

**THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE  
MEMORANDUM OF UNDERSTANDING**

The Ministers of the North Seas Countries' Offshore Grid Initiative and the European Commissioner for Energy, hereinafter referred to as the "signatories",

**CONSIDERING:**

- The Political Declaration launching the North Seas Countries' Offshore Grid Initiative, signed by Belgium, Denmark, France, Germany, Ireland, Luxembourg, the Netherlands, Sweden and the United Kingdom on 7 December 2009 and by Norway on 2 February 2010, which offers a framework for regional cooperation to find common solutions to questions related to current and possible future grid infrastructure developments in the North Seas,
- The common goal of moving to a sustainable low-carbon economy while maintaining security of energy supply most cost-efficiently,
- The crucial role that renewable energy sources in the North Seas play,
- The strategic importance of present and future on- and offshore infrastructure developments for security of supply, the development of renewable energy sources and the integration of national electricity markets,

**TAKING INTO ACCOUNT:**

- The requirements of the liberalization of the European Energy Markets, in particular the Second Energy Package <sup>1</sup> and the Third Energy Package <sup>2</sup>,
- The 2020 climate and energy targets <sup>3</sup>, in particular the National Renewable Energy Action Plans,
- The Communication on Energy Infrastructure Priorities for 2020 and 2030 <sup>4</sup>, identifying notably the offshore grid in the Northern Seas as a priority,
- The preparation of an energy 2050 roadmap by the European Commission,
- The Ten Year Network Development Plans of European Network of Transmission System Operators for Electricity (ENTSO-E), including the working plan of the ENTSO-E regional group North Sea,
- The ACER working programme,

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<sup>1</sup> Adopted in August 2003, including Directive 2003/54/EC, and Regulation 1228/2003.

<sup>2</sup> Adopted in July 2009, including Directive 2009/72/EC and Regulation (EC) No 714/2009.

<sup>3</sup> In Directive 2009/28/EC.

<sup>4</sup> COM (2010) 677/4.

- The ongoing cooperation between the signatories including, among others, the Joint Declaration on Cooperation in the Field of Research on Offshore Wind Energy Deployment currently between Germany, Denmark, Sweden and Norway, and the EU funded Irish-Scottish Links on Energy Study (ISLES) into the development of offshore transmission networks between Scotland, Ireland and Northern Ireland,
- The contribution of the Trans-European Networks for Energy (TEN-E) European coordinator Mister Adamowitsch and his stakeholder group for the offshore grid development,

**WELCOMING:**

- The commitment to cooperate of ACER, the regulators and ENTSO-E expressed in their Letters of intent of 3 December 2010 (Annexes 4, 5 and 6),

**THE SIGNATORIES DECLARE THAT THEY:**

- Share the common goal of moving to a sustainable low-carbon economy while maintaining security of energy supply most cost-efficiently,
- Recognise that the renewable energy sources of the North Seas have the potential to make a significant contribution to this goal,
- Take into account the ambitious plans for the installation of wind farms offshore and the fact that these will require large-scale development of appropriate offshore infrastructure as well as reinforcement of the onshore grid,
- Understand that the scale of investment required is substantial and will require the political support of the governments,
- Will facilitate a strategic, coordinated development of the offshore and onshore grids to ensure more cost-effective and sustainable investment,
- Will identify and tackle barriers to grid development at both national, regional and EU-level, in particular regulatory, legal, market, planning, authorisation and technical issues,

**TO THIS END, THE SIGNATORIES COOPERATE IN THE FOLLOWING MANNER:**

- The North Seas Countries' Offshore Grid Initiative is chaired by the governments on a rotating basis. The chair is assisted by the Benelux secretariat <sup>5</sup> to facilitate the continuity of the process and the preparation of meetings. The secretariat acts as a liaison office between the working groups, the Steering Committee and Programme Board,
- A Steering Committee composed of government officials and representatives of the European Commission oversees, guides and monitors the work of the working groups as described in the Annexes and reviews overall progress towards achieving the objectives of this Memorandum of Understanding. The Steering Committee reports to Ministers and informs the European Commission of progress on an annual basis,
- A Programme Board, consisting of representatives of the Steering Committee and representatives of ENTSO-E <sup>6</sup>, ACER and the regulators, is responsible for coordinating and managing the work of the different working groups. Other stakeholders may be invited to attend meetings of the Board where appropriate. The Board gives the Steering Committee regular progress reports,
- The Steering Committee establishes three working groups covering the following areas: Grid configuration and integration; Market and regulatory issues; Planning and authorization procedures. Each one is chaired by two governments and composed of representatives of governments, ENTSO-E <sup>7</sup>, ACER, the regulators, the European Commission and experts upon invitation. The mandates as well as the objectives of the working groups are set out in the Annexes 1, 2 and 3 of this document. The Steering Committee may amend the Annexes by consensus. The working groups report to the Programme Board on the progress of their work twice per year.

This Memorandum of Understanding does not create any rights or obligations under international law.

**Done at Brussels on the third day of December in the year two thousand and ten.**

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<sup>5</sup> The Benelux General Secretariat is established by the Benelux Treaty of 3 February 1958. It is the centre of the cooperation between Belgium, the Netherlands and Luxembourg. It initiates, supports and monitors cooperation in the areas of economy, sustainability and security.

<sup>6</sup> If a Transmission System Operator (TSO) of one of the North Seas Countries' Offshore Grid Initiative member states were to no longer be a member of ENTSO-E, this TSO should be given the possibility to participate in the Programme Board.

<sup>7</sup> If a TSO of one of the North Seas Countries' Offshore Grid Initiative member states were no longer to be a member of ENTSO-E, this TSO should be given the possibility to participate in the working groups.

For Belgium

For Denmark

For France

For Germany

For Ireland

For Luxembourg

For the Netherlands

For Norway

For Sweden

For the United Kingdom

The European Commissioner for Energy

## THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE

### *Annex 1*

#### GRID CONFIGURATION & INTEGRATION

##### **Deliverables**

1. Identify relevant policy considerations and constraints for the development of possible future technical grid configurations. This baseline overview of policy considerations, based on energy, environmental, planning and other policies, should look out to at least 2030 (by June, 2011).
2. Identify relevant grid considerations which should provide an appropriate starting point for the analysis of an appropriate offshore grid infrastructure in 2030. This baseline overview of grid considerations, based on grid reinforcements envisaged for the European electricity grid in the long-term network development plans, should take national offshore wind ambitions into account and look out to at least 2030 (grid development taken into account by June 2011, bottlenecks before the end of 2011).
3. Based on simultaneous consideration of the inputs from deliverable 1 on government policies and deliverable 2 on grid capacities, identification of 3-4 plausible scenarios for the onshore and offshore grid infrastructure in 2030. These scenarios should help overcome bottlenecks envisaged for the long-term development of onshore and offshore electricity production and integration of the electricity markets in the region. (by June, 2012).
4. Carry out a Case Study on an individual project for interconnection of offshore wind farms in different national jurisdictions (by December, 2012).
5. Present some assessments of the costs and benefits of plausible offshore grid configurations to which individual energy production facilities may directly be connected and which allow for integration of the electricity markets in the region (by December 2012)

### **Methodology**

6. The Working Group will comprise representatives of the governments, ENTSO-E, ACER, regulators and the European Commission so that it can draw on their respective areas of expertise. It will also invite relevant experts and consultants to take part in meetings of the Group where appropriate. The group will draw on existing work carried out by ENTSO-E and governments. Work should aim at developing a common understanding of the possible future offshore grid infrastructure in order to prepare for the start of any follow-up by the different stakeholders involved.

### **Action points**

7. Investigation of a "baseline" overview of all relevant policy conditions, including:
  - i. National Renewable Energy Action Plans,
  - ii. Wind generation areas,
  - iii. Whole generation mix foreseen,
  - iv. Ten Year Network Development Plan,
  - v. onshore grid configuration,
  - vi. structural and environmental conditions that may impact future offshore grid configurations.
8. Develop scenarios for plausible offshore grid configurations (radial, meshed or hybrid), based on the results from the baseline and on appropriate cable and converter technologies, looking out to 2030.
9. The outcomes from the deliverables 1-4 may have to be accompanied by further relevant information on cost benefit considerations of alternative offshore grid configurations in the region, including the need for standardization, e.g. of cable and converter technologies, technical operating parameters, the assessment of related risks e.g. deliverability (constraints on supply chain), etc. This information may be obtained through desk studies and/or interviews with relevant stakeholders.
10. Carry out a Case Study on an individual project for interconnection of offshore wind farms in different national jurisdictions which should result in a clear overview of relevant considerations for each of the different stakeholders. These considerations may include technical, financial (financing, tariffs and renewable support), market and regulatory issues.



## THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE

### *Annex 2*

#### MARKET AND REGULATORY ISSUES

##### Deliverables

1. Identify areas where the incompatibility of national market and regulatory regimes acts as a barrier to coordinated offshore grid development, for example as regards regulatory oversight, grid operation and access, balancing and provision of ancillary services (by December 2011).
2. Develop proposals to address these barriers so that national regimes are sufficiently compatible to facilitate cross-border investment (by June 2012).
3. Develop proposals for identifying how the costs and benefits of joint offshore and onshore infrastructure may be shared fairly and with due regard to investment incentives (interim report by December 2012).
4. Develop proposals for a common regulatory approach to anticipatory investment (including the sharing of technological risk), in order to achieve cost-efficient development of the grid (interim report by December 2012).
5. Develop proposals for market mechanisms to facilitate the increased penetration of variable renewable generation and the combination of offshore wind farms with interconnection, taking into account the impact of national renewables support schemes, to contribute to the elaboration of codes and guidelines under the Third Package, where relevant (by June 2012).

### **Methodology**

6. The working group will comprise representatives of the governments, ACER, regulators, ENTSO-E and the European Commission so that it can draw on their respective areas of expertise. It will also invite relevant experts to take part in meetings of the group where appropriate. The working group will carry out an inventory of national regulatory and market frameworks on the basis of questionnaires to be completed by the responsible bodies. It will identify the barriers to cross-border investment, drawing on the views and experiences of market players. As the market mechanisms and regulatory arrangements (referred to in deliverables 3, 4 and 5) are of wider EU relevance, the working group will develop high-level proposals from the perspective of the North Seas region, as a contribution to the elaboration of the relevant Third Package codes and guidelines.

### **Action points**

7. Carry out an inventory of national regulatory and market frameworks relevant to offshore grid development, for example financing of transmission investment, operation of offshore transmission assets, transmission access and charging arrangements, balancing, ancillary services, trading regimes, in order to identify and tackle the barriers to efficient and coordinated grid development.
8. Identify the options for market frameworks for combining offshore wind farms with interconnection and for facilitating the penetration of variable renewable generation.
9. Assess the extent to which anticipatory investment may be necessary for the cost-efficient development of offshore grids to support wind farms and market integration.
10. Consider the impact of national renewables support mechanisms on grid investment decisions and trading arrangements.

## THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE

### *Annex 3*

#### PLANNING AND AUTHORIZATION PROCEDURES

##### **Deliverables**

1. Identify areas where the incompatibility of national regimes on authorizations and spatial planning act as a barrier to fast and coordinated procedures and their origins (national legislation, European regulation, international agreements/conventions) (by June 2011).
2. Develop procedural guidelines as a recommendation to the competent national authorities (by December 2011).
3. Propose measures to reduce substantially the length and complexity of decision making procedures for offshore grid projects and facilitate the issue of the authorizations required and relevant spatial planning (by June 2012).
4. Identify best practices to reduce substantially the length and complexity of decision making procedures for onshore grid connection and reinforcement related to offshore development (by December 2012).

##### **Methodology**

5. The working group comprises representatives of the governments, planning and authorization experts, ACER, regulators, ENTSO-E and the European Commission and relevant experts so that they can exchange views on how spatial planning and permitting procedures can be streamlined and coordinated, which is of special importance for the realization of a transnational infrastructure.

6. The working group will consider how best to coordinate procedures covering all relevant issues including transboundary consultation, which has to be carried out in the licensing process due to the "ESPOO (EIA) Convention" <sup>1</sup>, the EIA-Directive <sup>2</sup> or the SEA-Directive <sup>3</sup>, and could deliver practical approaches. The approach is based on the exchange of experiences and best practices between the various national authorities. The knowledge gained will be used to develop procedural guidelines to be recommended to the competent national authorities, on the basis of the national legislation of each country. This approach does not include the intention of developing a spatial plan for the North Seas and has not the aim of establishing centralized administrative structures.
7. The working group will take into account and build on the contributions made by other initiatives in the field of planning and authorization procedures (e.g. Windspeed).
8. The working group will also explore links to and reinforce cooperation with maritime spatial planning at EU, regional and national level, especially with regard to the identification of suitable areas for the transboundary grid infrastructure and corridors for connecting the offshore grid to the terrestrial grid. The group will investigate and consider the possibility how in these suitable areas the development of a transboundary grid infrastructure can be legally safeguarded with regard to existing or may be upcoming conflicting interests.

#### **Action points**

9. Undertake an inventory of all the existing planning, permitting and licensing procedures related to offshore grid infrastructure in the different countries.
10. Investigate the possibilities for coordinated procedures, or common procedure stages, on both sides of the border in the case of cross-border projects and also on- and off-shore sections of the same project.
11. Identify possible modifications which may be needed in each country.

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<sup>1</sup> Convention on Environmental Impact Assessment in a Transboundary Context, done at Espoo, on 25 February 1991.

<sup>2</sup> Environmental Impact Assessment Directive: Council Directive of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment (85/337/EEC).

<sup>3</sup> Strategic Environmental Assessment Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment.

## THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE

### *Annex 4*

#### LETTER OF INTENT ON BEHALF OF ACER

The Agency for the Cooperation of Energy Regulators (the "Agency") has been established pursuant to Regulation (EC) No 713/2009 to assist the National energy Regulatory Authorities (NRAs) in exercising, at Community level, the regulatory tasks performed in the Member States and, where necessary, to coordinate their action. Most of the duties of the Agency are instrumental to the completion and well functioning of the Single Energy Market. Moreover, the Agency has been tasked with monitoring the regional cooperation of transmission system operators.

The Agency therefore welcomes the North Seas Countries Offshore Grid Initiative (the "Initiative") and supports its objective to establish a strategic and cooperative approach to energy infrastructure development in the North Seas.

The Agency recognises the potential benefits of this Initiative in accessing the energy resources of the North Seas to enhance the development of renewable energy, security of supply and integration of national electricity markets.

The Third Energy Package establishes particular tasks for NRAs and the Agency, including responsibility for the regulation of transmission entities and for setting terms for access to cross-border interconnections, which must be exercised independently from any market interest or political body. This requires that, in contributing to the work of the Initiative, the discretion legally reserved to regulators is not fettered by the outcomes or conclusions of the Initiative. On the basis that this is understood and acknowledged, the Agency welcomes the opportunity to participate and will draw on the information provided by the Initiative in undertaking its tasks.

Against this background, the Agency commits to attending and actively contributing to the activities of the programme board and working groups, wherever possible, in the areas where regulatory expertise is required.

Done at Brussels on the third day of December in the year two thousand and ten.

Alberto Pototschnig  
Director

## THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE

### *Annex 5*

#### **Letter of Intent on behalf of the National Regulatory Authorities**

The undersigned National Regulatory Authorities welcome the North Seas Countries Offshore Grid Initiative ("the Initiative") and support its objective to establish a strategic and cooperative approach to energy infrastructure development in the North Seas.

We recognise the potential benefits of this Initiative in accessing the energy resources of the North Seas to deliver positive outcomes for development of renewable energy, security of supply and integration of national electricity markets. We agree that there needs to be further analysis and understanding of the costs and benefits of different configurations, including the benefits to consumers, of the coherence of the various legal and regulatory frameworks, which vary across the Member States covered by the Initiative, and a more detailed assessment as to required developments. This work will involve governments and regulators in respect of their relative competencies, with technical and commercial input from the transmission companies.

The Third Energy Package establishes particular tasks for each national regulator and the Agency for Cooperation of Energy Regulators, including the responsibility for the regulation of transmission entities, which must be exercised independently from any market interest or political body. This specifies that, in contributing to the work of the Initiative, the discretion legally reserved to the regulators is not fettered by the outcomes or conclusions of the Initiative. On the basis that this is acknowledged, we welcome the opportunity to participate and will draw on the information provided by the Initiative in undertaking our tasks.

Against this background, we also commit to attending and actively contributing to the activities of the programme board and working groups, wherever possible, in the areas where regulatory expertise is required. We recognise that the timescales in the Memorandum of Understanding are ambitious, and will require significant project management and input from all relevant organisations. We will take this activity forward with the working group Chairs, and look forward to working together on this important Initiative.

Done at Brussels on the third day of December in the year two thousand and ten.



Mr. François Possemiers  
Chairman  
Belgium - Commission de Régulation de  
l'Électricité et du Gaz (CREG)



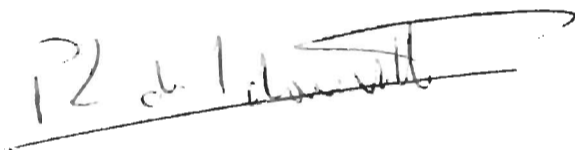
Michael G Tutty  
Chairman  
Ireland – Commission for Energy  
Regulation (CER)



Mr Finn Dehlbæk  
Deputy Director General  
Denmark - Energitilsynet - Danish Energy  
Regulatory Authority (DERA)



Mr Camille Hierzig  
Directeur adjoint  
Luxembourg - Institut Luxembourgeois  
de Régulation (ILR)



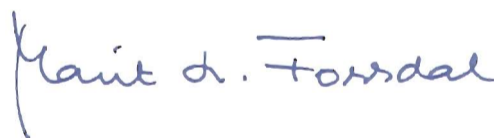
Mr Philippe de Ladoucette  
Chairman  
France – Commission de régulation de l'énergie  
(CRE)



Mr drs. J.Th.A. de Keijzer  
Member of the Board  
Netherlands – Nederlandse  
Mededingingsautoriteit



Mr Matthias Kurth  
President  
Germany – Bundesnetzagentur (BNetzA)



Ms Marit Lundteigen Fossdal  
Director, Energy and Regulation  
Department  
Norway - Norges vassdrags- og  
energidirektorat (NVE)

Lord Mogg  
Chairman  
Great Britain – Office of Gas and Electricity  
Markets (Ofgem)



Mrs. Yvonne Fredriksson  
General Director  
Sweden - Energimarknadsinspektionen  
(EI)

**THE NORTH SEAS COUNTRIES' OFFSHORE GRID INITIATIVE**

***Annex 6***

**Letter of Intent on behalf of ENTSO-E**

The Political Declaration launching the North Seas Countries' Offshore Grid Initiative, signed by nine countries on 7 December 2009 and by the tenth on 14 February 2010, recognizes the crucial role which offshore wind energy is bound to play in order for Europe to meet the EU's 20-20-20 targets. It also welcomes ENTSO-E & national TSOs and the regional cooperation within ENTSO-E under the "third package" and their related grid development and investment plan as important new tools for coordination.

In this context, ENTSO-E fully supports the objectives laid down in the Memorandum of Understanding to be signed by the Ministers of the North Seas Initiative and the European Commissioner for Energy on 3 December 2010, and is committed to participate in the programme board and the three working groups as proposed, to the extent that this participation is aligned with the other priority deliverables of the Association, namely the Regional Investment Plans, the Ten-Year Network Development Plan, and the elaboration of Network Codes.

It is the Association's firm belief that streamlining its member Transmission System Operators' input to the North Seas Initiative's objectives under ENTSO-E's working structures will not only bring synergistic benefits with regard to the necessary resources, but also ensure the coordinated and efficient development of all European regional platforms envisaged by the EC Communication on "Energy infrastructure priorities for 2020 and beyond" on 17 November 2010.

Furthermore, ENTSO-E pledges, once the tasks described in this Memorandum of Understanding have been accomplished, to continue promoting and supporting policy initiatives that enable the effective development of the necessary transmission infrastructure for the attainment of the European Energy Policy objectives.

This Letter of Intent does not create any rights or obligations for ENTSO-E and its member Transmission System Operators under international law.

Done at Brussels on the third day of December in the year two thousand and ten.

Daniel Dobbeni

President

European Network of Transmission System Operators for Electricity