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Supporting the North Sea offshore grid development – Assessment and recommendations

Offshore grid development combined with onshore network reinforcements is a sine qua non condition for offshore wind development. It is critical to the deliverability of the European 2020 energy and climate targets.

As this has been rightly recognised when setting up the North Seas Countries Offshore Grid Initiative (NSCOGI), the European Member States must work together to facilitate the construction of the North Sea offshore grid and put in place the corresponding regulatory framework, with the support of the European institutions and more specifically the Commission.

In order to boost the North Sea offshore grid development EWEA urges European and national policy makers:

- To renew their political commitment to the North Sea offshore grid development during the Irish Presidency in 2013. Leadership is clearly needed amongst Member States.
- To make this commitment real by developing a clear roadmap with a traceable timetable and milestones up to 2020 to achieve the first legs of this strategic undertaking.
- To put in place flagship grid projects by 2020, with the support of the European Commission and without waiting for the completion of the EU regulatory framework.
- To continue and revitalise the NSCOGI as the most effective tool to implement this roadmap and to select the Projects of Common Interest (PCIs). EWEA would urge Member States to actively engage in NSCOGI.
- To give the character of a more innovative undertaking to NSCOGI. This undertaking should develop a marketing and public communication strategy focused on the power market benefits of an integrated offshore grid, including for the end-consumer.

A. Visioning offshore wind development in Europe – the starting point to develop the offshore grid

Offshore wind is a rapidly growing market. Representing 3.8GW installed across Europe end 2011, it will reach at least 40 GW by 2020 according to the NREAPs and 150GW according to industry expectations by 2030, meeting 14% of the EU electricity demand. By 2050, 460 GW offshore could be installed.¹

¹ EWEA (2011) “Pure Power”

Of the already 141GW projects EWEA identified in European waters, either online, under construction, consented or planned, 60% or 84GW will be located in the North Sea, 16% or 22GW in the Atlantic and 14% or 20GW in the Baltic. 10% will be in the Mediterranean.

The concept of the North Sea offshore grid² is primarily based on this vision: the European offshore wind vision and the need to integrate this source of energy in the most cost-effective manner.

Major offshore grid investments will only happen if Member States continue to commit to offshore wind energy development beyond 2020.

The other way round, an integrated offshore grid will be key to fully exploit the offshore wind potential, reduce the generation costs and enhance Europe's security of supply.

In this context, the following key recommendations can be put forward:

- The lack of regulatory clarity post 2020 impedes investments decisions, not only in power generation, but also strongly in grid development. **A 2030 EU target for renewable energy should be agreed as a key driver for both, offshore wind power and offshore grid development.**
- **The offshore grid development should be integrated in a national and transnational maritime spatial planning.** National spatial planning should aim at optimising sea space, regrouping offshore wind farms and considering upfront grid development. In addition, cross-border cooperation on maritime spatial planning, preferably on a regional base, should favour an integrated North Sea offshore grid development.

B. Building on the initiatives that contribute to the North Sea offshore grid development and keeping the momentum going

It is widely recognised that the North Sea offshore grid will benefit Europe in different ways.

Since 2008³, the North Sea offshore grid benefits have been carefully analysed at European and national level. Various studies and projects⁴ have been carried out and **the macro-economic benefits of the offshore grids are well acknowledged. These can be listed as economic savings, optimised utilisation of the power generation fleet, export opportunities, integrating renewables sources, improved security of energy supply, etc.**⁵

On the political stage, the North Sea offshore grid project received a major boost in 2010, when ten European Member States signed up a Memorandum of Understanding and committed to identify and tackle barriers to coordinated grid development (regulatory, legal, market, planning, authorisation and technical issues). The North Seas Countries Offshore Grid Initiative⁶ was created involving Regulators and Transmission System Operators. Other stakeholders were invited to provide input through the Adamowitsch Working Group, and

² Commission's proposal for a European Infrastructure Package: Northern Seas Offshore Grid ("NSCOG"): integrated offshore electricity grid in the North Sea, the Irish Sea, the English Channel and neighbouring waters to transport electricity from renewable offshore energy sources to centres of consumption and storage and to increase cross-border electricity exchange

³ Second Strategy Energy Review (Com 2008); Offshore Wind Energy: Action needed to deliver on the Energy Policy Objectives for 2020 and beyond (Com 2008)

⁴ The Offshore Grid project (IEE funded), EWEA (2009) "Oceans of Opportunity", ENTSO-E (2011) "Offshore Grid Development on the North Seas"

⁵ As an example of cost savings, the Offshore Grid project has calculated that by clustering wind farms in hubs, around €14bn could be saved up to 2030 compared to connecting wind farms individually to shore.

since the resignation of Mr. Adamowitsch as an EU coordinator, through one sole meeting chaired by the European Commission in 2011.

In October 2011, the European Commission launched the so-called European infrastructure package, identifying the North Sea Offshore Grid as a priority area for Projects of Common Interest (PCI).

- **The European Commission has played a major catalyser role in the North Sea offshore grid development. It must remain a strong facilitator and keep the momentum going.**

C. Politically committing to the North Sea offshore grid development

The North Sea Countries Offshore Grid Initiative has proven being a valuable regional platform for the relevant Member States to support offshore grid development. However, results are limited because of the lack of vision for offshore wind beyond 2020 and **more specifically the absence of broader political commitment to develop an offshore grid**. There seems to be a certain lack of interest in an EU offshore grid on behalf of Member States. Some have not been very actively engaged in the working groups and have often omitted to send their representatives.

NSCOGI results are therefore for the time being very much research- and fact-gathering-oriented rather than providing political guidance and concrete reference points.

Although bottlenecks are being identified, neither roadmap nor milestones are in place to start up the first legs of an integrated offshore grid. Member States are solely committed to identify and tackle barriers with regards to the development of an offshore grid, but current discussions still linger around the “if” rather than the “how” on an integrated offshore grid.

Moreover, because there is no quantifiable political commitment in terms of targets to offshore wind development beyond 2020, there is no reliable and agreed mid- to long-term perspective in scenarios and grid modelling beyond this timeframe.

Furthermore, there is the concern that discussions within NSCOGI could lose focus and get locked in broader regulatory traps, such as support schemes harmonisation debate because of this lack of political commitment.

In order to give further momentum to NSCOGI beyond 2012 and enhance its role as the regional forum on this matter EWEA recommends the following:

- **It is essential that Member States renew their political commitment to develop a North Sea offshore grid. The upcoming Irish Presidency in 2013 provides an excellent window of opportunity. Without the continued leadership and commitment of one or few Member States, the North Sea Grid might not become reality.**
- **The North Sea Countries Offshore Grid Initiative has proven to be a valuable regional platform. Provided that Member States actively engage in the working groups and send representatives, it should be extended post 2012 and revitalised.**
- **For such a revitalisation of NSCOGI EWEA recommends to set up an event during the Irish Presidency to outline the way forward for this initiative and enhance visibility and political momentum.**
- **In the mid to long-term, bringing the Baltic Member States on board should also be considered, either within NSCOGI or in a separate regional setting.**

D. Developing a clear roadmap and putting in place flagship projects by 2020

The construction of an integrated EU offshore grid is a lengthy process that will take more than a decade to be fully accomplished in a step wise manner.

- **A clear roadmap putting flesh on the bones of how to achieve this strategic undertaking must be developed. This should involve consultation with stakeholders and notably the TSO's.** Such a concretisation of the political commitment is indispensable for the offshore grid development, rather than waiting for the completion of a common European regulatory regime before taking first steps towards an integrated offshore grid design.
- **It is essential that Member States put in place flagship projects and development models by 2020.** The Projects of Common Interest (PCI)⁷ offer a real opportunity to speed up offshore grid development and should be carried out on schedule as soon as they are chosen. Stakeholder from power generation and offshore grid supply chain should get involved in the first round of applications for PCIs and best use be made of their capabilities and expertise when constructing these first legs of an offshore grid.
- Developing pilot projects should be endorsed by NSCOGI. Next to a Regional Group in charge of the regional PCI selection process, **this regional platform could also gain more the character of an innovative undertaking rather than remaining a sheer political framework emerged from a MoU.** The marketing and public awareness measures undertaken by Desertec could constitute a valuable benchmark. To this end NSCOGI must **be also equipped with more resources than today and seek broader stakeholder involvement, in particular from the power generation and infrastructure supply side.**
- Finally, because public awareness and also acceptance will be key to the North Sea offshore grid development, **it would be important for NSCOGI to develop a marketing strategy focused on the socio-economic benefits of an integrated offshore grid, in particular on both wholesale and retail market level. This should be combined with good public communication measures in order to properly and transparently communicate these values.**

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The European Wind Energy Association (EWEA) is the voice of the wind industry, actively promoting the utilisation of wind power in Europe and worldwide. Over 700 members from nearly 60 countries, including manufacturers, developers, research institutes, associations, electricity providers, finance organisations and consultants, make EWEA the world's largest wind energy network.

⁷ As defined in the EC proposal for a Regulation on guidelines for trans-European energy infrastructure (Com 2011)