJ declared this to be the case as the UK had failed to propose sufficient SACs to protect the harbour porpoise and to meet its obligations to contribute proportionately to the Natura 2000 network. In the meantime the UK had submitted a further five candidate SACs (**cSACs**) to the EC to protect the harbour porpoise, Including the Southern North Sea cSAC. The submitted cSACs were all identified based on analysis of 18 years of comprehensive data on harbour porpoise distribution. These areas were identified as important, having persistently higher densities of harbour porpoise compared to other areas. The SNS SAC was designated in February 2019 for the protection of harbour porpoise.

3.1.4 No Development Consent Orders (**DCO**) have been granted for applications for development within the SNS SAC since its designation (or for any of the other harbour porpoise SACs). Granting of consent to such developments without careful consideration of the impacts of such developments on the SAC would put the Secretary of State in breach of the Habitats Regulations.

3.1.5 Furthermore, there is no indication from the UK government that SACs designated pursuant to the Habitats Directive will cease to be designated as such at the end of the transition period following the UK's withdrawal from the European Union. On the contrary, the UK Government is committed to maintaining environmental standards and international obligations from 1 January 2021[1]. Indeed, the European Union (Withdrawal) Act 2018 converts EU law as it stands at the point of exit into UK law, and retains UK law that implements EU requirements, including EU-derived domestic legislation such as the Habitats Regulations. In the circumstances the Secretary of State must

[1] Government Guidance on upholding environmental standards from 1 January 2021, https://www.gov.uk/guidance/upholding-environmental-standards-if-theres-a-no-deal-brexit

determine the Application on the basis that the SNS SAC will remain designated as such, and that the Habitats Regulations will continue in force.

The Habitats Regulations

3.1.6 Section 104 of the Planning Act 2008 creates a presumption in favour of a scheme compliant with the relevant NPS being consented. The support in these NPSs for particular types of energy projects is one of the key reasons why there is usually certainty of outcome in the DCO process. However, this presumption can be rebutted, *inter alia*, if it would lead to the UK being in breach of any of its international obligations or where it would be otherwise unlawful to grant development consent.

3.1.7 The Habitats Regulations transpose the Habitats Directive into UK law and require a decision-maker to consider the effects of proposed projects on European protected sites. If the result of the initial screening assessment is that a project is likely to have significant effects on a European site, a full assessment of those effects must be carried out. The process for assessment is set out in the Habitats Regulations, implementing the relevant provisions of the Habitats Directive. Regulation 63 requires the Secretary of State to conduct an "appropriate assessment" if concluding that the project is "likely to have a significant effect" on a European site or a European offshore marine site, either alone or in combination with other plans or projects. Where an appropriate assessment is conducted then Regulation 63(5) applies, such that "the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be)".

Appropriate Assessment

3.1.8 The scope and content of an appropriate assessment will depend on the nature, location, duration and scale of the proposed plan or project and the interest features of the relevant site.

3.1.9 **Appropriate** is not a technical term and indicates no more than that the assessment should be proportionate and sufficient to support the task of the competent authority in determining whether the plan or project will adversely affect the integrity of the site concerned. It requires a high standard of investigation, but the issue ultimately rests on the judgement of the authority.[2]

3.1.10 The question for the competent authority carrying out the assessment is: "What will happen to the site if this plan or project goes ahead; and is that consistent with 'maintaining or restoring the favourable conservation status' of the habitat or species concerned?"[3]

3.1.11 Following assessment, the project in question may only be approved if the competent authority is convinced that it **will not adversely affect the integrity of the site concerned**. The integrity of a site is the coherence of its ecological

[2] *R (Champion) v North Norfolk District Council* [2015] 1 WLR 3710, para 41 per Lord Carnwath JSC.
[3] see the opinion of Advocate General Sharpston in *Sweetman v An Bord Pleanala (Galway County Council intervening)* (Case C-258/11) [2014] PTSR 1092 , point 50.

structure and function, across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was designated. Where doubt remains, authorisation will have to be refused.[4]

3.1.12 Absolute certainty is not required. If no certainty can be established, **having exhausted all scientific means and sources** it will be necessary to work with probabilities and estimates, which must be identified and reasoned.[5] Science rarely, if ever, provides absolute certainty, so this is a reasonable requirement provided in order to prevent complete restriction of the granting of consent for projects. This cannot be used as a sweeping catch-all to justify the inclusion of any information. The science must still be complete, precise and definitive, and it must still provide 'reasonable scientific certainty'.

3.1.13 An appropriate assessment must consider the indirect effects on the designated features and conservation objectives of the protected site, including identification and examination of the implications of the proposed plan or project for the designated features present on the site, as well as the implications for species present outside the boundaries of the site but functionally linked, insofar as those implications are liable to affect the conservation objectives of the site.

3.1.14 The competent authority must then determine whether the proposal will not adversely affect the integrity of the site, and in doing so, must have "rigorous regard to the precautionary principle"[6]. Where it cannot be concluded that there will be no adverse effects on the integrity, the competent authority must consider secured mitigation and **evidence about its effectiveness.**[7]

3.1.15 Where a plan or project is assessed as having an adverse impact or risk of this, on the integrity of a protected site, even with mitigation in place, there should then be an examination and assessment of alternative ways of achieving the objectives of the project that would avoid, or have a lesser effect on the protected site.

3.1.16 Regulation 64 allows a project to be consented for imperative reasons of overriding public interest even where there is a negative assessment of the implications for the European site or the European offshore marine site, provided that certain conditions are met.[8]

3.1.17 Accordingly, the Applicant is obliged to provide sufficient information to the Secretary of State, so as to enable the Secretary of State to ascertain whether EA1N will adversely affect the integrity of the SNS SAC. Without such

[4] see *Landelijke Vereniging tot Behoud van de Waddenzee v Staatssecretaris van Landbouw, Natuurbeheer en Visserij* (Case C-127/02) [2005] All ER (EC) 353 , paras 56-57 ("*Waddenzee*")

[5] see *Waddenzee*, points 107 and 97 of the Advocate General's opinion, endorsed in *Champion's* case, at para 41 and by Sales LJ in *Smyth v Secretary of State for Communities and Local Government* [2015] PTSR 1417 , para 78

[6] Opinion of Advocate General Sharpston delivered on 22 November 2012. *Peter Sweetman v An Bord Pleanala.*

[7] *European Commission v Federal Republic of Germany* (Case C-142/16) EU:C:2017:301, para 38.

[8] The competent authority must be satisfied that there are no alternative solutions, and the imperative reasons of overriding public interest must relate to human health, public safety or beneficial consequences of primary importance to the environment, or any other reason which the competent authority considers to be an imperative reason of overriding public interest.

information the Secretary of State will be unable to comply with the requirements of the Habitats Directive and the Habitats Regulations.

Strict protection

3.1.18 All cetaceans (i.e. whales, dolphins, and porpoises) are European Protected Species (Annex IV Habitats Directive) and as such Member States should take the requisite measures to establish a system of strict protection for these species in their natural range. It is an offence under the Habitats Regulations to deliberately capture, injure, kill or disturb any Annex IV species, as well as to damage or destroy a breeding site or resting place of such an animal. The Habitats Regulations define the disturbance of animals as being likely:

(a) to impair their ability:

i to survive, to breed or reproduce, or to rear or nurture their young; or

ii in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

(b) to affect significantly the local distribution or abundance of the species to which they belong.

3.1.19 In addition, under the Wildlife and Countryside Act 1981, section 9 makes it an offence to intentionally kill, injure or take any cetacean from waters up to 12nm offshore.

3.2 Objections

3.2.1 Although the Applicant has included a number of documents in support of the Application, including an *'In Principle Site Integrity Plan for the SNS SAC'* and a *'Draft Marine Mammal Mitigation Protocol*', it is considered that there is not adequate information provided for the Secretary of State to decide whether there would be an adverse effect on the integrity of the SNS SAC under the Habitats Regulations.

3.2.2 Given the relatively recent designation of the SNS SAC and the lack of guidance from JNCC and NE on activities and management plan requirements for the SNS SAC, it is not possible to conclude that there would be no adverse effects on the integrity of the SNS SAC arising from EA1N, either alone or in combination with other plans and projects. Although the SNS SAC contains operational and consented developments, none has been constructed since the designation.

3.2.3 In addition, the application for EA1N (together with that for EA2 which was submitted at the same time) will be the first to be considered for an NSIP within an SAC designated for harbour porpoise in the UK. As no construction of offshore wind farms has taken place within harbour porpoise SACs within the UK to date, the mitigation measures proposed are not fully understood nor tested for use within a designated harbour porpoise SAC. More research is needed in order to fully understand the SNS SAC and then to develop appropriate mitigation measures if EA1N is to take place within the SNS SAC.

3.2.4 Accordingly, the Secretary of State does not currently have sufficient information to assess the impacts of EA1N on the integrity of the very recently designated SNS SAC and consequently the Secretary of State cannot grant development consent because he/she is not able to conclude that there is no adverse effect on the integrity of the harbour porpoise feature of the SNS SAC. As a result of the recent designation, JNCC cannot provide any evidence to show that the SNS SAC is meeting its objective at present. Therefore if EA1N (and EA2 and other projects) are consented and construction begins within the next few years within the SNS SAC, it will be impossible to determine whether the SNS SAC meets its conservation objectives.

3.2.5 In the Mynydd y Gwynt wind farm DCO application (Ref: EN010020), the lack of information was fatal and led to the DCO being refused - after considering the information made available to her, the Secretary of State found that sufficient information had not been submitted by the Applicant to conclude whether or not there would be an adverse effect on the integrity of the Elenydd - Mallaen Special Protection Area, in respect of red kites as a qualifying feature. The Secretary of State further noted that the burden of proof is on the applicant to demonstrate that its proposed development will not adversely affect protected features of European sites, rather than on statutory advisors to demonstrate that harm will occur.

3.2.6 A report released by SMRU Consulting[9], and funded by JNCC and NE, used a population assessment model (the Interim Population Consequences of Disturbance model) to investigate the potential aggregate or cumulative effects that could arise from the currently planned 12 years of English wind farm construction on the North Sea harbour porpoise population. The report provides that NE and JNCC will use these findings to advise on wind farm construction and noise management, particularly in important areas for harbour porpoise. The report found that using the worst case from the ES's, the predictions of a risk - of a population annual decline equal or greater than 1% occurred in between approximately 1 in 5 and 1 in 8 scenarios when assessed 12 years after the start of construction. The report then ran a second set of simulations following liaison with developers resulted in a lowering of the risk with between approximately 1 in 16 and 1 in 333 scenarios predicting a risk of a population annual decline greater than 1% 12 years after the start of construction. The observed variation in predicted risk in the report in different scenarios depended on a number of factors, including the impact density estimates. The findings in the report suggest that throughout the North Sea, there will always be a risk of population annual decline. Accordingly, if using this model, it will be very difficult for the Applicant to convince the Secretary of State that EA1N, either alone or in-combination with other plans and projects, including EA2, would not have an adverse effect on the integrity of the SNS SAC.

3.2.7 In addition the Applicant has not considered other cetacean species in adequate detail, in particular the white-beaked dolphin and the minke whale

[9] Natural England Joint Publication JP024, *Using the Interim PCoD framework to assess the potential impacts of offshore wind developments in Eastern English Waters on harbour porpoises in the North Sea*, First published 12 June 2017. http://www.smruconsulting.com/piling-harbour-porpoises/

which have been identified within the EA1N windfarm site plus 4km buffer between September 2016 and August 2018. Impacts to these species must also be considered, yet in its response to the consultation regarding marine mammals, the Applicant confirms that the white-beaked dolphin and minke whale have been screened out of further assessment. This approach is considered inappropriate given that all cetacean species are European Protected Species under Annex IV Habitats Directive and therefore afforded strict protection pursuant to the Habitats Regulations.

4 Representation 2 – Significant inadequacies in approach to onshore substation(s) site selection

4.1 Background and issues

4.1.1 The Applicant has adopted a flawed approach when selecting Friston as the preferred site for the onshore substation(s). The Applicant does not appear to have approached site selection in an objective and open-minded way, but has been driven primarily by commercial and economic considerations. It is apparent that the location was decided first, and the attempts at justification for it came second, resulting in a number of inconsistencies in the methodology and approach to assessment.

4.1.2 Regulation 14(2)(d) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572) (the **EIA Regulations 2017**) states that an ES must include *'a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the chosen option, taking into account the effects of the development on the environment*.' Schedule 4(2) of the EIA Regulations 2017 elaborates on this and provides that the ES must include a description of the reasonable alternatives in terms of development location together with an indication of the main reasons for selecting the chosen option.

4.1.3 Chapter 4 of the ES is titled *'Site Selection and Assessment of Alternatives*'. In the introduction to Chapter 4, it is stated that the chapter presents a description of the site selection process and the approach taken by the Applicant to define the various elements of EA1N. It also asserts that an important part of the Environmental Impact Assessment (**EIA**) process is to describe the reasonable alternatives considered during the evolution of the proposed EA1N project, such as development design, technology, location, size and scale, and to set out the main reasons for selecting the chosen option.

4.1.4 NPS EN1 states that 'applicants are required to include in their statement as a matter of fact ….. an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects'.

4.1.5 In considering the way that site selection is dealt with in the ES, it is important to understand the process by which National Grid evaluates connections. The Connection and Infrastructure Options Note (**CION**) process is the mechanism used by National Grid to evaluate the potential options for connecting EA1N (together with EA2) to the national electricity transmission network (**NETS**).

4.1.6 National Grid has prepared a *'Note on the assessment of options for the connection of the ScottishPower Renewables East Anglia ONE North and East Anglia TWO offshore wind farms to the National Grid network*', dated 28 June 2018 (the **Note**) which explains why the two offshore windfarms are proposing to connect to the NETS in the Sizewell/Leiston area. Paragraph 5.5 of the Note states that National Grid is proposing a single new 400kV substation which, subject to consent being granted, would connect the following new sources of generation to the NETS:

(a) East Anglia ONE North – 860 MW - connecting in 2027

(b) East Anglia TWO – 860 MW – connecting in 2026

(c) Nautilus (NGV) – 1500 MW – contracted to connect in 2025 but likely to move back a couple of years to align with consenting timescales in Belgium

(d) Eurolink (NGV) – 1600 MW – connecting in 2025.

4.1.7 Section 6 of the Note provides a comparative assessment of connection options for EA1N and EA2 to connect in the following areas, all of which were ruled out for a number of reasons:

(a) Connecting in the Bacton, Bradwell and Lowestoft areas on the coast;

(b) Connecting to the transmission network in North Norfolk, near Brandon, Shipham, Dereham, Necton, Little Dunham, Kings Lynn or Walpole;

(c) Connecting at Eye/Diss in Norfolk;

(d) Connecting at Norwich Main;

(e) Connecting at Bramford, which was originally selected as the grid connection point for EA1 and two future East Anglia offshore projects;

(f) Connecting at Sizewell;

4.1.8 In paragraph 6.6 of the Note it is stated as follows:

"Bramford was originally selected as the grid connection point for the East Anglia ONE offshore windfarm and two future East Anglia offshore projects. The onshore cable corridor for these projects was consented under the East Anglia ONE DCO consent. Following a design review of the East Anglia offshore projects (including the cable technology to be used to make the East Anglia ONE grid connection) it is only possible to accommodate the grid connections for East Anglia ONE and East Anglia THREE within the consented cable corridor. Any further connection at Bramford would require new cable routes to be developed and constructed."

4.1.9 Further, in paragraphs 6.8 and 6.9 of the Note, it is stated as follows:

"*A connection in the Leiston area is close to Sizewell and the coast, avoiding a longer cable route penetrating further inland through Suffolk to Bramford or*

elsewhere on the transmission network. A short cable route means the interaction between the project and other parties, such as crossings, protected areas and settlements, can be minimised.

For these reasons, when considering connections efficiency, coordination, economic and environmental impacts, the Leiston area compares more favourably than other connection options and forms the basis of the connection offers for the East Anglia ONE North and East Anglia TWO projects."

4.1.10 Paragraph 6.2 of the Note sets out a number of reasons for discounting connecting in the Bacton, Bradwell or Lowestoft areas, including: that to do so would require the extension of the National Grid transmission network out to the coast in addition to the construction of a new National Grid substation; and that a new double circuit overhead line from the existing 400kV network out to the coast across Norfolk, Essex or Suffolk would carry significant consenting and environmental challenge within the proposed timescales for connection (in particular identifying route options, consulting about those, obtaining consent for them and then building new transmission lines). Despite these challenges, the Rt Hon Therese Coffey, MP for Suffolk Coastal, has consistently noted in her submissions regarding the proposed substation at Friston that Bradwell is a more suitable site for the onshore infrastructure associated with wind generation capacity in the Southern North Sea. In addition, there is already a line of pylons connecting the National Grid core network to Bradwell which served the Bradwell A nuclear power station until it was decommissioned.

4.1.11 The Relevant Representation of the Rt Hon Therese Coffey MP for Suffolk Coastal, received by the Planning Inspectorate on 27 January 2020 states as follows:

"*The issue though in this application (in both these applications) is how best to connect these strategic offshore energy sites to the national grid. Throughout the consultation stages, I have suggested alternatives to Scottish Power Renewables, including the proposed nuclear site at Bradwell, which would have meant less onshore cabling and substations in a more appropriate location. SPR have chosen not to pursue that, which in my view would have made their applications acceptable and are instead proposing a 32-metre wide cabling corridor across 9km of sensitive landscape with large substations on the edge of Friston village, without adequate landscaping. My biggest concern is the size and scale of the substations proposed at Friston, which will have a devastating impact on the local environment including on local listed buildings which surround the substation site. Paragraph 151 of the National Planning Policy Framework (**NPPF**) states that 'plans for renewable energy should ensure that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts'. SPR's submission doesn't do that, especially when you consider all the other energy infrastructure which has been planned for this part of the Suffolk coast. This was the point made by the large number of people who attended my public meeting, which goes to show the strength of feeling locally. There is also a danger that the substation will need to be even bigger than planned. While I understand it is the intention to use SF6 cooling rather than air cooling to significantly reduce the size of the power stations, this cannot be taken for granted given the government's ratification of various amendments*

to the Montreal Protocol and the Kyoto Protocol, which aims to reduce significantly the use of fluorinated gases as, if released, they are very potent greenhouse gases. Air cooling infrastructure is much larger and would be a far worse outcome. When SPR first proposed Friston as a site for substations, I was clear that at the very minimum – on the basis of planning conditions if the inspectorate was minded to recommend the DCO be granted - they should dig them into the ground to reduce the visual impact. This does not form part of their plans and their proposed planting to screen the development is woefully inadequate, especially when you take into consideration the growth rates of their landscaping mitigation. This really needs further evaluation."

4.2 Objections

4.2.1 The Applicant has failed to explain why connection to the substation at Bramford was disregarded for both EA1N and EA2.

4.2.2 From a review of the information contained within the ES as well as a number of additional documents, including those set out in the Background and Issues section of this Representation, it is known that it was originally planned that the cable routes for EA1N and EA2 would use the previously approved EA1 and EA3 cable route and connect to the existing substation at Bramford.

4.2.3 However, in the summer of 2017 (at the same time that the review process for the consent for EA3 was taking place), the Applicant was pushing forward the CION process review which resulted in National Grid offering the Applicant an alternative grid connection in the Sizewell/Leiston area. The ES does not provide any detail about the reasoning behind the CION process review, other than to provide the following text in Chapter 4 of the ES:

"*SPR engaged with National Grid in early 2017 to determine connection options for the proposed East Anglia TWO and East Anglia ONE North projects based on contracted background at that time and reflecting the projects' timescales and reduced capacities. This resulted in the CION process*."

4.2.4 The ES does not further explain what the 'contracted background' was or what the issues regarding 'the projects' timescales and reduced capacities' were.

4.2.5 The ES does however provide in Table 4.3 of Chapter 4, an extract of from the CION Note (National Grid 2016) and provides information on the strategic level environmental considerations as part of the CION process. Option 1 in Table 4.3 involves a connection to Bramford substation. The Table also confirms that there are no high-level environmental designations at the existing substation. With respect to landfall/offshore considerations, the Table states that landing points in the vicinity of the existing Sizewell site have impacts on the Suffolk coast and Heaths AONB; however EA1 has connected in this location so it is assumed that a landfall would be possible and a suitable landfall location has been identified from a consenting perspective. With respect to onshore considerations, the Table states that significant environmental constraints are evident on the south Suffolk coast, but careful mapping following the EA1/EA3 route could avoid designations. Based on this, it would appear that the environmental implications of connecting to Bramford are not the primary reason for discounting this option. It is noted that the text provided within Table

4.3 for Option 3 (Leiston) has been incorrectly copied and is merely an exact repetition of the text provided for Option 2. Table 4.3 is therefore inadequate and uninformative as to the point it is trying to make, especially as it attempts to conclude that the preferred option is Option 3. Without the summary for Option 3 provided in Table 4.3, the table very clearly sets out that Option 1 (Bramford) would be appropriate at a high level.

4.2.6 The ES does not adequately explain why connection to the substation at Bramford was disregarded when this was intended to be the connection point at the outset. It would appear that the decision was not made on environmental grounds as the decision to construct a new cable route and three new onshore substations on greenfield land in Friston will lead to unnecessary destruction of another large area of the Suffolk countryside by the Applicant.

4.2.7 In addition, the situation shows a lack of strategic, long term planning by both the Applicant and National Grid that will set a destructive environmental precedent if consented to go ahead.

The Applicant has failed to explain why connection to the substation at Bradwell was disregarded for both EA1N and EA2.

4.2.8 Chapter 4 of the ES does not mention Bradwell once despite the many submissions of the Rt Hon Therese Coffey MP setting out her concern about the location of the substation(s) at Friston and her assertions that Bradwell would be a more appropriate location.

4.2.9 In addition, it is known that there is a redundant substation at Bradwell, labelled on the below map in Figure 1 as "Electricity Switching Station". This is the point at which the overhead power lines start and the redundant substation has a sign on its fence saying "National Grid". Figure 2 shows images of the redundant substation taken on 20 June 2020.

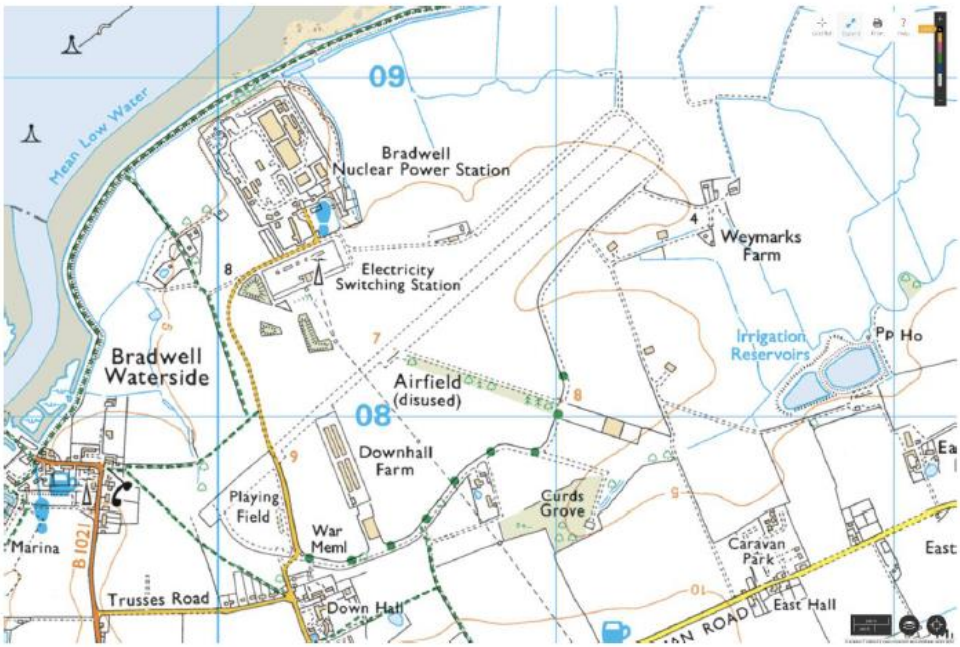

Figure 1: extract from OS Landranger 1:25,000 map (not to scale) showing Bradwell Nuclear Power station, and the adjacent disused airfield.

Figure 2: Photos taken on 20 June 2020 of the redundant Bradwell substation.

4.2.10 It is understood and appreciated that a substation would never be built on a site that is contiguous to a nuclear facility, however, although the site identified for the construction of the new Bradwell B nuclear power station (at stage 1 of the planning process) is large and occupies a significant part of the redundant land, there remains a lot of brownfield land available for a substation.

4.2.11 In addition, given that Bradwell is built directly on the coast, substations in this location would obviate the need for the construction of lengthy onshore cable runs from the landfall of the marine cables to the onshore substations. In many instances, including as would be the case if the substation(s) were to be located at Friston, and as set out in the relevant representation of the Rt Hon Therese Coffey MP, such cabling would be incredibly destructive and would go through sensitive landscapes, including AONB and sensitive areas of ancient woodland.

4.2.12 Further, as a result of Bradwell's use as a wartime base, it is a significant area of semi-industrialised land and subsequently, constructing substations here would avoid the unnecessary destruction of greenfield land and large areas of the countryside.

4.2.13 Bradwell undoubtedly should have been cited as an alternative for where connections to offshore windfarms in the Southern North Sea could come onshore. Within the ES, there is no indication that this was considered.

4.2.14 Although there appear to be some issues with Bradwell that should be acknowledged, for example, it appears that the entire area of the airfield has been allocated to CDN and EDF for the development of the new nuclear power station, when the plans for the power station are carefully analysed, it appears that there is still enough space on the Bradwell site for onshore wind substations.

The ES is does not make an assessment based on a single new 400kV substation which would connect both EA1N and EA2, together with the Nautilus and Eurolink interconnectors.

4.2.15 As set out above, National Grid is proposing a single new 400kV substation which, subject to consent being granted, would connect EA1N, EA2, and the Nautilus and Eurolink interconnectors to the NETS.

4.2.16 The application for Nautilus is expected to be submitted to the Planning Inspectorate in Q2 2022. The Nautilus Briefing Pack[10] states that in order to connect Nautilus to the National Grid, discussions have been ongoing with National Grid Electricity Transmission (**NGET**) and the System Operator. From this, NGET has provided a Connection Agreement to use a new 400kV substation provisionally referred to as "Leiston 400kV substation". The Briefing Pack further provides that this is the same substation to which the Applicant's EA1N and EA2 should be linked and that NGIH, the Applicant and NGET are currently working on the premise that all projects will be connecting to the same substation – the Leiston 400kV substation.

4.2.17 Nautilus is not mentioned in the NTS nor any of the chapters of the ES, including Chapter 4. There is no evidence provided in the NTS nor the ES that the Applicant is working on the premise that all the projects will connect to the same substation. Further, in Appendix 4.1 (Consultation on Alternatives), the Applicant asserts that Nautilus has been assessed. The ES contains no

[10] The Nautilus Briefing Pack is dated July 2019 and located online at https://www.nationalgrid.com/group/about-us/what-we-do/national-grid-ventures/interconnectors-connecting-cleaner-future/nautilus

reference to Nautilus which suggests that it was not actually included in any assessment undertaken by the Applicant.

4.2.18 The Applicant's assessment of the onshore substation(s) does not appear to be an assessment for a 'single new 400kV substation' that will connect other projects. There is no mention of any other projects connecting to the onshore substation(s) and the Applicant has not provided any reasoning for this in the NTS nor the ES. In addition, the Applicant should consider Nautilus in its cumulative impact assessment as Nautilus is at the pre-application stage and is considered development reasonably likely to come forward.

4.2.19 The Nautilus and Eurolink interconnectors will need grid connections in the foreseeable future and based on the above information, it is expected that they will connect to the National Grid substation which is to be constructed as part of the Application and EA2, i.e Grove Wood, Friston. The Application makes no reference to Nautilus or to how this will impact the substation, for example, whether it will result in expansion of the substation resulting in further environmental destruction, or an increase in traffic and transport around the substation. The inclusion of Nautilus in the EIA would significantly increase the environmental impacts of the onshore substation site(s) and subsequently, failure to include Nautilus makes the ES inadequate and an unrealistic representation of the actual impacts. Without taking account of these anticipated connections, the ES cannot properly assess the environmental impacts of the proposals.

Incorrect representation of the 'onshore development area' within the ES

4.2.20 The 'onshore development area' is defined in the NTS and the ES as:

"*The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.*"

4.2.21 This definition and associated visual representation as provided in Figure 2 NTS is an incorrect representation of the true extent of the onshore development area as it does not detail the road network (in particular the B1121) required to access the proposed onshore substation(s) or the village of Friston which is adjacent to the onshore substation(s) and through which the B1121 runs.

4.2.22 The incorrect representation of the 'onshore development area', and in particular, the exclusion of the B1121 and Friston renders understanding of the baseline and subsequent impacts on these receptors inadequate. This fundamental flaw has resulted in a failure of the ES to adequately consider a number of key impacts of the onshore development, thus making the ES a document that is unfit for purpose. Further objections as a result of this significant error are discussed in detail in the objections set out below.

Suffolk Coasts and Heaths AONB

4.2.23 In deciding on the most appropriate location for the onshore substation(s) the adequacy of the consideration given to alternative sites is of concern, . Of the eight sites identified as part of the onshore substation(s) site selection process carried out by the Applicant, those falling within, or in close proximity to, the Suffolk Coasts and Heaths AONB were discounted on the basis that the exceptional circumstances required by paragraph 5.9.10 of the National Policy Statement for Energy (**NPS-EN1**) could not be demonstrated.

4.2.24 In discounting alternative sites a disproportionate level of importance has been attributed to the potential harm to the Suffolk Coasts and Heaths AONB, with insufficient consideration being given as to whether the effects of further development within the AONB could be mitigated. An analysis of whether the exceptional circumstances referred to in Paragraph 172 of the NPPF applies in a given case inevitably requires one to consider adverse impacts, and to weigh that against the public benefits of a scheme. A proper consideration of whether exceptional circumstances apply in this instance cannot therefore be undertaken without a proper consideration of the extent to which adverse impacts on the AONB can be mitigated.

4.2.25 Further assessment should be undertaken in this regard given the level of industrial activity in the vicinity of the existing Sizewell nuclear power facility and the general acceptance of associated infrastructure as part of the landscape there. The decimation of currently unspoilt agricultural land at Friston should be compared against the intensification of an existing industrial facility in the Sizewell area from which rural communities are removed. Particular weight should be given to the impact of EA1N at Friston in terms of its effect on the environment and landscape, as well as the deficiencies in the mitigation measures proposed by the Applicant to date.

4.2.26 The NPS-EN1 states that 'applicants are required to include in their statement as a matter of fact ….. an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects'. The effects of the EA1N at Friston have been given insufficient consideration, and in many regards, as set out in this Representation 2 have not been assessed correctly, or not been assessed at all. As such the process to date is not compliant with NPS-EN1.

Deficiencies in the Red-Amber-Green (RAG) assessment for the substation(s)

4.2.27 The NTS states that the potential substation zones were scored using a RAG assessment against criteria agreed with statutory consultees. These included archaeology/heritage, ecology, landscape and visual among others. The RAG assessment did not identify the chosen onshore substation site; rather it was a tool that allowed a number of sites to be compared and the most acceptable sites identified at the time to progress to further assessment stages.

4.2.28 The RAG assessment is inadequate and its findings cannot be relied on. It does not provide a recommendation for preferred co-location of the Applicant's substations and a National Grid substation as the issue of cumulative impact and capacity of the landscape to accommodate three substation sites of the

size proposed is not considered in the RAG assessment - the relative merits of each site is assessed individually. The RAG assessment also does not consider the combined effect/suitability of co-locating three substation sites in one location. This would require a different scoring/RAG assessment.

4.2.29 With the above in mind, the RAG assessment makes a number of incorrect determinations which are based on the assessment of a single substation. Given that the three substations are to be co-located, these assessments should not have been relied upon when selecting the sites to take forward for further assessment. Use of the correct methodology early in the process would have resulted in a different outcome and led to the determination of a site with less significant environmental and socio-economic impacts being taken forward.

(a) **Landscape character and sensitivity to development**: the LVIA carried out by the Applicant identifies the Application's permanent adverse effect on the local landscape. To characterise this impact as 'green' (low impact) cannot be supported by the evidence base;

(b) **Opportunity to utilise existing screening**: it is not accepted that the screening proposed will have adequately mitigated the development within 15 years; there will be a permanent and severe visual impact on the landscape;

(c) **Visual sensitivity to development**: the development as proposed will have a permanent severe impact on certain defined viewpoints and cannot be characterised as low impact;

(d) **Presence of residential properties**: it is not accepted that properties within 250m of the EA1N substation will be adequately screened.

4.2.30 The RAG Methodology is an overly simplistic model to address a scheme of this complexity and lacks rigour. The 23 criteria adopted to analyse the merits of each site are a mix of parameters (i.e. measurable quantities such as distance from OH grid) and attributes (i.e. subjective designations such as visual sensitivity). The resulting 'scoring' system is therefore flawed as it conflates subjective opinion with objective measureable data.

Landscape, archaeological and heritage impact on the proposed substation(s) site

4.2.31 The proposed substation(s) site is just outside the village of Friston. The area can be characterised as largely agricultural. Friston and its outlying areas are rich in both registered and unregistered heritage assets and the proposed development will cause irreversible harm to an area of the country which has stood largely unspoilt since medieval times.

4.2.32 Friston is the furthest from landfall of the eight sites considered as part of the site selection process. Accordingly the additional cabling will give rise to the greatest landscape, architectural and historic impact as it spans some 9km inland passing through woodland, the setting of several listed buildings and areas of archaeological importance.

4.2.33 The area is popular with tourists because of the unspoilt landscape and historic features that sit within it. The unspoilt landscape and heritage assets have value in and of themselves, but they also provide an economic draw to the area to which insufficient consideration has been given.

Heritage Impact

4.2.34 The development proposal should be considered against its current setting which comprises a historic rural landscape. The impact of EA1N and EA2 on Friston should not be underestimated. The current proposal will result in an industrial site spanning approximately 30 acres and up to a maximum height of 18 metres. The development of the substation(s) will have a permanent detrimental effect on the character of the village as well as on a number of historic buildings and their settings.

4.2.35 The existing onshore archaeological and cultural heritage base line identified the following six above-ground heritage assets which could be materially affected by the proposed development:

(a) Church of St Mary, Friston (Grade II*);

(b) Little Moor Farm (Grade II);

(c) Woodside Farm House (Grade II);

(d) High House Farm (Grade II);

(e) Friston House (Grade II); and

(f) Aldringham Court (Grade II).

4.2.36 The above list of adversely affected heritage assets is significant. However, the above fails to consider the impact on Grade II* Friston Mill, which should be included in the detailed assessment of the proposed development's effect on heritage assets.

4.2.37 The Applicant has failed to give proper consideration to the impact of EA1N 'on the significance or on the ability to appreciate the assets' as required by Stage 3 of Historic England's Guidance (Assessing of Heritage Assets, 2017). Specifically, key vantage points from Grove Road across the landscape towards Little Moor Farm and High House Farm will suffer more than substantial harm and are worthy of preservation.

4.2.38 The cable route will require considerable woodland tree felling, estimated to be in the region of 0.9 hectares in total. Such felling would fundamentally alter the setting of this heritage asset from its original design, with very little scope for effective mitigation. The indicative landscape mitigation plan provided by the Applicant shows the constrained nature of Aldringham Court and suggests that the proposed screening will itself have an unacceptable impact of the setting on Aldringham Court. The scale of the proposed planting is itself problematic and does not sit comfortably within the landscape resulting in an unacceptable impact.

4.2.39 The Applicant has stated in the RAG Methodology that the landscape offers opportunity to adequately screen and contain the development although the nature of the block planting proposed has a significant impact on the setting of heritage assets and the historic landscape more generally. As such the proposed mitigation measures will themselves have adverse impacts on heritage assets that cannot be mitigated.

4.2.40 The majority of harm arising from the development would occur in heritage terms during the operational phase and would therefore be long term, if not permanent. The Applicant is yet to provide a full assessment of the development's impact in heritage terms and has therefore failed to discharge the presumption in favour of conservation of designated heritage assets as required by paragraph 193 of the NPPF which states: *When considering the impact of proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation ... this is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.*

Archaeological impact

4.2.41 To date, the archaeological assessment has been desk-based with a walkover and various site visits. It is therefore insufficient to arrive at the Applicant's conclusion that the cumulative impacts of the development are not archaeologically significant. At several points along the proposed cable route there is a high potential for unknown ground remains, including an area where military remains are recorded, as well as the potential for human remains at the medieval church at Friston.

4.2.42 The County Council's assessment concludes that a full systematic earthwork survey assessment should be required pre-determination. Even if not fatal to the selection of Friston as the most appropriate site, this would allow mitigation to be incorporated into the scheme at design stage.

4.2.43 Without a proper assessment of the archaeological impacts it is not possible to properly assess the overall merits of the proposal as against alternative sites.

Landscape impact

4.2.44 The EA1N onshore substation will have a maximum building height of 15m and external electrical equipment up to 18m in height and will cover an area of land of up to 13,100m^2 (190m x 190m). The dimensions of the EA2 onshore substation will be identical. In addition, the National Grid substation will be located at the same site, and at present there are two potential substation arrangements – AIS or GIS. The maximum footprint dimensions of a National Grid AIS substation are up to a maximum of 145m x 310m, with a maximum building height of 6m. The maximum footprint dimensions of a National Grid GIS substation are up to a maximum of 140m x 120m, with a maximum building height of 16m.

4.2.45 The Applicant's own Landscape Visual Impact Assessment (the **LVIA**) identifies that development of the substation(s) will result in a permanent adverse impact on the character of the landscape around Friston. The LVIA's conclusion that

this impact will only cause long term severe effects in respect of three defined viewpoints (Saxmundham Road, Aldeburgh Road and Grove Wood) seems dubious. The series of views from Grove Road in particular stand to be entirely altered by the development proposals and further consideration should be given to this point in order to accurately capture the full extent of the proposal's impact, in terms of the way in which its height and scale will dominate the landscape.

4.2.46 What appear to be inaccuracies or omissions from the LVIA allow the Friston site to be identified as 'low' for both landscape and character sensitivity and visual sensitivity within the RAG methodology. The Preliminary Environmental Information Report states there will be significant long term effects on the area north of Friston within an approximately 1km radius of the substations. While mitigation measures are reported to take effect within approximately 15 years, given the local climate and its effect on tree growth as against national averages, this may be much longer.

4.2.47 The cable network required to service the substations, including the positioning of sealing end compounds, will have a significant negative impact on the landscape. The positioning of four sealing end compounds requires clarification as, to date, insufficient information has been provided to allow their impact to be properly considered.

4.2.48 Friston is further inland than any of the other options considered by the Applicant for siting the onshore substation, resulting in the greatest impact in terms of effect on the landscape. Cabling up to a maximum width of 32m will be required to run the 9km between Friston and the landfall site at Thorpeness. Selecting an alternative site closer to landfall would dramatically reduce the visual impact of the development and its impact on the landscape. This does not appear to have been given sufficient weight during the site selection process.

4.2.49 The visual effect of the substations will be felt severely and this has been significantly downplayed by the Applicant. Figure 29.10 of Chapter 29 shows the areas where EA1N, EA2 and/or the National Grid substations would theoretically be visible. This figure shows that the substation(s) will theoretically be visible from many miles away and in every direction. The Applicant has not provided as part of the ES any visual representations of what the substations would look like on the local and regional landscape. Given the flat landscape, the findings of the LVIA, and the height of the substation(s), the landscape and visual impacts have not been adequately represented. The mitigation measures are inadequate both in the short, medium and long term such that the adverse impacts of the proposal on landscape cannot be reduced sufficiently so as to make the development proposals acceptable.

Economic impact on the village of Friston and surrounding areas

4.2.50 Given that it is the village of Friston and the surrounding road network and villages in close proximity that will be most impacted by the construction, operation and possible decommissioning of the onshore substation(s), the ES does not adequately address and assess the potential economic impacts that

will result. Table 30.44 and section 30.6.2.2 of Chapter 30 on tourism, recreation and socio-economics states that there is potential for visitors to Friston to be deterred by the onshore substations and that the main concern represented through consultation is related to long-term presence of the onshore substations near Grove Wood, Friston. The 'Receptor' column of the table which discusses tourists visiting the area states that a meta-study of visitor surveys and a study of Trip Advisor reviews of coastal assets with a view of offshore windfarms have been used to understand visitor opinions of offshore wind energy (with detail provided in Appendix 30.2). No reference is made to understanding non-coastal assets or visitor opinions of onshore infrastructure such as substations. Section 30.6.2.2 however, goes on to state that research on visitor's opinions about offshore wind was based on 'a literature review of visitor studies to identify trends in the perception of tourists to onshore windfarm development and in actual changes in tourist visits to areas that have experienced windfarm development, as there are no studies available on perception of onshore substations.' This is not an adequate methodology - just because there is no literature on visitor studies, it does not mean that there is not a negative perception and a resulting decline in visitor numbers to a place based on onshore energy infrastructure. A more appropriate methodology would have been to undertake a dedicated local assessment, asking visitors to the area about whether they will continue to visit, as well as looking at available literature on other similar infrastructure that is not necessarily a substation for onshore wind. In addition, the ES does not consider whether there would be any economic impact on the village of Friston or the surrounding areas during the construction of the substation(s) and in particular, due to the increased levels of noise, dust, traffic and significant heavy goods vehicle movements on the narrow lanes around the proposed location.

5 Representation 3 - Inadequate assessment of alternatives to an on-shore substation that have been studied by the Applicant

5.1 Background and Issues

5.1.1 As set out in Representation 2, regulation 14(2)(d) of the EIA Regulations 2017 states that an ES must include 'a description of the **reasonable alternatives studied by the applicant**, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the chosen option, taking into account the effects of the development on the environment.' Schedule 4(2) of the EIA Regulations 2017 elaborates on this and provides that the ES must include a description of the reasonable alternatives (for example in terms of development location) together with an indication of the main reasons for selecting the chosen option.

5.1.2 Section 4.4 EN-1 states that from a policy perspective there is no general requirement to consider alternatives or to establish whether the proposed project represents the best option. However, paragraph 4.4 also states that applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives **they have studied**. This should include an indication of the main reasons for the Applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility. Paragraph 4.4.3 of EN-1 states that where

there is a policy or legal requirement to consider alternatives (which there is for the Application, under the EU EIA Directive and the EIA Regulations 2017), the Applicant should describe the alternatives considered in compliance with these requirements but that given the level and urgency of need for new energy infrastructure, the Planning Inspectorate should, subject to any relevant legal requirements which indicate otherwise, be guided by a number of principles when deciding what weight should be given to alternatives.

5.1.3 In addition, the Scoping Opinion provides a requirement for the Applicant to provide a description of the reasonable alternatives (for example, in terms of development design, technology, location, size and scale) **studied by the Applicant** which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selection of the chosen option, including a comparison of the environmental effects.

5.1.4 In their 2020 report to Parliament, dated 25 June 2020, the Committee on Climate Change called for government to 'Develop a strategy to coordinate interconnectors and offshore networks for wind farms and their connections to the onshore network and bring forward any legislation necessary to enable coordination.'

5.1.5 Subsequently, on 15 July 2020, Energy Minister Kwasi Kwarteng announced the scope of a review into the existing offshore transmission regime to address the barriers that the current regime presents to further significant deployment of offshore wind, with a view to achieving net zero carbon ambitions (the **Review**).[11] The objective of the Review is to ensure that the transmission connections for offshore wind generation are delivered in the most appropriate way, and with a view to finding the appropriate balance between environmental, social and economic costs.

5.1.6 As part of the background to the Review, it is acknowledged by the Government that the current approach to designing and building offshore transmission was developed when offshore wind was a nascent sector and industry expectations were as low as 10GW by 2030 and that it was initially designed to de-risk the delivery of offshore wind by leaving the project developers in control of building the associated transmission assets to bring the energy onshore. The Review then goes on to admit in the context of increasingly ambitious targets for offshore wind, that constructing individual point to point connections for each offshore wind farm may not provide the most efficient approach and could become a major barrier to delivery given the considerable environmental and local impacts, particularly from the associated onshore infrastructure required to connect to the national transmission network. This is particularly the case in Suffolk and has been repeatedly raised as a major issue throughout the pre-application phase of both EA1N and EA2, as well as being a significant concern in many of the over 800 relevant representations submitted for each of EA1N and EA2.

[11] https://www.gov.uk/government/publications/offshore-transmission-network-review/offshore-transmission-network-review-terms-of-reference

5.1.7 The Review will bring together key stakeholders involved in the timing, siting, design and delivery of offshore wind to consider all aspects of the existing regime and how this influences the design and delivery of transmission infrastructure. Its terms of reference focus on identifying tactical near-term actions that can be taken and early opportunities for coordination for projects in the short-to-medium term, plus a longer-term strategic review to develop a new regime that can ensure a more coordinated approach for the future.

5.2 Objections

5.2.1 In the introduction to Chapter 4 of the ES, it states that the chapter presents a description of the site selection process and the approach taken by the Applicant to define the various elements of EA1N. It goes on to explain that an important part of the Environmental Impact Assessment process is to describe the reasonable alternatives considered during the evolution of the proposed EA1N project, such as development design, technology, location, size and scale, and to set out the main reasons for selecting the chosen option.

5.2.2 While the ES, and in particular, Chapter 4 does discuss alternatives to site selection for the onshore substation(s), albeit by using a flawed approach as discussed in Representation 2, the ES does not consider or discuss any alternative technological options that have been studied by the Applicant, including an offshore transmission structure as a reasonable technological alternative to the onshore substation(s). This is a material flaw that brings into question whether the harm arising from on-shore infrastructure could have been avoided by the use of other technical solutions.

5.2.3 In response to consultation (as set out in Appendix 4.1 of the ES), Suffolk Preservation Society called for an offshore transmission structure to obviate the need for onshore substation(s) by providing a long-term, sustainable solution to the delivery of electricity from the North Sea zone to the national grid. This has previously been tabled by a number of Statutory Consultees, and was noted by Claire Perry, then Minister for Energy and Clean Growth (Hansard Volume 656, 11 March 2019). The Applicant merely responded 'Noted' in response to this comment and has not addressed this option in the ES.

5.2.4 The ES does not consider or discuss the option of an offshore transmission structure despite there being documented discussions, as set out below, which show that the Applicant has studied this option. As a result, the EIA Regulations 2017 require discussion of such alternative technological solutions to be included in the ES. Email correspondence from eastangliatwo @scottishpower.com to sallyamiles@hotmail.com (dated 1 September 2019) states that the Applicant has investigated the possibility of an offshore transmission structure a number of times over the last 20 years and that following studies by National Grid in 2011 which identified potential savings from a coordinated offshore grid network, a workgroup was established to investigate issues and potential solutions. This included the East Anglia offshore wind developers working with National Grid and with input from Ofgem and DECC. The email further provides that the published report confirmed that such an offshore network could, in theory provide significant investment benefits, however, the volume of planned generation capacity and the

timescales could not justify the anticipatory investment and the market, policies and regulations did not support such proposals. The ES did not include any of this information or any of the findings of the published report. The Applicant has erred in failing to mention the reasonable alternatives that it has in fact studied and considered.

5.2.5 Not only does the ES not consider the offshore transmission structure as a reasonable technological alternative, it also does not consider any other alternative technologies, for example, battery storage and hydrogen which are emerging and will provide opportunities to develop combined generation and grid solutions (as set out in the email dated 1 September 2019 referred to above).

5.2.6 In a letter sent by George Freeman MP to Andrea Leadsom, the then Secretary of State for Business, Energy and Industrial Strategy, dated 28 October 2019, Mr Freeman states that discussions have begun regarding the serious strategic policy challenges raised by the lack of an overall strategy for the connection of offshore wind infrastructure in the Southern North Sea to the national grid in the East of England (a point which is further highlighted by the outcome of the CION process detailed in Representation 2).

5.2.7 In addition, SEAC has been involved in discussions and research regarding whether it would be technically possible to build an offshore transmission structure in the southern North Sea, along the lines of the ones established in the northern North Sea by Germany, together with the viability of such a scheme. This research, which is provided as an Appendix to these written representations concludes that it is feasible to build an offshore hub collecting all the power from different wind farms off the East Anglia coast and then connecting to the grid on the shore.

5.2.8 The above mentioned report highlights that many organisations are already involved in research and work on the delivery of such schemes and that they are already operating successfully in the North Sea. Given the level of interest in such a scheme locally, regionally, nationally and throughout the whole of the North Sea, it is inconceivable that the Applicant has not been involved in research to date and has not given serious consideration to such alternatives as an offshore transmission structure given its interest in the region and in this type of project.

5.2.9 The Applicant has not given any consideration to the offshore transmission structure in the ES, even though it has made statements in respect of it and is involved in ongoing discussions taking place, is aware of the serious concerns of local residents and businesses, and has knowledge that there is more offshore infrastructure at the pre-application stage in the East Anglia region. In addition, the Applicant's failure to work with National Grid, Ofgem and the Government to properly explore an offshore transmission structure is unreasonable given the significant harm that would be suffered as a result of the proposed on-shore development. A compelling case in the public interest for making the DCO is negated by these failings.

5.2.10 As set out in Representation 2, the Applicant has failed to consider the site at Bradwell which would potentially provide a suitable location for an alternative area where connections to offshore wind farms can come onshore. The use of an offshore transmission structure would be a technological alternative to connecting the numerous offshore wind farms to Bradwell.

5.2.11 Finally, although it is appreciated that the details of the Review were only made public on 15 July 2020, the issues that led to the need for the Review have been known by the Applicant for a considerable time. Given that both EA1N and EA2 are likely to connect to the onshore network after 2025, then these projects will be considered as part of the 'medium-term workstream' for the purposes of the Review. Given the weight of representations regarding the onshore substation(s) for both EA1N and EA2, and the importance that the Review is placing on ensuring that the appropriate balance is struck between environmental, social and economic costs in finding the most appropriate way to deliver transmission connections for offshore wind, the DCO for both EA1N and EA2 should not be granted at this stage. The DCO should only be granted when an appropriate way forward is decided upon and the policy recommendations and proposed changes to the existing regime, being the construction of individual point to point connections for each offshore windfarm and identified as not the most efficient approach, are made.

6 Representation 4 – Traffic and Transport

6.1 Background and Issues

6.1.1 As set out in Representation 2, the 'onshore development area' is defined within the NTS as 'the area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access road and construction consolidation sites), and the National Grid Infrastructure will be located'. This definition and associated visual representation as provided in Figure 2 of the NTS (a copy of the applicable area of which is replicated below in Figure 3), is an inadequate representation of the true extent of the onshore development area as it does not detail the road network (in particular the B1121) required to access the proposed onshore substation(s) or the village of Friston which is adjacent to the onshore substation(s) and through which the B1121 runs.

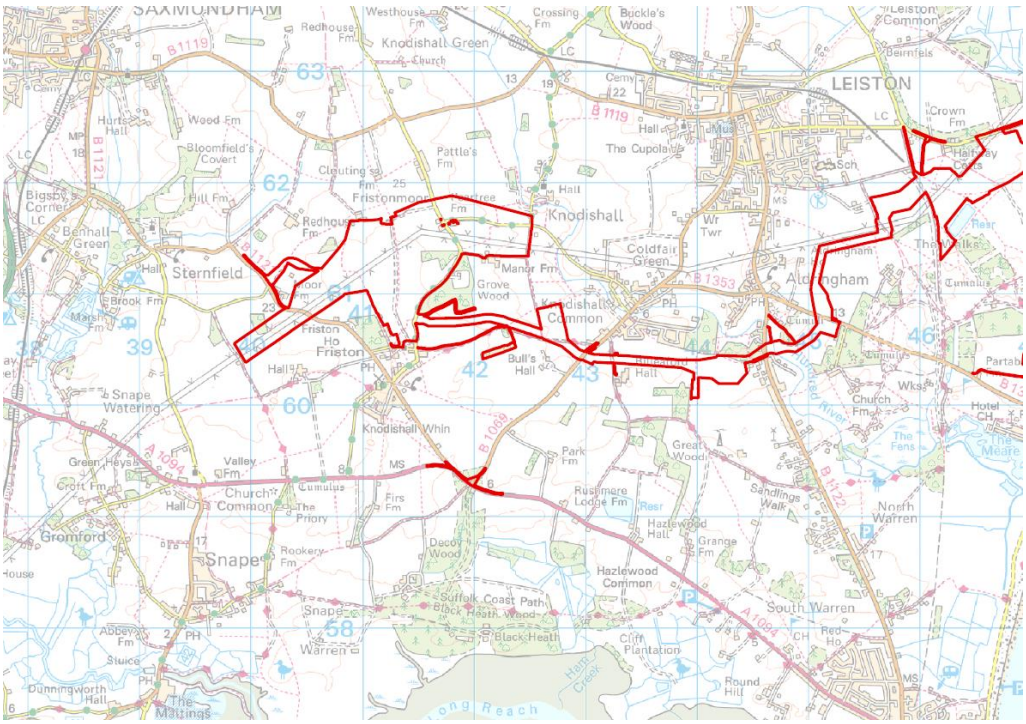

Figure 3: Areas shown by Figure 2 of the NTS which sets out the 'onshore development area'

6.2 Objections

6.2.1 The exclusion of the B1121 and Friston renders understanding of the baseline and subsequent impacts on these receptors inadequate. In particular, the ES does not consider the localised impacts of traffic and transport and the wider air quality impacts arising from the construction of the substation(s). Further, the onshore development area does not appear to encompass the off-site works to the highway network that the Applicant proposes.

The ES does not adequately consider the impacts on the wider transport network

6.2.2 The Inspectorate's comments within the Scoping Opinion state that baseline data is listed as being collated for roads within the onshore study area (which does not include Friston or the B1121) and that the Applicant should consider, as part of the assessment, whether potential impacts to the road network outside of the onshore study area are likely. The Scoping Opinion further provides that the inclusion/exclusion of routes should be justified within the ES.

6.2.3 The road network around the onshore development and in the wider region is very small and will be inadequate to handle the increased amount of traffic and transport associated with development in the region. This is not merely around the site of proposed onshore substation(s), but more widely also. For example, the Orwell Bridge is the primary access route to the A12 from the south, as well as to the port of Felixstowe. This bridge has two lanes in each direction and is already heavily stressed by the increasing traffic, including HGVs and AILs associated with other infrastructure projects in the region.

6.2.4 The ES does not adequately consider the impacts on the wider transport network, including for example, the A12 and the A1094, not just for EA1N, but also as a cumulative impact with other developments and infrastructure on both a spatial and temporal basis. Both the A12 and the A1094, together with other roads that are not in the immediate vicinity of the proposed onshore substation(s) location will be impacted by increased HGV traffic associated with the development. As well as the impacts on air quality, discussed below, changes to traffic and transport on these roads may deter tourists from visiting Aldeburgh, Snape Maltings and Thorpeness, all of which are important for the region from a socio-economic perspective.

The ES does not consider the construction of the permanent access road to the substation(s)

6.2.5 The OMLP Illustrative Plan (the relevant section of which is replicated below in Figure 4) shows a 'Permanent Access Road' leading from the B1121 to the substation(s). This road does not currently exist and will need to be constructed as part of EA1N. The permanent road will be up to 8m wide and 1700m long.

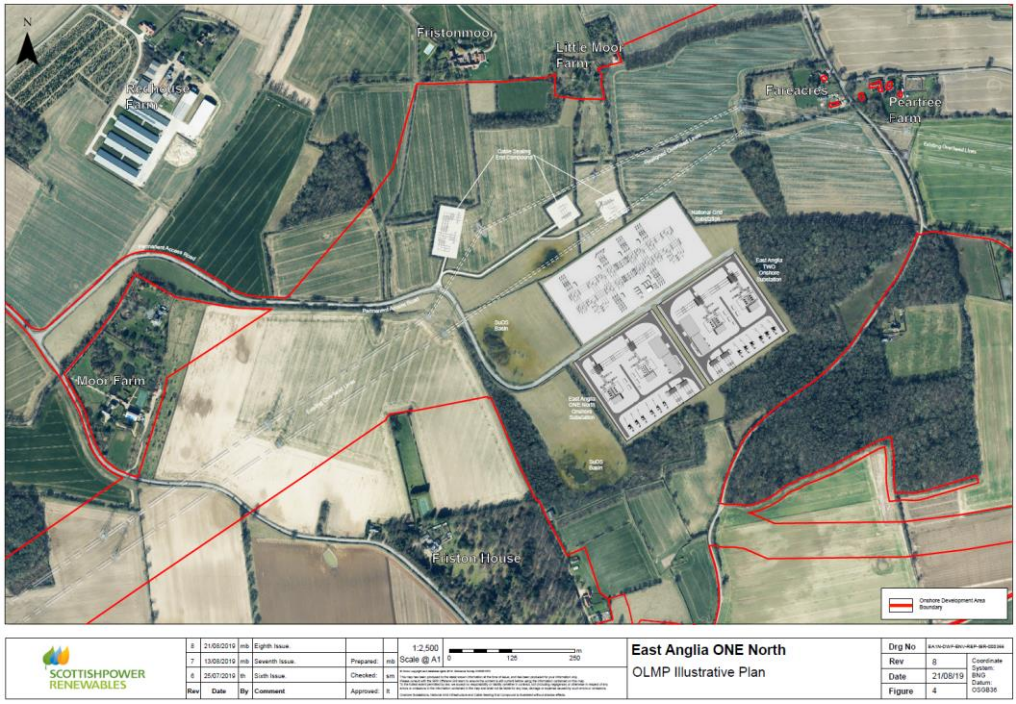

Figure 4: OLMP Illustrative Plan

6.2.6 In order to construct this road, HGVs and other vehicles will have to travel on the B1121, which runs through the village of Friston. This contradicts the statement discussed below that HGVs will not travel on the B1121 and supports the need for air quality and traffic and transport baseline data to be collected, and subsequent monitoring and mitigation strategies developed for the village of Friston.

6.2.7 The permanent access road will also lead to potential habitat fragmentation which has not been appropriately assessed, together with significantly

increased emissions in the immediate vicinity of ancient woodland such as Grove Wood.

6.2.8 The ES does not discuss any impacts in relation to the construction and operation of the permanent access road. The ES needs to consider the permanent access road and undertake suitable assessment of the air quality, ecology, flood risk, increased traffic and transport baseline data together with impacts as a result of the construction and operation of the substation(s). This road is to be over one mile long and will potentially have a significant impact on noise, vibration, air quality and traffic in Friston.

6.2.9 Failure to consider the construction and operation of the Permanent Access Road to the substation is a significant failing of the ES. The construction of the Permanent Access Road will have many environmental and socio-economic impacts, including increased traffic and transport travelling on the B1121, including HGVs, which will result in air quality impacts. Removal of agricultural land to make way for the road could lead to habitat fragmentation and biodiversity loss which has not been assessed.

The ES provides inadequate and incorrect information regarding how construction traffic will get to the substation(s) site

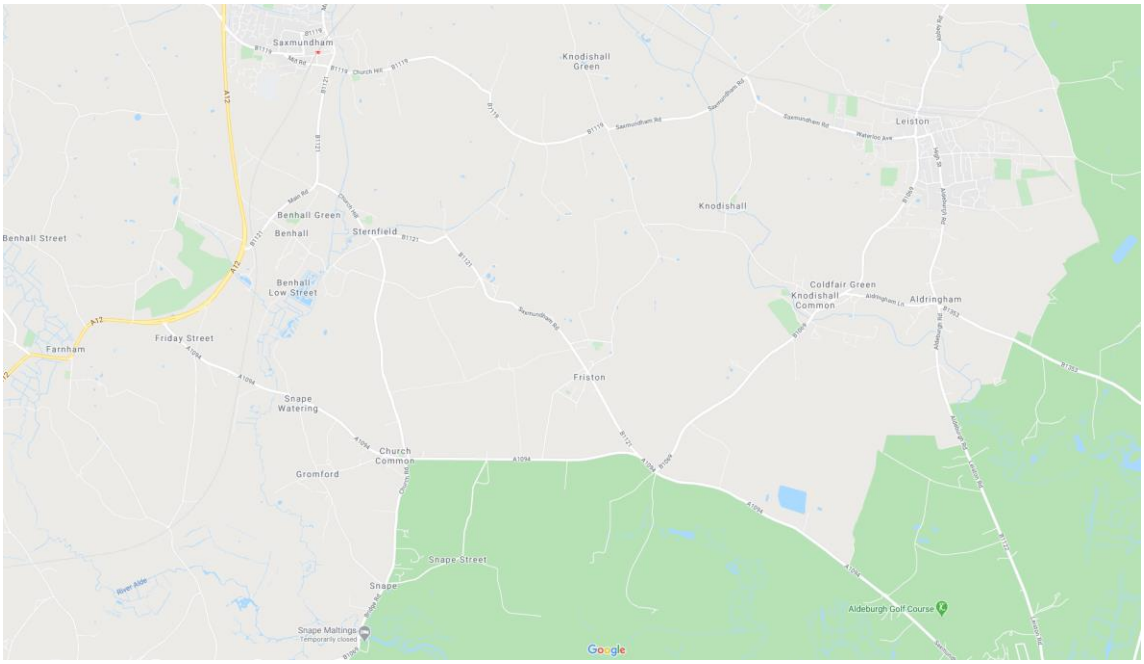

Figure 5: Screenshot taken from Google Maps showing the local road network around the site of the proposed onshore substation(s).

6.2.10 Table 26.4 (Embedded Mitigation and Best Practice Measures for Traffic and Transport) of Chapter 26 of the ES states that:

"*The strategy for access applies a hierarchical approach (informed by the SCC HGV route hierarchy), to selecting routes and where possible, seeks to reduce the impact of HGV traffic upon the most sensitive communities. This strategy for access includes the following commitments:*

- *All HGV construction traffic would be required to travel via the A1094 or B1122 from the A12, no HGV traffic would be permitted to travel via alternative routes, such as the B1121 or B1119.*

- *No HGV construction traffic would be permitted to travel via Leiston or Coldfair Green/Knodishall.*

- *No HGV construction traffic would be permitted to travel via the B1121 through Friston, Sternfield or Benhall-Green.*

- *No HGV construction traffic would be permitted to travel via the B1353 towards Thorpeness.*"

6.2.11 Figure 5, above, shows that based on these commitments, HGV access to the 'permanent access road' and to the site of the substation(s) is not possible.

6.2.12 In contrast, paragraph 84 of Chapter 26 of the ES states: '*The AIL study identifies the requirement for localised widening of the junction of the A1094 and the B1069... From this point the vehicle would then travel along the A1094 and B1121 through Friston to access the onshore substation site.'* While this is stated, there is no consideration given to any impacts that this might have, including any impacts on biodiversity or habitat loss.

6.2.13 Table 26.14 and paragraph 139 of Chapter 26 further states that the B1121 has a collision rate that is higher than the national average for a comparable road type and may be particularly sensitive to changes in traffic flow/type.

6.2.14 The ES fails to adequately consider how construction traffic will get to the substation site. In addition, the information that the ES does include is inconsistent and contradictory, particularly with regard to the B1121.

6.2.15 In summary, the Application shows the Applicant's complete lack of knowledge of the local road network, ill thought through approach to accessing the substation(s), both during the construction and operational phases, and failure to make an adequate assessment of the baseline conditions, or any impacts that would result from the traffic and transport required for the construction and operation of the onshore substation(s).

Cumulative impacts of traffic and transport are inadequately assessed

6.2.16 Cumulative impacts between the construction of EA1N and EA2 were assessed as being not significant for traffic and transport. This is considered to be incorrect, as whether EA2 is constructed simultaneously or sequentially, there will be more traffic and transport on the roads as a result of the construction of three substations and all of the associated infrastructure than there would be for the construction of one. It appears that this finding is based on the landfall and cable route only and has not actually taken account of the proposed construction of the substation(s).

6.2.17 As discussed in Representation 6, the ES gives inadequate consideration to the cumulative impacts of other developments with respect to traffic and transport. The only project to be included in the cumulative impact assessment in relation

to traffic and transport is the construction of Sizewell C New Nuclear Power Station. As set out in Representation 6, this assessment is qualitative only which is insufficient. In addition, cumulative impacts with the demolition and relocation of facilities at the Sizewell B Power Stations have not been scoped into the cumulative impact assessment, even though the planning application was formally submitted on 18 April 2019. The reason provided in Table 26.28 of Chapter 26 is that it was considered that there is not likely to be an overlap in peak construction periods between the most intensive period of construction for the Sizewell B Power Station Complex (which is expected to occur in 2022) and the commencement of construction of EA1N in 2023. This is considered inappropriate as it does not provide assessment of the worst-case-scenario, which would be that the developments overlap in their construction.

6.2.18 The cumulative impact assessment for traffic and transport is inadequate and should be undertaken again to ensure that it accurately considers the other development which is taking place. Reliance on the cumulative impact assessment as it currently stands fails to address a number of significant environmental impacts, including those on local air quality as a result of the true number of vehicles, including HGVs, travelling on the local road network.

The residual impact for all highway links is incorrectly assessed as being not significant

6.2.19 The onshore highway study area contains 15 highway links, five cluster sites, 11 sensitive junctions and two sensitive links within the onshore highway study area. This area was assessed for the effects of pedestrian amenity, severance, road safety and driver delay. With the application of additional mitigation measures (as appropriate), the ES found that the residual impact for all highway links was assessed to be not significant.

6.2.20 The onshore highway study area is provided in Figure 26.1 of Chapter 26 of the ES. This area appears to include only main roads and includes the B1121, even though Chapter 26 states that HGVs will not travel on this road (as discussed above). Link 5 and Link 7 are on the B1121.

6.2.21 Accordingly, this adds to the confusion over what route HGVs and other vehicles will take to access the substation site. The only road included in the onshore highway study area over which access to the substation site can be gained is the B1121.

6.2.22 The Applicant has made a number of fundamental errors in its assessment of the local road network around the onshore substation(s) site and in its assessment of the cumulative impacts of traffic and transport with other developments. This has resulted in an absolute failure of the ES to adequately consider the traffic and transport impacts related to the construction and operation of the substation(s) and permanent access road.

7 Representation 5 – Air quality

7.1 Background and Issues

7.1.1 The Scoping Report identifies that during construction potential impacts are possible as a result of dust from construction activities and exhaust emissions from construction traffic and non-road machinery. The Scoping Opinion further provides that the following should be included in the ES and should not be scoped out:

(a) Full assessment of the direct and indirect impacts associated with the generation of dust and particulates (human and ecological receptors) during operation.

(b) The study area for the assessment should be sufficiently broad to ensure that all receptors which could experience a significant effect are captured within the assessment. The extent of the study area should be agreed with relevant consultees and justified within the ES.

(c) Where data sources are to be interrogated to provide baseline information, the periods covered by the data should be provided in the ES to enable understanding of the reliance that can be placed on the data.

7.2 Objections

7.2.1 Figure 19.2 of the ES shows the air quality monitoring locations. These are all on the A12. In contrast to Figure 26.1 of the ES, the assessed road network provided in Figure 19.2 of the ES does not include the B1121 or any of the roads around the substation site. In addition, the assessed road network shown in Figures 19.3 and 19.4 of the ES (which show sensitive human and ecological receptors respectively) does not match that in Figure 26.1 of the ES. Figures 19.3 and 19.4 of the ES do not include within the assessed road network the road that runs through the village of Friston. As a result, human and ecological receptors within the vicinity of this road have not been considered and assessed as part of the ES. This includes assessment of human receptors in the village of Friston and assessment of Grove Wood.

7.2.2 ES Chapter 19 concludes that impacts on air quality associated with construction phase dust and road traffic emissions were not significant at either human or ecological receptors when considering EA1N on its own. However, it is known that the construction of the substation for both EA1N and EA2 will occur either simultaneously or sequentially, therefore there will be an overlap, or an extended period of vehicle and construction air and dust impacts.

7.2.3 ES Chapter 19 does not even mention the village of Friston.

7.2.4 ES Chapters 19 and 26 make no reference to any increase in greenhouse gas emissions or any impacts to local air quality as a result of increased vehicles and no greenhouse gas or air quality assessment or modelling has been undertaken or included.

7.2.5 See above objections for cumulative impacts. As per other aspects, it is not adequate that only cumulative effects between EA1N and EA2, and Sizewell C have been considered, and not other developments, such as the Nautilus and Eurolink interconnectors, other nearby windfarms and their onshore infrastructure, including EA1 and EA3, Greater Gabbard, Galloper and the proposed Norfolk Vanguard, telecommunications cables near the landfall and the Sizewell nuclear power stations (operational Sizewell B and decommissioning of Sizewell A). In addition, the ES has concluded that the cumulative impacts with Sizewell C have been assessed as being not significant. This seems particularly unlikely given the predicted number of vehicle movements associated with the development of Sizewell C, and the corresponding air and traffic impacts.

7.2.6 The Applicant has taken an inconsistent approach to its assessment of air quality and traffic and transport. Given the two are inextricably linked and given the failures of the traffic and transport assessment (as set out in Representation 5), the air quality assessment cannot be relied upon to provide a true indication of the air quality impacts related to the construction and operation of the onshore substation(s). As a result, the Applicant has failed to properly assess the air quality impacts of the construction and operation of the onshore substation(s). The conclusion that the impact would not be significant is clearly flawed and understates the actual likely impact.

8 Representation 6 - Cumulative impacts

8.1 Background and Issues

8.1.1 The Scoping Report provides that a cumulative impact assessment will form part of the EIA process and notes that the Planning Inspectorate Advice Notes 9 and 17 provide guidance on plans and projects that should be considered in the cumulative impact assessment, including:

(a) Projects that are under construction;

(b) Permitted applications not yet implemented;

(c) Submitted applications not yet determined;

(d) Projects on the Planning Inspectorate's Programme of Projects;

(e) Development identified in relevant Development Plans (and emerging Development Plans - with weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited; and

(f) Sites identified in other policy documents as development reasonably likely to come forward.

8.1.2 The Scoping Report further states that although it was too early at the time of preparation of the Scoping Report to define a list of projects which will be included in the cumulative impact assessment, given their proximity to EA1N, it is clear that the Applicant's other developments – which include other nearby

windfarms such as Greater Gabbard, Galloper and the proposed Norfolk Vanguard – telecommunications cables near the landfall, the Nautilus and Eurolink interconnectors and the Sizewell nuclear power stations (operational Sizewell B, planned Sizewell C and decommissioning of Sizewell A) will be considered for many of the categories listed above.

8.1.3 *Planning Inspectorate Advice Note Seventeen – Cumulative Effects Assessment* (**Advice Note Seventeen**) provides an overview of the cumulative effects assessment process that applicants should adopt for NSIPs. Advice Note Seventeen provides advice regarding a staged approach and the use of consistent template formats for documenting the cumulative effects assessment within an ES. The Applicant has not used these templates or followed the approach suggested in the advice and consequently the outcomes are not clearly presented. This makes it very difficult to determine the adequacy, transparency and robustness of the cumulative effects assessments undertaken as part of the ES. Advice Note Seventeen's recommended process focuses on establishing a long list of 'other existing development and/or approved development' likely to result in significant cumulative effects based on the Applicant's determined zone of influence for each environmental aspect considered within the ES. Following this, applicants should then apply threshold criteria to the long list in order to establish a shortlist. The criteria should be used to guide a decision as to whether to include or exclude 'other existing development and/or approved development' that falls within the zone of influence, from further assessment.

8.1.4 Given the already well-known and established 'other existing development and/or approved development', both locally and regionally, and onshore and offshore, the use of the approach set out in Advice Note Seventeen should have been used.

8.2 Objections

The ES does not adequately consider cumulative impacts with developments other than EA2

8.2.1 As discussed in Representation 4, the ES gives inadequate consideration to the cumulative impacts of other developments with respect to traffic and transport. The cumulative impact assessment for traffic and transport only considered the impacts of the proposed EA1N project and the proposed EA2 project. This is inadequate. The zone of influence for further assessment, in particular with respect to the traffic and transport aspects of the EA1N should be much larger than it is, due to the numerous existing and/or approved developments locally and regionally. The assessment should include the wider road network, including the Orwell Bridge which is the primary route to EA1N's onshore substation(s) and cable route, as well as being the primary route for many other developments in the region.

8.2.2 Tables 26.28 of Chapter 26 and Table 19.34 of Chapter 19 set out a summary of the projects considered for the cumulative impact assessment in relation to traffic and transport, and air quality respectively. These tables provide that the only other project to be included in this assessment is Sizewell C New Nuclear

Power Station, and only the traffic associated with the construction of Sizewell C is to be considered. Cumulative impacts with the demolition and relocation of facilities at the Sizewell B Power Stations have not been scoped into either cumulative impact assessment, and other projects reasonably likely to come forward, including both the Nautilus and Eurolink interconnectors, have not been considered at all. Cumulative impacts between EA1N and EA2 were assessed as being not significant. This is considered to be incorrect, as whether EA2 is constructed simultaneously or sequentially, there will be increased traffic locally and regionally. It appears that the "not significant" finding is based on the landfall and cable route only and has not taken the construction of the substation(s) into account.

The Cumulative Impact Assessment for air quality, noise and vibration and traffic and transport associated with Sizewell C is qualitative and not quantitative

8.2.3 Although a cumulative impact assessment for air quality, noise and vibration and traffic and transport associated with Sizewell C has been provided, this is qualitative and not quantitative – e.g. it does not consider the increased number of HGV movements through the local road network. This is not acceptable due to the significance of these potential environmental, economic and social impacts.

8.2.4 Subsequent to agreeing the cumulative impact assessment approach with Sizewell C, EDF Energy embarked upon a Stage 4 consultation exercise scheduled to run from 18 July to 27 September 2019. The Stage 4 consultation document contains further information on an updated freight management strategy but does not contain sufficient information to facilitate a quantitative assessment for ES Chapters 19 (Air Quality), 25 (Noise and Vibration) and 26 (Traffic and Transport).

8.2.5 Air quality, noise and vibration and traffic and transport are three of the major cumulative impacts associated with the onshore substation(s). The cumulative impact assessment presented in these chapters are qualitative only and not quantitative. This is not acceptable due to the significance of these potential impacts.

8.2.6 The above chapters should be rewritten when the data is made available in order to assess the cumulative impacts correctly.

8.2.7 Reliance on a qualitative impact assessment of factors that can only be assessed quantitatively, including air quality, noise and traffic and transport, is inadequate. If the assessment was undertaken correctly it is highly likely that the level of the impact would be assessed as being higher.

9 Representation 7 – the ES does not adequately consider the decommissioning and restoration of the land used for the onshore substation(s)

9.1 Background and Issues

9.1.1 As the construction and installation of offshore windfarms, particularly within the East Anglia region increases, so will the need for decommissioning for both the onshore and offshore components of each project. In addition, given that the

anticipated lifespan of offshore wind energy projects is approximately 20-30 years and it is known that renewable energy infrastructure is not permanent, determining the environmental impacts of decommissioning of both onshore and offshore components should form an important aspect of an EIA.

9.1.2 Whilst there is no specific requirement within the EIA Regulations 2017 to consider the potential impact of end of design life scenarios within the ES, the EIA Regulations 2017 do require that the ES includes a description of the 'requisite demolition works' and a description of the likely significant effects of the development on the environment resulting from demolition works, where relevant. Whilst a definition of 'demolition' is not given in the EIA Regulations 2017 it is inconceivable that the 'decommissioning' of a windfarm and it's associated infrastructure would not involve very significant demolition.

9.2 Objections

9.2.1 The Applicant has included 'decommissioning' in the impact assessment undertaken as part of the ES, including for the onshore substation(s). However, the ES provides inadequate consideration and detail of the end-of-life scenarios envisaged for the onshore substation(s) for the impact assessment to contain any meaningful information. The ES provides limited information about decommissioning of the substation(s). Chapter 6 states that the substation(s) infrastructure could be removed and components reused or recycled. Should some or all of the National Grid infrastructure no longer be required for operational purposes, the equipment would be disconnected from the transmission system and dismantled. The land is proposed to be reinstated to an appropriate end use and similar methods and equipment would be required for dismantling as outlined for construction. Chapter 6 further states that the decommissioning methodology will be finalised immediately prior to decommissioning and will depend on the requirements of the onshore decommissioning plan approved by the local planning authority (to be secured through a requirement of the draft DCO).

9.2.2 Despite this, the NTS asserts that all potential impacts of the construction, operation and decommissioning of the proposed project have been identified and an assessment made on the significance of each potential impact. However, the NTS then goes on to state that a decommissioning plan will be provided and the detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and agreed with the regulator. The inconsistency of the approach taken to decommissioning as highlighted in the NTS, together with the lack of any additional information on the end-of-design-life scenarios for the onshore substation(s) suggest that the Applicant has not truly considered decommissioning or the impacts of this for the onshore substation(s) at all and its inclusion within the ES is merely as a 'tick-box' exercise.

9.2.3 This point is further amplified with respect to the assessment of the impacts of the onshore substation(s), which as set out in the earlier Representations, have been inadequately assessed for both the construction and operation phases of EA1N also. Despite there being no detail in the ES of what decommissioning of the onshore works will entail, the NTS provides the exact same wording for

every aspect of the onshore ES: *'Decommissioning impacts are expected to be no greater than those construction impacts identified."* This sentence contains no substance, especially as there is no additional information to support it. Without understanding what end-of-design life scenarios are envisaged for the area of the onshore substation(s) then there is no way of knowing what the impacts will be. In addition, comparing them with the construction impacts seems absurd given that the onshore substation will significantly change many aspects of the surrounding area and also given the inadequate assessment of the impacts of the construction phase of the onshore substation(s).

9.2.4 In addition, there is concern that other onshore substations, including the one at Bradwell has not been decommissioned and has been left to deteriorate, leaving not only an eyesore on the landscape, but also a heath and safety risk in the local area. There has been no serious attempt made at Bradwell to dismantle the structures or to reinstate the landscape to the way it was prior to the construction of the substation. Accordingly, there is serious concern that a failure to commit to a robust decommissioning strategy or agenda at this stage could result in the same situation arising in Friston in the decades to come.

10 Representation 8 - Biodiversity

10.1 Background and Issues

10.1.1 Paragraph 5.3.14 of EN-1 states that ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland, and once lost, it cannot be recreated. EN-1 further states that the Planning Inspectorate should not grant development consent for any development that would result in its loss or deterioration unless the benefits (including need) of the development, **in that location** outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the Applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why.

10.1.2 Grove Wood has been identified by NE as an area of ancient woodland and is on the boundary of the onshore development area. The ES states that the woodland will be retained and therefore, there will be no change to this site. The ES does not include Grove Wood as a sensitive ecological receptor despite its proximity to the onshore substation.

10.2 Objections

10.2.1 The ES is incorrect in its determination that there will be no change to Grove Wood. Due to the proximity to the onshore substation, Grove Wood will be subject to increases in dust and particulate matter and a decrease in air quality throughout the construction period. The air quality impacts on Grove Wood have not been assessed as part of the ES and therefore appropriate mitigation has not been considered.

10.2.2 In addition, the ES has not considered any of the biodiversity impacts of the construction of the permanent access road or the widening of the roads as set out in Representation 4.

11 Representation 9 - Funding Statement

11.1.1 The funding statement relies entirely on a draft funding agreement between ScottishPower Renewables and the Applicant to satisfy the SoS that funds will be in place to meet compensation claims. That funding agreement has not been entered into, but in any event could be easily extinguished by mutual consent. A funding commitment from SPR should be entered into in favour of the SoS in a legally binding form, preferably pursuant to Section 106 of the Town and Country Planning Act 1990.

11.1.2 The funding statement poses significant questions as to whether SPR are committed to the project. The DCLG guidance states that the funding statement should include the degree to which other bodies (public or private sector) have agreed to make financial contributions or to underwrite the scheme, and on what basis such contributions or underwriting is to be made. No firm commitments have been secured from SPR.

11.1.3 The funding statement does not include copy accounts for the Applicant even though it is suggested in the funding statement that blight claims may be funded by the capital reserves of the Applicant. This represents an unacceptable risk to those who could be affected by blight. It is incumbent on the Applicant to address this issue and to provide evidence that it has sufficient resources to meet such claims.

12 Summary and Conclusions

12.1.1 These written representations highlight significant failings not just of procedure, but of substance too. It is clear that decisions taken by the Applicant during the planning of the project have inevitably forced it to gloss over important impacts, and to seek to justify that which cannot be justified on any sound evidence base. The flaws in the proposed scheme and the evidence base suggest that the project was not planned with an open mind as to the possible technical solutions. One can only speculate as to whether the technical solutions proposed were a foregone conclusion from the outset. The Applicant's failure to properly consider all of the options and solutions has been exposed by deep flaws and glaring omissions in the ES. It is perhaps therefore not surprising that the ES fails to comply with mandatory legal requirements, because if the mandatory requirements were met the flaws in the proposals would be further exposed. The ES lacks rigour, and is not persuasive in its assessment of the environmental impacts. In addition, issues of material importance have not been properly grappled with.

12.1.2 The failings highlighted in these representations are directly relevant to whether the Secretary of State should make the development consent order. When considering whether to make a development consent order, the Secretary of State must be mindful that an order not only provides planning consent for a project but also incorporates other consents and includes authorisation for the compulsory acquisition of land. The Secretary of State may only make a

development consent order in these circumstances where he/she is satisfied that there is a compelling case in the public interest for the compulsory acquisition of land. For this condition to be met, the Secretary of State will need to be persuaded that there is compelling evidence that the public benefits that would be derived from the compulsory acquisition will outweigh the harm that would be suffered by those whose land is to be acquired. Applicants must therefore justify their proposals for the compulsory acquisition of any land to the satisfaction of the Secretary of State. The Applicant should be able to demonstrate that all reasonable alternatives to compulsory acquisition (including modifications to the scheme) have been explored. The Applicant will also need to demonstrate that the proposed interference with the rights of those with an interest in the land is for a legitimate purpose, and that it is necessary and proportionate. The Secretary of State must ultimately be persuaded that the purposes for which an order authorises the compulsory acquisition of land are legitimate and are sufficient to justify interfering with the human rights of those with an interest in the land affected. In particular, regard must be given to the provisions of Article 1 of the First Protocol to the European Convention on Human Rights and, in the case of acquisition of a dwelling, Article 8 of the Convention.

12.1.3 It is clear that in order to assess whether there is a compelling case in the public interest, the Secretary of State will need to be properly informed both in terms of the benefits of the project and also the consequent harm that will arise. The balancing exercise that the Secretary of State must carry out is a matter of planning judgement, and different decision makers could lawfully come to different decisions on the same facts when exercising that judgment. However, no decision maker could lawfully carry out the necessary balancing exercise when relying on of a flawed evidence base, and an environmental statement that does not satisfy mandatory requirements. A compelling case in the public interest has not been made out on the evidence put forward by the Applicant, and the Secretary of State is not able to lawfully grant development consent until these flaws are addressed through major revisions to the ES. Were the Secretary of State to proceed to grant development consent the consequent delays that would arise from the inevitable judicial review proceedings would undermine the UK Government's ability to deliver on its climate change targets, and could threaten the Country's energy security.

12.1.4 The flawed approach taken by the Applicant is inexcusable. The Applicant should be required to revisit its approach to site selection and scheme design with an open mind, striking the correct balance between commercial and environmental considerations so that a well conceived scheme can be brought forward in the public interest. Without such an approach the project faces the prospect of protracted legal challenges that are likely to significantly delay the delivery of much needed energy infrastructure.

12.1.5 SEAC support the principle of off-shore wind power, but it is essential that it is delivered via a legally robust process where the environmental impacts are properly assessed and weighed up in the public interest.

12.1.6 A decision on the part of the Secretary of State to refuse the development consent order sought will not mean an end to the project, rather it will be an

opportunity for the Applicant to properly consider some of the significant flaws in the proposals, and to come up with a better resolved scheme that will deliver on the nation's energy needs, whilst mitigating the adverse environmental impacts. A decision to refuse the development consent order will also allow the UK Government, the Applicant and National Grid to properly consider the scheme in light of the Review that the Government has announced. We urge the Secretary of State to refuse the development consent order sought for the reasons set out in these representations.

Appendix

UK OFFSHORE CONNECTION

Delgado, Diego (ICIS)

Introduction

The electric power industry has been seen as a stable and fully matured sector, which was operating well without much innovation for a long time. Over recent decades, the situation has changed drastically, with a rapid development and innovation process. There is a strong interest from the general public for a cleaner and cheaper supply of energy. Additionally, the energy supply must be guaranteed. The consequences are seen throughout the industry and throughout the world, with as a consequence fundamental changes in the generation of electrical energy. From a transmission point of view, this results in the need to fundamentally invest in the transmission system and to move towards a smarter and more flexible use of the grid. Different geographic, social, and historic influences have led to a different evolution over the continents.

Although there are differences among the countries in terms of implementation and priorities, in the end all are built on the same pillars: sustainability, competitiveness and reliability of the supply.

To expand the network capacity and reliability, several technologies are available.

- Over Head Lines. The traditional approach in transmission system enforcement is three-phase overhead AC transmission lines (OHL). This solution is very cost effective and robust. It uses technology that is known and used for decades. There are currently no technologies that can compete with OHL on a purely economic basis, especially not in rural areas. However, OHL have a high visual impact and are considered not appealing and possibly hazardous by public opinion. The construction of a new transmission system demands a new transmission path, which requires a significant right-of-way (a corridor of up to hundreds of meters wide).
- Underground cable connections. In order to avoid most of the visual impact, undergrounding transmission assets are considered the ideal solution. However, technically and economically, this is not necessarily the case. Next to being several times more expensive than OHL, high-voltage cables for transmission systems act as capacitors, requiring large compensation units, and hinder system operations. Cable systems for transmission system voltages are limited in length due to the charging current. Underground connections are several times more expensive than overhead lines, while less troublesome concerning permitting and social requirements. Therefore, often a compromise solution is found, where part of the connection is overhead and part underground. The combined solution requires a substation at each transition. Each transition also comes with a change in the characteristic impedance, requiring additional equipment to protect it from voltage surges in the transmission system.
- Grid Flexibility Through Power Flow Control. The solutions proposed above all add capacity by adding new paths or strengthening existing paths. In the case of international connections, permits at both sides of the border are needed to achieve this incremental capacity. Power-flow-controlling devices (PFCs) such as phase-shifting transformers and HVDC connections offer a completely different approach as they consist of devices placed at one specific point. With respect to the applicability for grid investments, the power-flow-controlling devices are being categorized into two types: flexible AC transmission systems

(FACTSs) including phase-shifting transformers (PST) and high-voltage DC (HVDC) solutions. The HVDC solution combines the power flow control aspect and the additional transmission capacity.

HVDC transmission systems transmit electric power at zero frequency and use power electronic converters to interface between the AC grid and the DC grid. These systems are generally used for:

- Bulk transmission of energy over long distances
- Interconnection of asynchronous systems (possibly back-to-back)
- Undersea connections

For many, HVDC technology is seen as an enabler for the future power system, and more specifically a technology that allows the massive integration of renewable energy sources in the system. This is especially so for Europe, where large amounts of renewable energy are available on remote locations, often offshore or near the sea. The long-distance transmission of energy from source to load, but also for balancing, puts extra pressure on the already heavily loaded transmission system. Because of the variability of the renewable energy sources, more transmission lines are needed for the same amount of energy to be delivered when compared to classic energy sources. The lack of support for new transmission lines, especially overhead ones, require solutions other than the traditional AC overhead line. An additional problem is the location of offshore resources, which are increasingly difficult to realize with AC technology. HVDC lines, and by extension an HVDC grid, has the potential to address the problems.

Using an AC transmission system is not an option although they can carry large quantities of electric power over large distances when ultrahigh voltage (UHV, 1000 kV AC or higher) is used. This is because several technical reasons: DC line losses are lower, AC cables at this level of voltage are not yet available and so on. There are also non-technical reasons which favor DC over AC technology. By using cables which cause no visual pollution and emit no varying electromagnetic fields, much less opposition and problems with licensing and construction are expected. Overhead lines are very difficult to construct because of nontechnical issues. Furthermore, using sea cables allows a fast and relatively cheap cabling because less joints are needed.

To sum up, the efforts towards a sustainable, competitive, and secure energy supply have changed the requirements for the grid of the future. The foreseen changes in generation and load will only increase the need for transmission, especially if the massively available offshore energy resources are to be connected in the next decades.

Different technologies already exist to reinforce the transmission system. Most common technologies are AC overhead lines and cables, system uprating, power flow controlling devices, and HVDC connections. Of these technologies, HVDC is seen as very promising as it allows structural upgrades using cable technology. More specifically, **the evolution of a DC grid is seen as the most promising option which can cause a paradigm shift and act as an enabler for the grid of the future with a high share of renewables.**

Existing Projects and Considerations

BorWin 3

HVDC BorWin3 is a high voltage direct current (HVDC) link to transmit Offshore wind power to the power grid of the German mainland. The project differs from most HVDC systems in that one of the two converter stations is built on a platform in the sea. Voltage-Sourced Converters with DC ratings of 900 MW, ±320 kV are used and the total cable length is 160 km.

Figure 1: BorWin3 connection to the onshore grid

Figure 2: BorWin 3 installations

DolWin 3

HVDC DolWin3 is a high voltage direct current (HVDC) link under construction to transmit Offshore wind power to the power grid of the German mainland. The project differs from most HVDC systems in that one of the two converter stations is built on a platform in the sea. Voltage-Sourced Converters with DC ratings of 900 MW, ±320 kV are used and the total cable length is 160 km.

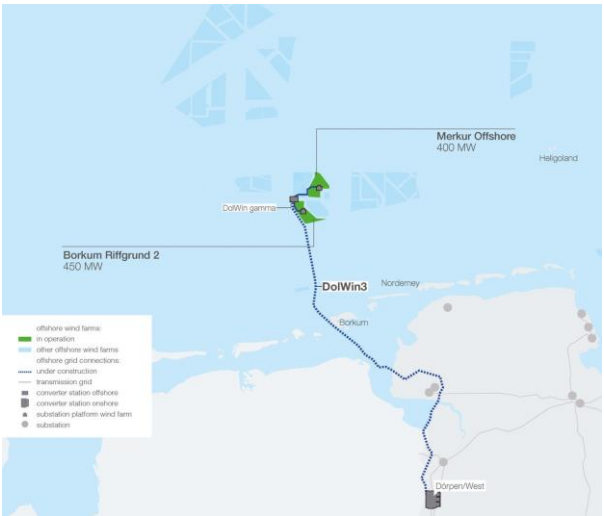

Figure 3: DolWin Gamma connection to the onshore grid

Figure 4: DolWin Gamma installations

There are many other projects that demonstrate the possibility of integrating wind farms operated by different companies into only one converter station.

Looking at the Figure 5 of the grid in the North Sea, by seeing the magenta lines it is possible to see the current HVDC systems installed in the area. Furthermore, in Figure 6 it is possible to see that the two offshore Converter stations (corresponding to DolWin Alpha and Beta) are connected to a single onshore converter located in Dörpen West.

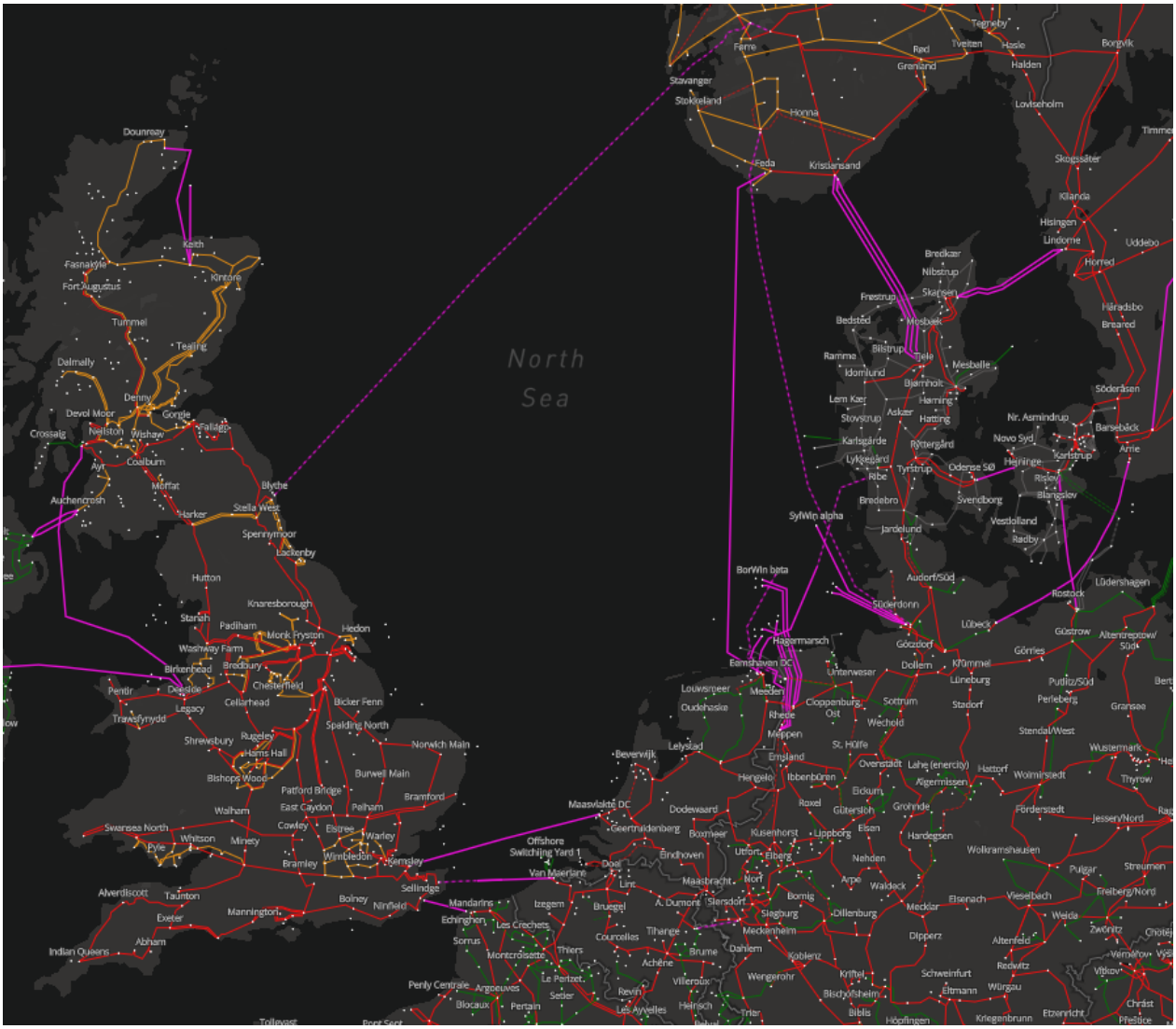

Figure 5: North Sea offshore connections

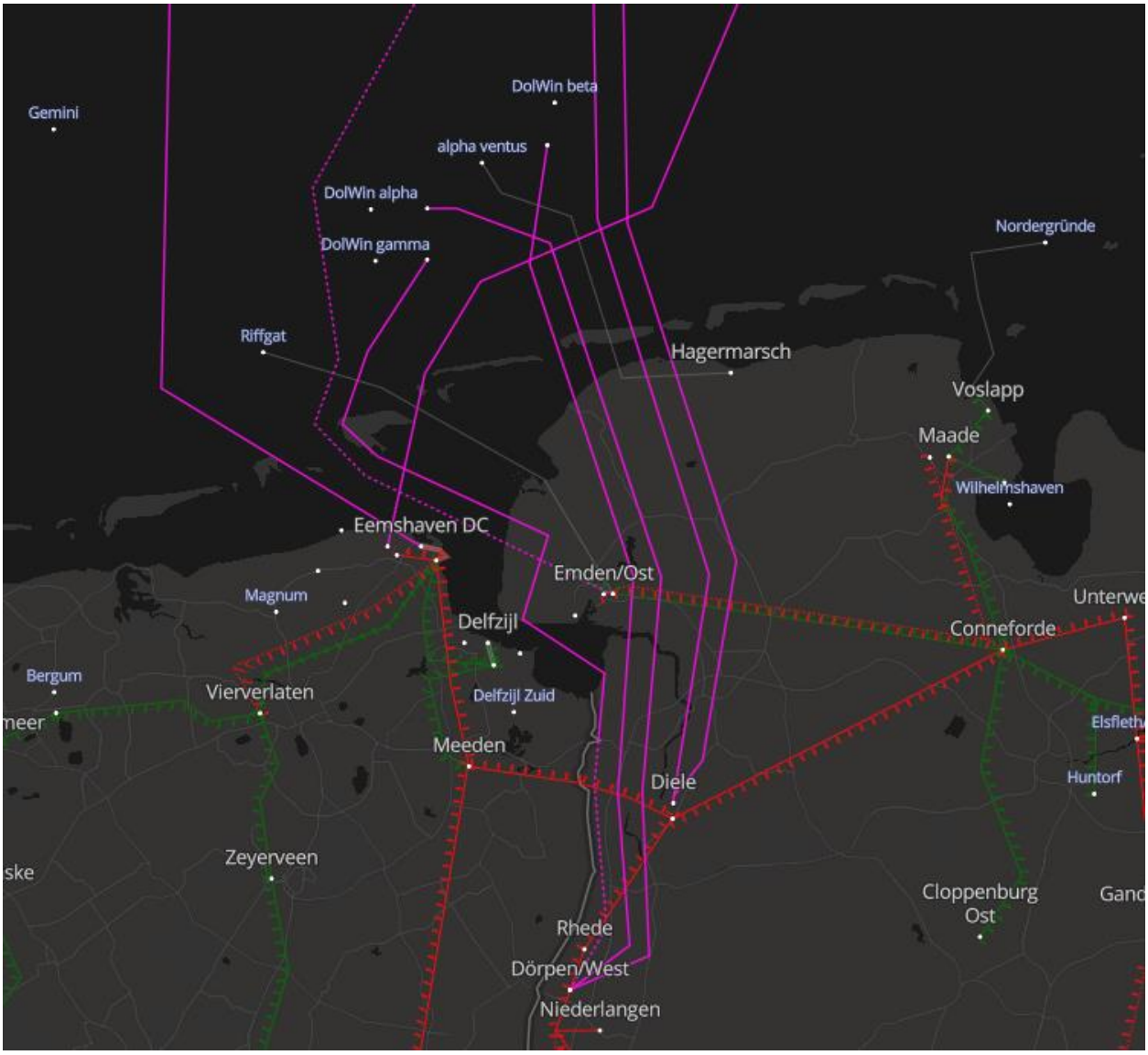

Figure 6: DolWin offshore connections

Offshore connection in the East Anglia Coast

Using the existing proven technology in the German North Sea sector discussed above, it is possible to create an offshore hub to which the wind farms of the East Anglia coast could be connected and then connect the hub to an onshore substation.

Due to the power to be transmitted and the possibility of bringing extra flexibility to the grid, the link should be done in DC, building two converters (from DC to AC, due to the onshore grid is in AC at 400kV) in each head of the line. For the case, the following wind farms are considered:

Wind Farm	Latitude	Longitude	Installed Capacity (MW)
East Anglia 1	52.234	2.478	714
East Anglia One North	52.374	2.421	800
East Anglia Two	52.128	2.209	900
East Anglia Three	52.664	2.846	1400
Norfolk Boreas	53.04	2.934	1800
Norfolk Vanguard	52.868	2.688	1800

The first step is to establish the location of the offshore hub, for that it is necessary to optimize it, in function of the Installed Capacity and the distance to the location point. The most economical and ideal location is the “center of gravity” of all the loads (Installed Capacity), this is because the cables transmitting the biggest amount of power, should be shorter than the ones transmitting the smallest amount of power. The result of this allows to optimize the size of the cables and thus, the costs.

It is also necessary to define the possible onshore location, in this case, considering the closest substation to the location of the Hub. In Figure 7, it is possible to see some 400kV power lines (red color), and the existence of some substations (Norwich Main, Bradford, etc.). The closest substation to the Hub (Load Center; Latitude: 52,75 and Longitude: 2,73) is the one in Norwich, as shown in Figure 8.

Next, it is necessary to determine the distance between the Hub and the Norwich Substation:

Distance Hub-Norwich (km)	71.69
Distance Hub-Shore (km)	39.38
Distance Shore - Norwich (km)	32.31

Figure 7: UK power grid near the East Anglia region

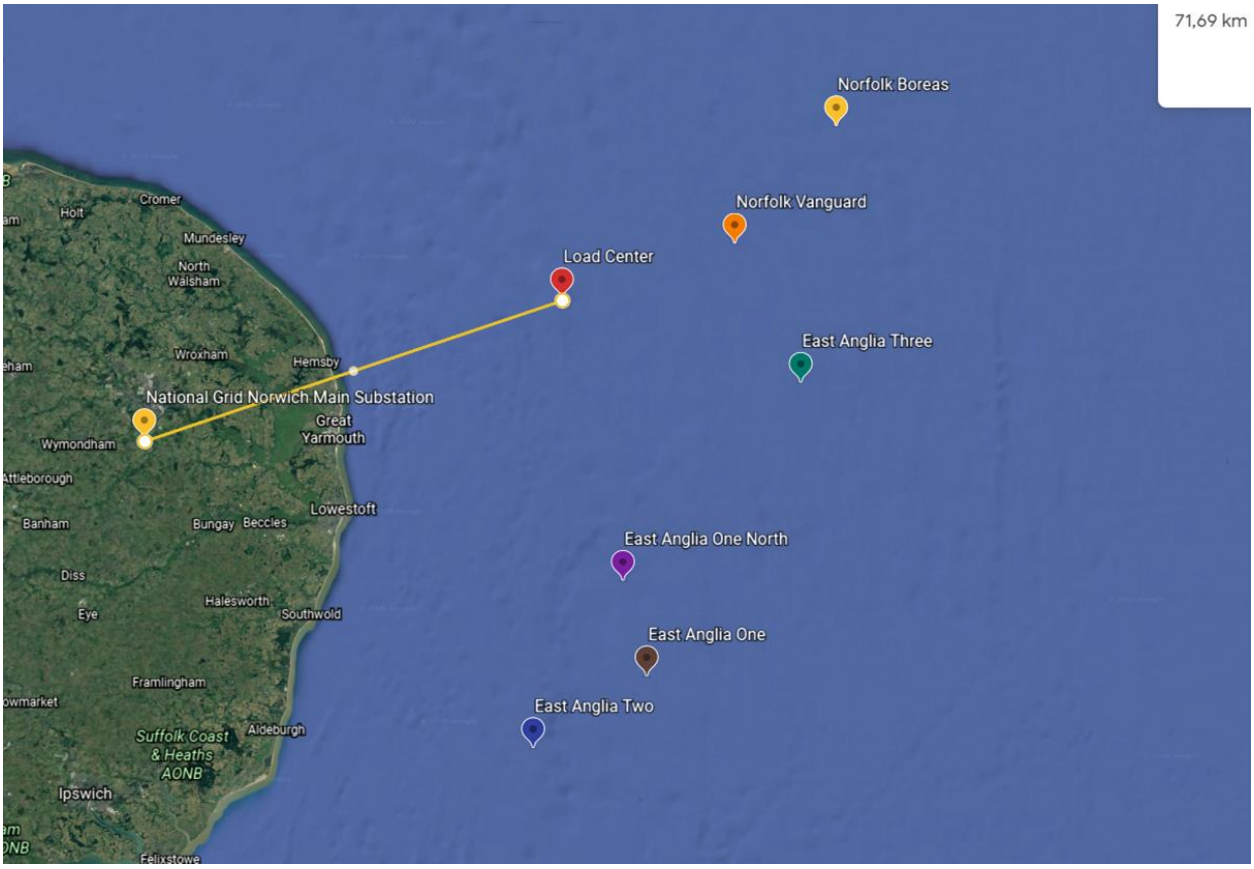

Figure 8: Wind farms lay out and potential location of the hub and connection to the grid

Then to calculate the investment needed, the publication *"Review of investment model cost parameters for VSC HVDC transmission infrastructure"* by Philipp Härtel, Til Kristian Vrana et al. provides a good proxy. The document is based on collected data from realized and contracted VSC HVDC projects. All the calculations are based on the power to be transmitted and on the distance between the two converters. Additionally it needs to be considered the amount of nodes and branches, since the technological limit is set at 2 GW, so for this case in the offshore installation 4 nodes and 4 branches need to be considered since the total power is 8 GW.

Considering the distances, number of nodes, branches and the power to be transmitted, the expected cost of the project is **2.526 million of Euros**.

Conclusions

The search for a more sustainable, competitive and reliable solution, and considering the existence of existing projects and available proven technologies, invites us to believe that it is feasible to build an offshore hub capable of collecting all the power from the different wind farms off the East Anglian coast and then connecting it to the grid on the shore. As mentioned, the connection should be done through a HVDC cable, one section submarine and the other one underground, minimizing the impacts to the landscape. The location of both the hub and the onshore converter station will depend on the characteristics of the seafloor for the hub and the technical possibility of using Norwich as the insertion point to the grid.