

Work Plan for the "support group on development and regulation of offshore grids and other offshore infrastructure" under the Political Declaration on Energy Cooperation between the North Seas Countries

1. Aim of the paper

This paper proposes priorities, deliverables and a timeframe for the work to achieve the strategic objective of the roll-out of a regionally optimised North Sea grid that will enable both electricity trade and the integration of offshore renewables in the most cost-effective manner. This will result in a reduced structural wholesale price difference between the markets in the region.

2. Work area as outlined in annex 1 to the declaration

Participating countries will work on

- Improving the coordination of regional and point-to-point grid planning and development, promoting projects with regional benefits and exploring models of cost allocation (i.e. compensation), to help generate win-win options for concrete (sub)regional cooperation;
- Exploring options for developing hybrid projects linking offshore windfarms with interconnectors;
- Exploring potential synergies with the conventional offshore sector, including operational cooperation and the electrification of platforms.

4. Deliverables 2016-2019

Deliverable 1	
Objective	To remove regulatory barriers to the development of interconnectors and hybrid assets ¹
Output	A regulatory framework that incentivizes the development of a regionally optimised and cost-efficient offshore and onshore grid, including both point-to-point interconnectors and hybrid assets.
Steps	<ul style="list-style-type: none"> • Consider two possible strategic approaches: <ul style="list-style-type: none"> ○ 1: to extend and reconcile national regulatory regimes and to further develop regulatory co-operation to allow for more complicated assets ○ 2: to develop a bespoke/sui generis regulatory framework that applies to North Sea assets • Develop the necessary regulatory framework, taking into account the experiences of current and planned projects, in accordance with the option chosen • Priority will be given to development of the following elements:

¹ Hybrid assets include combined offshore generation and interconnection, hub-to-hub connections, hub and spoke systems,

	<ul style="list-style-type: none"> ○ a compatible regulatory framework for interconnectors, with a particular focus on interconnectors between the "cap and floor" and merchant approach in the UK and its neighbours ○ an approach for the allocation of costs and benefits of hybrid assets, and related compensation ○ regulatory measures to address the investor risk for hybrid assets
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Deliverable 2	
Objective	Development of project plans for concrete hybrid projects
Output	Agreement between developers, industry and authorities on steps towards the development of concrete projects
Steps	<ul style="list-style-type: none"> • Identification of most promising clusters in which there is active interest from developers. Possible suggestions: <ul style="list-style-type: none"> ○ German Bight ○ Dogger Bank ○ Irish Sea/France ○ South East England/ Continent • In parallel: identify lessons learned and best practice from the Danish-German project "Kriegers Flak – Combined Grid Solutions" • Establishment of cluster based fora to address all aspects (technical, legal, regulatory, financial, ..) • Agreement between all parties interested in a cluster on individual project plans • Identification of synergies between projects, exchange of best practices

Deliverable 3	
Objective	To enable a regionally optimised North Seas offshore grid and to reduce the risk of stranded or redundant grid assets
Output	Adoption of an aggregated regional North Seas infrastructure/offshore grid Action Plan (until 2030) which identifies a set of strategic projects for the offshore grid from a regional perspective, a timeframe for their implementation and models for their possible joint development and operation
Steps	<ul style="list-style-type: none"> • Agreement to cooperate on enhanced planning to deliver the offshore grid in an optimal way • Develop an inventory of current and planned national projects in the North Seas (wind and other offshore renewable generation, interconnectors and hybrid projects)

	<ul style="list-style-type: none"> • Assessment of national plans, PCI list and TYNDP regional development plan Northern Seas offshore grid with the aim to identify a set of key (innovative, strategic) projects necessary to develop the offshore grid. Identify missing links, if any (reference to deliverable 2). • Ensure coherence between project set and TYNDP and PCI process, as appropriate. • Establish a means of identifying an optimum offshore grid and the necessary technical and economic tools to determine any risk of asset stranding. • Identify optimal roll-out from a regional perspective (timing, capacity, routing, onshore grid reinforcements, regulatory barriers, supply chain bottlenecks, technological development...) • Consideration of options for the joint development and operation of the North Sea offshore grid and agreement on common approach • Adoption of regional plan (MoU?)
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Deliverable 4	
Objective	To optimise useful linkages with the oil/gas industry
Output	Identification of the potential for gains and synergies with the oil and gas sector
Steps	<ul style="list-style-type: none"> • Identify relevant best practices and lessons learned, • Identify the potential for the reuse of redundant infrastructure • Explore possibilities for electrification of oil/gas platforms and interaction with the offshore grid • Establishment of a process to achieve value

ANNEX 1

Overview of relevant studies and projects:

TEN-E NSOG related studies

Study of the Benefits of a Meshed Offshore Grid in Northern Seas Region (July 2014): https://ec.europa.eu/energy/sites/ener/files/documents/2014_nsog_report.pdf

Study on regulatory matters concerning the development of the North Sea offshore energy potential (January 2016):

<http://bookshop.europa.eu/en/study-on-regulatory-matters-concerning-the-development-of-the-north-sea-offshore-energy-potential-pbMJ0416250/>

NSCOGI studies

<http://www.benelux.int/nl/kerntemas/energie/nscogi-2012-report/> (scroll down to working group reports for a list of all reports)

NorthSeaGrid study

<http://northseagrid.info/publications>

ENTSO-E Ten Year Network Development Plan 2016 and Regional Investment Plan 2015 North Sea Region

<http://tyndp.entsoe.eu/exec-report/>

<https://www.entsoe.eu/Documents/TYNDP%20documents/TYNDP%202016/rgips/Regional%20Investment%20Plan%202015%20-%20RG%20NS%20-%20Final.pdf>

Promotion project on meshed offshore grid (ongoing)

<https://www.promotion-offshore.net/>