EAN1 AND EA 2 SUBMISSION BY DEADLINE 5

ALDE AND ORE ASSOCIATION.

The following is a text of the evidence delivered.

Open Floor Hearing 6 Friday 22 January 2021

The Alde and Ore Association seeks to preserve and protect the estuary and its banks for the benefit of the public and seeks to do this by assessing major policies or projects likely to impact on the wellbeing of the area.

The SPR project is going to have a massive effect on the area in very many ways as the many oral and written presentations show.

Although, the combined EA wind farms onshore project are proposed to be sited a few miles north of the Alde and Ore estuary, the projects would impact substantially and detrimentally on the estuary area too.

The focus of the Association's evidence is on:

- the context of the Area of Outstanding Natural Beauty (AONB)
- the physical evolution of the Suffolk Heritage Coast
- the impact of climate change on the coast
- the detrimental impact on access to and the economy of the Alde and Ore area
- cumulative impact of a series of energy projects

AONB: The project is proposed to be sited in the middle of the unique Suffolk Coast and Heaths Area of Outstanding Beauty which consists of the Suffolk Sandlings country running south to containing the Alde and Ore area and areas further south. It is an area which has many visitors. There are many provisions in law about seeking to protect an AONB and any detrimental changes need considerable justification.

The Coastline: Bordering the entire AONB is the Suffolk Heritage Coast which was designated as such in 1979 and managed by Natural England. The coast is not a series of bite size self-contained segments. It is all of a piece and has a long integrated geomorphological history of natural evolution and change, and is subject to many continuing dynamic forces, principally wind, waves, sea surges and sea level change working on the young geology.

The coast has continuously evolved through history running from Dunwich, which lost its port and then town to the sea, a few miles north of the EA windfarms chosen landfall site, then passing south with areas of losses and gains to the unique and very long Orfordness spit which forms the eastern bank of the Alde and Ore estuary. At the Special Issue Hearing on Tuesday 19 January 2021 , the Association spoke in detail about the geology of the very fragile sector of the coast at which landfall, by horizontal direct drilling (HDD) is proposed for this project (see separate submission). There is a concern about the apparently unresearched consequences of manmade interference on a fragile part of the Suffolk Heritage coast resulting in accelerated cliff collapses. This could change the coastal dynamics and impact badly on the coast to the south, not only the immediate and vulnerable settlement of Thorpeness but Aldeburgh and the eastern bank of the Alde and Ore estuary.

Climate change brings two further factors which increase the vulnerability of the coast.

- sea level forecast to rise by 0.6 -1 m by the year 2100, *the impact of the sea on cliff erosion, particularly at its height in the winter storm surges will be all the greater- each year we see further inroads into the cliff. On top of that we are seeing*
- a far greater frequency and strength of storms and rain

All of these will impact on the fragile coastland through which the HDD is proposed.

Consultation about the coastline: Questions put to SPR staff manning the stands at an SPR Consultation Day, on why not minimise damage coming in with the Galloper/Gabbard cables, received replies that they were put in very badly and it would be very expensive. That was all that would be said. *Considering that the current proposals are cutting through a fragile cliff and unspoilt AONB and would involve kilometres of cabling, whereas using the Galloper/Gabbard route to the national power lines would be very limited in distance and impact, this is not an adequate answer, nor against the fact that there are statutory requirements not to damage an AONB unless there are very impelling reasons.*

Summary- there is great concern for the continuity of the area. Natural processes we know will cause the coast to move slowly inland over the next century and such pressures are increasing with climate change, but any drilling or construction operations which might exacerbate the rate of change should be avoided.

Impact on access and the local economy: There is great concern about the economic fallout of consequences of access to the area being affected, possibly a loss of £8-10 million of the current economy.

The Alde and Ore area is a very popular one for visitors. Access to the estuary area is primarily from the A12 via the A1094 into Aldeburgh and the from the B1069, which at the ISH on 20 January was also identified as being a rat run from Woodbridge to escape blockages on the A12, as it runs from via the A1152 which leads into the B1069 through Snape. The EA windfarm projects would involve a substantial extra amount of traffic, including HGVs, on these very limited access roads, particularly on the A1094 for several years.

In 2013 the Association undertook a second 10 year economic study of the value of the Alde and Ore area economy, which involved both desk studies and on-the-ground surveys of what people did, valued and spent in the area. This revealed a local economy worth at a minimum about £100 million a year: and we know it was an understated valuation because of data we subsequently obtained and tourism has continued to grow. Of this £100 m, tourism and related activities brought in £79 million. If access becomes difficult for visitors, even a 10% fall off would cost the area, updating the 7 year old figures, possibly about £8-10 million a year in lost revenue and all the related employment. Nor is the tourism a summer only phenomenon, the area is very popular with visitors in most months of the year.

SPR use average figures from desk studies, but assessing impact using average figures of traffic does not work here - in the peak holiday season the local population is 3-5 times the normal levels (taking into account the large amount of holiday accommodation). Further, HGVs on the local roads are quite frightening at times as they inevitably take up more than half the width of the narrow local roads, both the A road in places and the B roads. The very narrow roads, even the A road, also have hidden dips which are deceptive to non-local drivers, and can easily become blocked. A single incident in summer 2019 when a towed holiday caravan and HGV going in opposite directions became jammed together on the A1094, led to a two hour plus blockage and many cars having to turn round and find alternative routes taking 30 minutes to an hour or more or more instead of 5 minutes to get to Snape or the A12. These accidents and blockages can only increase with the substantial works traffic necessary for the EA wind farm projects: residents will have to try to cope but it is very likely that some tourists will go elsewhere rather than get stuck in long traffic jams or snarl ups.

Further, under the EA windfarm onshore proposals, the Aldeburgh to Leiston road (B1122) may be closed for some years. Any blockage on the A1094 would leave people at the Aldeburgh end, whether residents, business traffic, tourists, river users and emergency vehicles (Aldeburgh has a small hospital, fire station and many older residents) only able to leave Aldeburgh by the very long route via Thorpeness and Aldringham and thence round via Knodishall or Leiston. The compound effect of small roads, substantial works traffic in size and volume and choked access to the estuary area via the A1094 or via Snape on the B1069, could

severely discouraged the areas main economic activity and access to the Alde and Ore. This leaves aside the concern about accidents.

Summary and cumulative effects: in addition to the consequences for Friston area in which the project will be constructed, there will also be a substantial wider pool of economic and possibly environmental damage or disadvantage caused by the construction of these projects. These can only be exacerbated by the possibility of construction works simultaneously at Sizewell, and in later years by other power projects should they follow in after the EA projects. And all this in a precious Area of Outstanding Natural Beauty.

Alison Andrews
Chairman of the Alde and Ore Association 3 February 2021

Reference

'Alde-Ore Local Economic Study' by RPA printed 28 February 2014, available at www.aldeandore.org/publications

at an SPR consultation day, why not minimise damage coming in with the Galloper/Gabbard cables? the reply was the cables were put in very badly and it would be very expensive. This did not seem adequate given that the chosen alternative could damage the coastline and the AONB. Further, considerable cabling on land to join up with national power lines would be necessary compared with being very close to where the Galloper/Gabbard cables came in. But there was no other answer.

So there is a great concern for the continuity of the area- natural processes we know will cause the coast to move slowly inland, and such pressures are increasing with climate change, but any drilling or construction operations which might exacerbate the rate of change should be avoided.

The other concern relates to the economic fallout of consequences of access to the area being affected. The Alde and Ore Area is a very popular one for visitors. In 2013 the AOA's 10 economic study of the value of the AO economy. Which involved both desk studies and on-the-ground surveys of what people did, valued and spent in the area. This revealed a local economy worth at a minimum about £100 million a year: and we know it was an understated *valuation because of data we subsequently obtained.* Of this £100 m, tourism and related activities brought in £79 million. If access becomes difficult for visitors, even a 10% fall off would cost the area, updating the 7 year old figures, possibly about £10 million a year in lost revenue and all the related employment. Nor is the tourism a summer only phenomenon, the area is very popular with visitors in most months of the year.

The reason why this concern is relevant here is that access to the estuary area is primarily from the A12 via the A1094 into Aldeburgh and the from the B1069, which at Wednesday's hearing was also identified as being a rat run from Woodbridge to escape blockages on the A12- it runs from via the A1152 which leads into the B1069 through Snape. The EA windfarm projects would involve a substantial extra amount of traffic, including HGVs, travelling particularly on the A1094 for several years. Assessing impact using average figures of traffic does not work here - in the peak holiday season the local population is 3-5 times the normal levels (taking into account the large amount of holiday accommodation). Further, HGVs on our local roads are quite frightening at times as they inevitably take up more than half the width of the local roads. The very narrow roads, even the A road also have hidden dips which are deceptive to non-local drivers, and can easily

become blocked. A single incident in summer 2019 with a towed holiday caravan and HGV going in opposite directions became jammed together on the A1094, , - led to a two hour blockage and many cars having to turn round and find alternative routes taking 30 minutes or more instead of 5 minutes to get to Snape or the A12. .These experiences can only increase with the substantial works traffic necessary for the EA wind farm projects and it is very likely that some tourists will go elsewhere rather than get stuck in long traffic jams or snarl ups.

Further, under the EA windfarm onshore proposals, the Aldeburgh to Leiston road (B1122) may be closed for some years, so such an event would leave people at the Aldeburgh end only able to leave Aldeburgh by the very long route via Thorpeness and Aldringham and thence round via Knodishall or Leiston. The compound effect of small roads, substantial works traffic in size and volume and choked access to the estuary area via the A1094 or via Snape on the B1069, could severely discouraged the areas main economic activity. This leaves aside the concern about accidents.

So to conclude, in addition the consequences for area in which the project will be situated, there will also be a wider pool of economic and possibly environmental damage or disadvantage caused by the construction of these projects. These can only be exacerbated by the possibility of construction works simultaneously at Sizewell, and in later years by other power projects should they follow in after the EA projects. This is not happy news for this Area of Outstanding Natural Beauty.

SPR EA1 N AND SPR EA 2 FOR DEADLINE 5

Alde and Ore Association- the following covers the points made at the **ISH 4 on 19 January 2021**:
points for which the opportunity did not arise to say are shown in italics.

(I hope this is helpful as sometimes the oral automatic text loses words)

In this Issue Special Hearing which includes examining the proposed landfall, the Association's concerns relate to the integrity of the Suffolk Heritage Coast which has evolved over millennia. Any damage to the cliffs could impact on the longshore coastal evolution of the entire coast. Briefly, the coast has seen in the north, Dunwich losing its port in the Middle Ages and falling into the sea with further south Aldeburgh town losing 2-3 streets 3 centuries ago but the Alde and Ore Estuary being formed by the growth of the uniquely long Orfordness shingle spit, mostly between 1200 and 1600, but thinning now. Such longshore processes could be dramatically changed by manmade changes further north.

The Applicant has chosen around a kilometre of coast as the site for the landfall of the offshore cables. The reasoning behind this is that it is essential to meet the need to avoid constructions in the sea related to the Sizewell power stations and a concern for not disturbing the seabed rock of coralline crag which is a strong influence of coastal transport and sediment flows. *The selected landfall site is simply what is left on that stretch of coast where the cables might come in, with no reference to its suitability.* But the whole cliff on this coastal stretch is really nothing more than a slightly hardened sand dune *and is at one of the coast's most visibly obviously fragile points*.

The Applicant's papers go into considerable detail about the coastal processes and marine geology but apart from a reference in Chapter 4 of the Environmental Statement to Thorpeness being an area with high cliff instability, the plans had little mention of the exact nature of the cliffs, until questions were posed by the Examining Authority and others.

This may be the result of all the work so far being desk studies**.** The problem in this area is that a lot of on-the- ground research work has been done but mostly in relation to the immediate area of land and sea surrounding the Sizewell developments - *both at sea, but even there it is still far from complete focussing on the limited environs of the Great Sizewell Bay, and the land abutting the coast on which Sizewell A and B sits and Sizewell C could be built.* There is relatively little desk study material on the nature of the land forming the coast between Sizewell and Thorpeness.

<u>What does this cliff land bordering the sea consist of?</u> It is an area of very confused and broken sedimentary layers, reflecting the coming and going of the sea in geological times on the edges of a marine basin, complicated further by some uplift. On the top is a modest layer of glacial till and sand and gravel. This overlies what is called the Norwich Crag Formation. Crag is a 19th century term which misleadingly suggests it might be a solid rock formation, like limestone, but it is the name given to a deposit of fossil shells and any shelly sand or gravel - here it is in fact a mix of yellow and brown sand bands with occasional clay bands. It has no strength against a crashing surge sea as is evident from its collapse in 2017 after a series of storms which sadly killed someone, with some 20 feet of the cliff from inland to its edge slumping down in an instant with no warning. Below the Norwich Crag in places is some Red Crag, *often little more than a mix of coarser gravel and sand*. In places the Norwich Crag then lies, in unconformity, on the Coralline Crag- this is a harder material, partially indurated (BGS*)-but is not that robust as is evident on the ground as it is easy to pick up smalls slabs on the beach. It does indeed affect sea flows but is also quite brittle.*

<u>Comments on Horizontal Direct Drilling</u>. Landfall is proposed through this slightly hardened sand dune area of mainly sand and gravel layers, using horizontal direct drilling. The plan for the HDD cores to come up at 85m inland is understandable: the coast is moving inland by an average of 0.1m a year, *but the actual*

amount varies considerably and in recent years visual observation suggest the rate has been much faster. Whether the distance inland is far enough is not the issue. The issue is can this soft ground structure withstand the tunnelling of a series of ducts through it, the volume of ground to be extracted from the tunnels, the impact of tunnelling and the time taken.

Documents differ as to the number of cables and ducts expected but the original ES 4.1 provided for 4 ducts for each of the two EA windfarms for *the export and fibre optic cables plus two Distributed Temperature Sensing cables. There is no information on how much material underground will have to be extracted but each cable will need a duct 50 % larger than its size*. **The cables will involve a substantial removal of the friable sediments**.

The Applicant undertakes that HDD methods will be adapted for the local area, using data yet to be collected by making boreholes. Provision for monitoring and managing vibration is to be made, *as it will occur in the drilling/reaming process or pulling cables through the ducts.* But the drilling operations will take a long time, sometimes in continuous 24 hour working periods and spread over two years. Given the non-rock like composition of the land, even modest or small vibration, *let alone remote but possible bentonite mud problems*, over a long period is likely weaken the natural loosely packed ground.

If the area is de-compacted and loosened in this way, the advance inland of the sea may not be an average of 0 .1 m pa, but could be accelerated as landslips will occur very easily when the shore is attacked and shuddered by waves on top of the not infrequent winter surges.

Given the highly variable nature of the Crag Formation, it cannot be assumed*, as the Applicant appears to,* that the HDD that worked for the onshore cables of the Galloper/Gabbard project will work here and furthermore, greater depth and length of drilling are envisaged.

The concern is that scale of the operations on this fragile area is such that there could be a dramatic change in the coast and alongshore flows.

At the Hearing in December the Applicant's expert explained that there were studies still to be made of the land soil structure to judge how the operations would be planned and these would take a good number of months, beyond the date when the examination has to be completed. But evidence that no substantial harm will occur is not available yet and it appears that it will not be before the end of the Examination.

The impression has been given that HDD is the simple solution to a land fall which can be managed. But given the nature of the land forming the cliffs, interference with its very composition could lead to a huge step change in the rate of erosion, with dramatic changes to the coast shape and coastal flows for which Thorpeness and the areas to the south will have no time to adjust. There is no way, once lost, that cliff line can be restored.

Cumulative impact: On top of that, as has been pointed out by others, is the likely cumulative impact as that there are some 7 other wind farm projects with plans to come in on the back of EA One North and EA Two. How many more ducts to be tunnelled under and up into the cliff? *Note: the additional wind farm projects which appear to have been directed to follow the ScottishPowerRenewables projects have been listed by many interested parties including Councillor Marianne Fellowes in her submission of 6 November 2021.*

These fears could be dismissed as not proven. But the respected company, Mott MacDonald, said in a report of December 2014 on coastal management strategy that Thorpeness is located in a zone of relatively high wave energy. An improved understanding between the features is required. *Given the incomplete understanding of the coastal processes great care must be exercised for coastal management strategy. Understanding of local coastal processes is not yet well enough established to inform coastal defence designs.*

Paragraphs 111-113 of the Applicant's Environmental Statement, Appendix4.6, indicate that more detailed geophysical survey data would be collected in the cable corridor April /May 2018 to inform HDD onshore (and offshore) constraints but any results seem not to be in the Planning Application papers. Further, there appears to be no answer to the question posed by Natural England asking whether HDD is possible at this location.

To conclude, the Applicant's documents state clearly that the projects ''will not result in any direct or physical changes to the coastal cliffs''- it seems open to question that that is a sustainable conclusion.

References

Mott MacDonald: Shoreline Management Plan: Thorpeness Coastal Erosion Appraisal, Final Report December 2014

Descriptions of Norwich and Red Crag: Suffolk Coast and Heaths, Suffolk geological society- GeoSuffolk, various documents related to Sizewell C planning applications.

Further wind farm developments which may come onshore following EA1N and EA2 – listed by Councillor Fellowes, 6 November 2020

British Geological Survey documents for the area.

Applicant's documents

Alison Andrews

Chairman of the Alde and Association

3 February 2021