### Key Issues:
- Survey work and consultation identified a number of potential landscape and visual impacts associated with the setting of the onshore HVDC converter/HVAC substation buildings.
- The onshore converter/substation proposed in the vicinity of a number of designated landscapes.
- Potential in-combination visual effects of converter/substation buildings required to be assessed.
- A robust assessment process was required to develop landscape and visual impact mitigation within the Zone of Theoretical Visibility (ZTV).
- Close range receptors were considered to have significant visual effects as a result of the proposed converter/substation during construction and operation phases.
- Mitigation through landscape screening not possible due to the short timescales of the construction and decommissioning phases, and would only be effective during the operational and maintenance phases once the planting has matured.

### Purpose of the Project:
- RPS provided EIA consultancy to SMartWind and DONG Energy for onshore and offshore elements of Hornsea Project One and Two, a Nationally Significant Infrastructure Projects. RPS also provided planning advice and supported DCO and deemed Marine Licenses.
- Onshore infrastructure included 40 km of cabling, landfall, substation, converter station, trenchless technology sites and temporary compounds to connect to the existing National Grid substation at North Killingholme.

### Description of the Project:
- Hornsea Project One has a maximum capacity of 1.2 gigawatts (GW) and will deliver electricity needs of up to 800,000 UK homes and is scheduled to commence operation in 2020 where it will become the world’s first gigawatt scale wind farm far from shore.
- Construction is currently underway.
### Lessons learnt:

- A comparative ZTV was generated to assess the theoretical visibility of potential heights of converter/substation buildings for Project One in-combination with those proposed for Hornsea Project Two (which was at the design/environmental assessment stage at the time of the Hornsea Two examination) by adopting a maximum design scenario.
- The Developer made a commitment at an early stage of the development process to provide an underground onshore cable connection to reduce visual impacts.
- The siting of the onshore converter/substation was proposed as far away from nearby villages as possible to reduce visual impact on residential settlements.

### Lessons learnt continued:

- Alternative design options for the converter/substation were developed through liaison with consultees.
- Design options included colour banding of converter/substations façades to provide integration of the buildings into the skyline, thus minimising visual effects, developed through early and ongoing engagement with the LPA landscape design officers.
- Extensive consultation and engagement with stakeholders was key to the DCO process. It ensured that PINS requirements were met, reduced comments on substation/converter station design post submission and facilitated agreeing Statements of Common Ground with consultees.
- A Landscape Scheme and Management Plan was developed to minimise potential visual impacts of onshore infrastructure.
- Significant visual effects were considered to be very localised and temporary.
- The Secretary of State granted development consent for Hornsea Project One in 2014.

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