

# Hornsea 4

## Project Infrastructure & Construction

Two main transmission technologies are being considered for Hornsea Four, defined by the type of current: High Voltage Alternative Current (HVAC) and High Voltage Direct Current (HVDC). The project will decide on which transmission type it will use during the detailed design and procurement stage post-consent, based on a range of factors including project economics and technology risk.

### Offshore infrastructure

The proposed offshore development area for Hornsea Four will consist of:

#### Array area

The area where the offshore wind farm will be located, comprising turbines, offshore substations, electrical cables and an offshore accommodation platform.

#### Offshore export cable corridor

The area where the offshore export cables that bring the power generated by the wind farm ashore will be installed.

#### HVAC booster station area

The area where, in the case of a HVAC transmission system, HVAC booster station platforms will be located.

#### Landfall area

The area where the offshore export cables will be brought ashore and buried beneath the beach, to connect to the onshore transmission system for onward transmission to the onshore substation and ultimately to the National Grid.

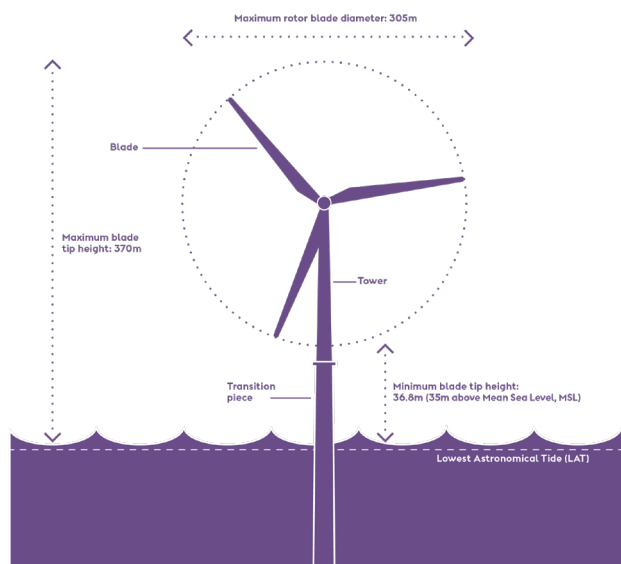
### Key offshore components of Hornsea Four

The key offshore components of Hornsea Four are as follows:

- Up to 180 wind turbine generators;
- Up to six offshore transformer substations;
- Up to three offshore converter substations (High Voltage direct Current (HVDC) system only);
- Up to one offshore accommodation platform to house operations and maintenance staff;
- Up to three HVAC booster stations (HVAC system only);
- Subsea inter-array cables linking wind turbines to each other and to offshore substations;
- Subsea interconnector cables linking the offshore substation to one another;
- Subsea export cables to connect the wind farm to landfall; and
- Cable protection,

### Wind turbine generators

The tips of the turbine blades will be no taller than 370m above the sea, with a clearance between the lowest blade and the Lowest Astronomical Tide of no less than 35m. A typical turbine is shown below:



All wind turbines and other offshore structures will be secured to the seabed via foundations. The final design of these foundations depends on seabed conditions and the infrastructure being supported.

# Onshore infrastructure

The proposed onshore development for Hornsea Four will consist of:

## Onshore export cables corridor and cable crossings

The Hornsea Four onshore export cable corridor consists of an 80m wide temporary construction corridor within which a 60m permanent corridor will be located.

Electrical export cables will be installed in separate trenches within the cable corridor. Small fibre optic cables may also be buried alongside the onshore export cables to allow communication to the wind farm via various control systems.

## Logistics compounds

During construction, temporary logistics compounds of various sizes will be required along the cable corridor for laydown and storage of materials, plant and staff facilities. All logistics compounds will be removed and sites restored to their original condition when construction has been completed.

## Access and haul roads

Access will be required from the public highway onto various parts of the Hornsea Four onshore site. Temporary access points will be installed at the start of export cable construction to facilitate vehicular access from the road during construction. This will limit damage to the surrounding agricultural land.

## Onshore Substation

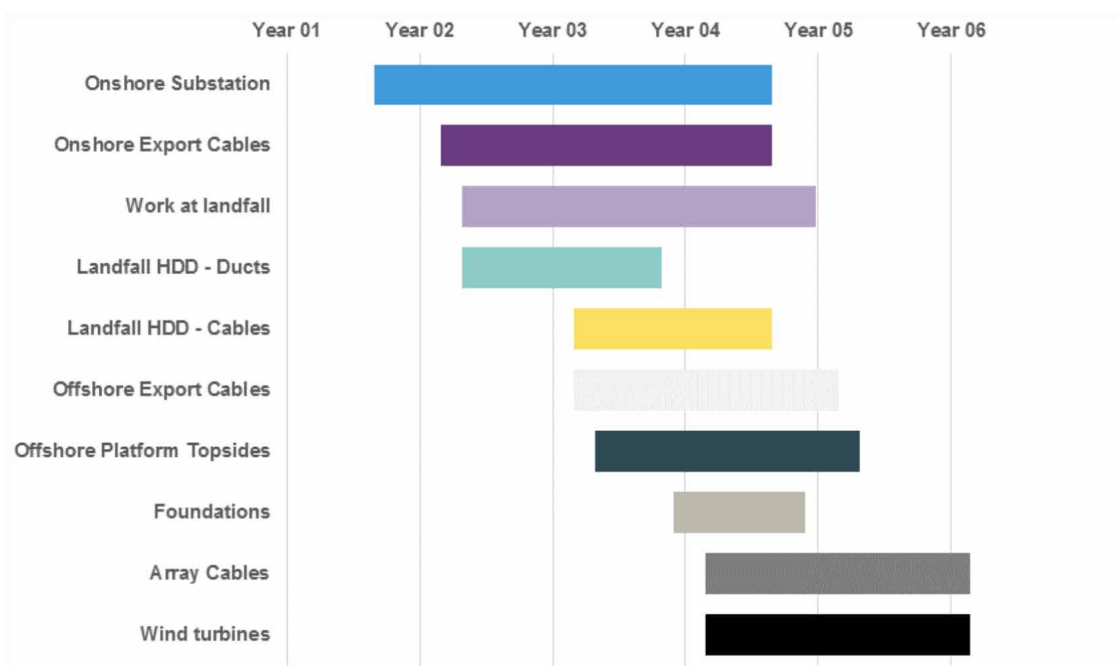
The onshore substation will be located to the north of Cottingham, approximately 175m west of the existing Creyke Beck National Grid substation, covering an area of 155,000m<sup>2</sup> (15.5 hectares). A temporary area immediately to the west of the site covering 130,000m<sup>2</sup> (13 hectares) will also be required during construction. The maximum height of any on-site building will be 25m.

## Energy Balancing Infrastructure

The onshore substation will include up to two separate energy balancing infrastructure plants, which will provide valuable services to the electrical grid, such as storing energy to meet periods of peak demand and improving overall reliability.

## Construction programme

The construction commencement date is dependent on several factors and the earliest possible date that onshore construction could commence is August 2023. The maximum total construction duration (for both onshore and offshore) is four years and six months (54 months). The likely duration of installing the major project elements of Hornsea Four is shown below:



More information on this can be found in Preliminary Environmental Information Report (PEIR) and accompanying Non-Technical Summary, which can be found at: <https://hornseaprojects.co.uk/Hornsea-Project-Four/Documents-Library/Formal-Consultation>

Hard copies of the non-technical summary are also available at today's local information event.