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**To:** [Norfolk Vanguard](#)  
**Subject:** Response from Necton PC  
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**Attachments:** [NPC Boreas and Vanguard Representation 2 April 2020.docx](#)

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Good morning



Please find attached

Kind regards

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## **Necton Parish Council Representation Concerning HVAC versus HVDC Technology for the Vanguard and Boreas Windfarm Connections to the National Grid and Mitigation**

Vattenfall have made a number of statements regarding HVAC versus HVDC design for the Vanguard and Boreas windfarm infrastructure. It is entirely appropriate for the two windfarms to use the same technology and the same mitigation measures. This is the latest statement from Vattenfall:

*“The environmental benefits of selecting HVDC technology include the removal of the need for CRS infrastructure near the coast, a reduction in the overall area of land impacted (for example a reduction in working width along the onshore cable route from 50 m to 35 m for Boreas scenario 2) and a reduction in the overall construction time.”*

Design and Access Statement, March 2020 table 4.1 Strategic Project Options Considered, page 12.

Necton Parish Council (NPC) would like both Vanguard and Boreas Examinations to consider the following representation:

The HVAC versus HVDC decision for the Vanguard and Boreas projects was taken without any consultation with either Necton residents or Necton Parish Council, despite the only adverse effect from the decision being a massive increase in the size of the substations at Necton. The option for HVAC was not included in any of the public consultation events, mailings or other information provided by Vattenfall at any time during the consultation phases of either project. There are benefits to both methods of connection to the National Grid and the substation already in operation at Necton uses HVAC technology.

The environmental benefits of selecting HVDC technology indeed includes the removal of the need for CRS infrastructure near the coast. However, it also includes the need for considerably bigger infrastructure at the Necton substation connection point to the National Grid. Necton Parish Council believes the increase in the size of the Necton infrastructure is greater than the reduction in size of infrastructure near the coast. The acreage as well as the height of the buildings is greatly increased at Necton to the point that the buildings will be seen from space. The removal of CRS infrastructure near the coast means the removal of buildings that are not completely out of keeping with their surroundings. The increase in height and size of the infrastructure at Necton means the creation of buildings that will be completely out of character with their surroundings. This does not appear to be an equitable trade-off and NPC questions this aspect of the benefit of the decision.

The HVDC option provides a reduction in the area of land impacted for example the reduction in working width along the onshore cable route. Although there is a reduction in the width of the cable route, there is an increase in the area used for the onshore substation in Necton. The cable route is a short-term construction activity that will be made good at the end of the construction period, leaving no visible footprint for the ongoing life of the windfarms. The increase in the footprint of the substations at Necton is not a short-term impact, it will remain for the useful life of the windfarms. The mitigation proposals from Vattenfall only include trees and ‘Subtle Landscaping’ provisions. By this Vattenfall state the

possible, not even required, addition of 1.5 to 2 metre subtle earth banks. Even with fully grown trees this will not mitigate the 19 metre buildings which will stretch up to 25 metres with the masts on top. Necton Parish council have asked for the datum point for land height to be lowered and 10 metre earth banks to be provided (in line with the mitigation installed for the Northern Distributor Road around Norwich). This has not been accepted by Vattenfall, neither is it a requirement from Breckland Council. Therefore, the short-term reduction in width of the cable corridor that will be completely hidden over time is being compared to an increase in acreage and height for the Necton substations that will not be mitigated during the life of the windfarms. This does not appear to be an equitable trade-off and NPC questions this aspect of the overall benefit of the decision.

Vattenfall and Breckland Council have agreed in their Statement of Common Ground that the Necton substations will not be mitigated over time. Their Statement of Common Ground does not call for effective mitigation and Necton Parish Council do not agree with the lack of mitigation conditions that Breckland council have agreed to. NPC intend to continue lobbying Breckland Council to effectively represent the residents of Necton in the planning process. However, the decision to use HVDC technology will not be a benefit of this project in the long term as far as the Necton infrastructure is concerned.

The DC option provides the benefit of a reduction in the overall construction time for the project. This may well be a short-term benefit for the cable corridor, although the construction of the substation at Necton involves bigger buildings and larger equipment so is likely to take considerably longer than the HVAC equivalent construction time for this infrastructure. However, the construction advantage of a few months should be weighed against the overall life of the substations where the HVDC disadvantage will be present in Necton for decades. NPC questions this aspect of the overall benefit of the decision.

In conclusion, there are some short-term benefits (outlined by Vattenfall above) that guided their decision to use an HVDC connection to the National Grid but there are long term disadvantages to the decision that have not been considered and weighed against these short-term advantages. Necton Parish Council were not given the opportunity to ask questions or contribute to the decision and do not agree that HVDC provides adequate benefit overall when compared against an HVAC method of connection to the National Grid. Were effective mitigation measures proposed (outlined above) for the HVDC infrastructure, there would be more of a balance to the loss / benefit equation. Currently this is not planned by Vattenfall or requested by Breckland Council. Necton Parish Council believe that only the inclusion of requirements tied to approval of both DCOs would secure this balance for Necton and request both the Vanguard and Boreas examining authorities to recommend their inclusion to the Secretary of State.

2 April 2020