

Explanatory notes for preliminary investigations and environmental assessments for Nordsøen I

ID	Delivery	Note
4100	Metocean	
4101	Measurement Plan	Setting out the plan for the measurements with system documentation.
4102	Measurements (data)	Monthly and annual cumulative data sets (sub-numbering will be used). Measurements will include air temperature and humidity, fog (visibility), precipitation, wind speed and direction, wave height, period and direction, water level, current speed and direction.
4103	Measurement Reports	Monthly and annual reports for measurements (sub-numbering will be used).
4104	Site Metocean Conditions Assessment Report	Report on statistical assessment of normal and extreme MetOcean conditions for conceptual/preliminary design.
4105	Site Wind Conditions Assessment Report	Report on statistical assessment of normal and extreme wind conditions for conceptual/preliminary design
4106	Statement of feasibility from Certification Body	Review/certification of assessment reports (MetOcean and wind).
4107	Reverification note for Site Metocean Conditions Assessment Report	Reverification of model basis for MetOcean conditions assessment against additional measurements.
4108	Reverification note for Site Wind Conditions Assessment Report	Reverification of model basis for wind conditions assessment against additional measurements.
4200	Environmental assessments and permits	
4201	Scoping of Strategic environmental assessment (SEA) for Nordsøen I (Afgøringsudtalelse for miljøvurdering af plan for Nordsøen I)	A scoping note from the competent authority (the Danish Energy Agency) stating the extent and level of detail of the SEA.
4202	Scoping of environmental impact assessment (EIA) of the concessionaire's [1 GW] land-based project for Nordsøen I, A3 to POC Idomlund (Afgøringsudtalelse for miljøkonsekvensvurdering (VVM) af koncessionsvinderens landanlæg til Nordsøen I, A3 frem til POC Idomlund)	A scoping note from the competent authority stating the extent and level of detail of the EIA.

4203	Scoping of environmental impact assessment (EIA) of the concessionaire's [1 GW] land-based project for Nordsøen I, A2 to POC Endrup (Afgrænsningsudtalelse for miljøkonsekvensvurdering (VVM) af koncessionsvinderens landanlæg til Nordsøen I, A2 frem til POC Endrup)	A scoping note from the competent authority stating the extent and level of detail of the EIA.
4204	Scoping of environmental impact assessment (EIA) of the concessionaire's [1 GW] land-based project for Nordsøen I, A1 to POC Endrup (Afgrænsningsudtalelse for miljøkonsekvensvurdering (VVM) af koncessionsvinderens landanlæg til Nordsøen I, A1 frem til POC Endrup)	A scoping note from the competent authority stating the extent and level of detail of the EIA.
4205	Environmental Statement/SEA report for Nordsøen I plan made public (Offentliggørelse af miljørapport for plan for Nordsøen I)	The SEA report is to be published on the Danish Energy Agency's website. An eight weeks' public consultation will take place.
4206	SEA summary statement (Sammenfattende redegørelse for miljøvurdering af plan (SMV))	Based on the SEA report and public consultation, the Danish Energy Agency will prepare an SEA summary statement that will contain environmental conditions for the plan and general requirements to the contents of the EIA of the actual project. The SEA summary statement will be published on the website of the Danish Energy Agency. There will be a four weeks' appeal period.
4207	EIA report for the concessionaire's [1 GW] land-based project submitted and made public, Nordsøen I, A3 to POC Idomlund	The competent authority will issue the EIA report for the land-based project. An eight weeks' public consultation will take place.
4208	EIA report for the concessionaire's [1 GW] land-based project submitted and made public, Nordsøen I, A2 to POC Endrup	The competent authority will issue the EIA report for the land-based project. An eight weeks' public consultation will take place.
4209	EIA report for the concessionaire's [1 GW] land-based project submitted and made public, Nordsøen I, A1 to POC Endrup	The competent authority will issue the EIA report for the land-based project. An eight weeks' public consultation will take place.
4210	EIA permit for the concessionaire's [1 GW] land-	The competent authority will issue an EIA permit after consultation period. The permit is subject to 4 weeks appeal period

	based project obtained for Nordsøen I, A3 to POC Idomlund (VVM-tilladelse til landanlæg meddelt for koncessionsvinders landanlæg tilknyttet Nordsøen I, A3, der kobles til POC Idomlund)	
4211	EIA permit for the concessionaire's [1 GW] land-based project obtained for Nordsøen I, A2 to POC Endrup (VVM-tilladelse til landanlæg meddelt for koncessionsvinders landanlæg tilknyttet Nordsøen I, A2, der kobles til POC Endrup)	The competent authority will issue an EIA permit after consultation period. The permit is subject to 4 weeks appeal period
4212	EIA permit for the concessionaire's [1 GW] land-based project obtained for Nordsøen I, A1 to POC Endrup (VVM-tilladelse til landanlæg meddelt for koncessionsvinders landanlæg tilknyttet Nordsøen I, A1, der kobles til POC Endrup)	The competent authority will issue an EIA permit after consultation period. The permit is subject to 4 weeks appeal period
4213	Amendment to municipality plan and district plan for the concessionaire's <u>substation near shore</u> , Nordsøen I, A3 POC Idomlund (Kommuneplantillæg og lokalplaner meddelt for koncessionsvinders kystnære station)	An approved planning consent is a prerequisite for obtaining an EIA permit and also for obtaining a building permit.
4214	Amendment to municipality plan and district plan for the concessionaire's <u>substation near the grid connection point</u> , Nordsøen I, A3 POC Idomlund (Kommuneplantillæg og lokalplaner meddelt for koncessionsvinders station nær POC)	An approved planning consent is a prerequisite for obtaining an EIA permit and also for obtaining a building permit.
4215	Amendment to municipality plan and district plan for the concessionaire's <u>substation near shore</u> , Nordsøen I, A2 POC Endrup (Kommuneplantillæg og lokalplaner meddelt for koncessionsvinders kystnære station)	An approved planning consent is a prerequisite for obtaining an EIA permit and also for obtaining a building permit.

4216	Amendment to municipality plan and district plan for the concessionaire's substation near the grid connection point, Nordsøen I, A2 POC Endrup (Kommuneplantillæg og lokalplaner meddelt for koncessionsvindere station nær POC)	An approved planning consent is a prerequisite for obtaining an EIA permit and also for obtaining a building permit.
4217	Amendment to municipality plan and district plan for the concessionaire's substation near shore, Nordsøen I, A1 POC Endrup (Kommuneplantillæg og lokalplaner meddelt for koncessionsvindere kystnære station)	An approved planning consent is a prerequisite for obtaining an EIA permit and also for obtaining a building permit.
4218	Amendment to municipality plan and district plan for the concessionaire's substation near the grid connection point, Nordsøen I, A1 POC Endrup (Kommuneplantillæg og lokalplaner meddelt for koncessionsvindere station nær POC)	An approved planning consent is a prerequisite for obtaining an EIA permit and also for obtaining a building permit.
	Technical reports and reports on environment	
4219	Benthic fauna and flora	Data collection and baseline reporting for later EIA for the offshore wind farm
4220	Marine mammals (Year 1)	Data collection and baseline reporting for later EIA for the offshore wind farm – first year data collection
4221	Marine mammals (Final)	Possible second year of data collection and updated baseline reporting for later EIA for the offshore wind farm
4222	Birds (Year 1)	Data collection and baseline reporting for later EIA for the offshore wind farm – first year data collection
4223	Birds (Final)	Possible second year of data collection and updated baseline reporting for later EIA for the offshore wind farm
4224	Bats	Data collection and baseline reporting for later EIA for the offshore wind farm
4225	Fish and fish populations	Data collection and baseline reporting for later EIA for the offshore wind farm
4226	Fisheries	Data collection and baseline reporting for later EIA for the offshore wind farm
4227	Underwater noise and vibrations	Estimation and baseline reporting for later EIA for the offshore wind farm
4228	Radar and radio interference	Data collection and baseline reporting for later EIA for the offshore wind farm
4229	Marine traffic and safety of navigation (HAZID)	Data collection and baseline reporting for later EIA for the offshore wind farm
4300	Seabed investigations	

4301	Geology and sea-level, desk study	Based on existing data archives a geological study is performed to characterize the geology at the site including depositional history and environment as well as expectations to lithology. The study provides a base for nomenclature and soil unit definitions following Danish conventions. Furthermore, historical sea-level variations during Holocene is described to guide marine archaeological assessment of potentials for stone age heritage.
4302	Marine archaeology: Archaeological analysis, desk study	In advance of the geophysical surveys, a preliminary site assessment is performed to investigate archive information regarding cultural heritage.
4303	Geophysical site survey, report	<p>A geophysical site survey including 2D UHR seismic survey is performed with full coverage in the project area. The survey will map the bathymetry, the static and dynamic elements of the seabed surface and the sub-surface geological soil layers to at least 100m below seabed.</p> <p>The delivery will include a geophysical site survey report with relevant charts presenting the bathymetry, the seabed surface, and the geology. Furthermore, a GIS database with all interpreted results as well as relevant raster grids of seabed surface DTM is included. Native geophysical data is included in the delivery package including bathymetrical XYZ data, side scan sonar SonarWiz project and a Kingdom project with interpreted geological horizons.</p>
4304 4305	<p>Preliminary geotechnical investigations, report – Area 1</p> <p>Preliminary geotechnical investigations, report – Area 2 (potential future tender(s))</p>	<p>To establish a basis for an initial assessment of the project site, a geotechnical program including 90 – 150 boreholes, 250 - 350 seabed CPTs, seismic CPTs, P-S loggings and laboratory tests are performed.</p> <p>The investigations are reported provisionally as field reports following the demobilization of the marine vessels and later as geotechnical factual reports with full presentation of all investigations and laboratory results. The factual report is enclosed boreholes profiles, CPT logs, laboratory results and selected cross sections. A digital delivery of all results as AGS is included in the delivery package.</p> <p>The results are provided in two steps with first delivery covering area 1 of the project area (Eastern part) and then area 2 of the project area (Western part).</p>
4306 4307	<p>Integrated 3D geological model – Area 1</p> <p>Integrated 3D geological model – Area 2 (potential future tender(s))</p>	<p>For the project area, a joint analysis of the geophysical site survey and the preliminary geotechnical investigations is performed to correlate to provide an optimized 3D ground model of the geological horizons and to provide a geotechnical characterization of the identified soil units.</p> <p>The work is delivered as an interpretation report including a digital package with a Kingdom project of the modified and optimized 3D ground model.</p> <p>The results are provided in two steps with first delivery covering area 1 of the project area (Eastern part) and then area 2 of the project area (Western part).</p>

4308	UXO threat and risk assessment, report	A desk study is performed to characterize the threat from unexploded ordnance (UXO) on the seabed. The report includes a risk assessment as well related to the anticipated seabed activities and a plan for mitigating the risk.
4309 4310	Marine archaeology: Geoarchaeological analysis, report – Area 1 Marine archaeology: Geoarchaeological analysis, report – Area 2 (potential future tender(s))	Based on the geophysical surveys, the Danish cultural heritage authority evaluates the risk of archaeology in the project area. The work is documented in a report that identify possible locations with cultural heritage and advice on possible mitigative actions for the project.
4311	Export cables, cable route survey report	For the connection between the offshore wind farms and landfall, the cable route corridors are investigated with geophysical and geotechnical methods to map the water depths, the seabed surface, and the geology to 10m below seabed. Furthermore, the survey will map crossings intersecting the cable routes. The delivery will include a cable route survey report with relevant chart series presenting the bathymetry, the seabed surface, and the geology. Furthermore, a GIS database with all interpreted results as well as relevant raster grids of seabed surface DTM is included. Native geophysical data is included in the delivery package including bathymetrical XYZ data, side scan sonar SonarWiz project.
4312	Export cables, Cable Burial Assessment	A threat and risk assessment of the export cable protection will be performed including a preliminary analysis of appropriate installation methodologies and recommended depth of burial.
4313	Export cables, Landfall Site investigations	For the landfall location a terrestrial, geotechnical investigation will be performed to demonstrate the ground conditions for a potential installation with horizontal directional drilling.