



# EUROPEAN COORDINATOR'S SECOND ANNUAL REPORT

Georg Wilhelm Adamowitsch

## PROJECTS OF EUROPEAN INTEREST

"Connection to offshore wind power in Northern Europe  
(North Sea – Baltic Sea)"

&

"Salzach neu (AT) – Tauern (AT) line"

October 2008 - November 2009

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The points of view expressed in this report are those of the European coordinator and do not represent the official position of the European Commission

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## *Preface*

In the last two years the planning process and the development of offshore wind in the North Seas have made a lot of progress. Therefore the necessity to decide on the implementation of an integrated European offshore grid is even more important. From the discussion I had with the stakeholders it clearly appears that the right conditions at political, regulatory and financial level must be setup.

It is to be regretted that until today, no common strategy for Kriegers Flak could be developed, which would have been important for the further development of a European offshore grid. I included in my report the latest decision concerning the Kriegers Flak project.

I would like to thank Mr Patrick Bourrel from Directorate-General Energy and Transport (TREN) of the European Commission for the competent support of his work, all the members of the Working Group and ENTSO-E Regional Group for their cooperation and contributions, as well as all interlocutors from politics, companies and associations for the constructive discussions.

*Georg Wilhelm Adamowitsch*

## INTRODUCTION

The Decision No 1364/2006/EC<sup>1</sup> of the European Parliament and of the Council of 6 September 2006 laying down guidelines for trans-European energy networks (TEN-E), foresees the appointment of European coordinators in order to monitor and to facilitate the implementation of the most critical identified priority projects.

In this context, Mr. Adamowitsch has been appointed on the 12 September 2007 by the Commission for the "**Connection of offshore wind power in Northern Europe (North Sea – Baltic Sea)**". The first annual report of his work (September 2007 – September 2008) is available on the Europa Website<sup>2</sup>.

The "Priority Interconnection Plan"<sup>3</sup> adopted by the Commission on 10 January 2007 in the framework of the so-called "energy package" and the Action Plan adopted by the European Council on 9 March 2007 mentions the possibility to nominate an European coordinator for links within and to Austria. Based on this, the Austrian federal ministry for economics and work with its letter of the 16<sup>th</sup> September 2008 requested from the Commission the intervention of a coordinator for the Project of European Interest "St. Peter, AT – Tauern, AT line". On 10 November 2008, at the request of Commissioner Piebalgs and with the agreement of the European Parliament, Mr. Adamowitsch accepted to extend his mandate of European coordinator to the planned "**380kV-Salzburgleitung**" from Salzach neu (Elixhausen) to Tauern (Kaprun).

The European coordinator shall contribute to the cross-border dialogue between the stakeholders (Governments, Regulators, Transmission System Operators, Industry ...) and promote the European dimension of the grid development.

This annual report which covers the period of October 2008 to November 2009 takes into account the work carried out by the European coordinator for both aspects of his mandate. Therefore, the first part is dedicated to his work achieved in Austria while the second part is a continuation of the first report.

First, Mr. Adamowitsch would like to thank everyone for the support he received in carrying out his task.

### 1. SALZBURG POWER LINE: DECEMBER 2008 – JULY 2009

Mr. Adamowitsch started his work in December 2008 by having discussions with members of the Salzburg federal state government, the Regulator and stakeholders such as society and environment, technology and business, technical and legal experts in order to analyse the situation and to come up with the most suitable proposal.

From March 2009 until June 2009, the European coordinator visited all the municipalities affected by the project from Seekirchen down to Kaprun, to have discussions with the majors and local citizens.

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<sup>1</sup> Decision of 6 September 2006, OJ L262, 22.9.2006, p.1.

<sup>2</sup> [http://ec.europa.eu/energy/infrastructure/tent\\_e/coordinators\\_en.htm](http://ec.europa.eu/energy/infrastructure/tent_e/coordinators_en.htm)

<sup>3</sup> COM(2006) 846 final, 10.1.2007

The final report of the "380kV Salzburgleitung"<sup>4</sup>, including a concrete proposal for a new overhead line routing, was presented on 23 July 2009 to the Salzburg federal state government and parliament.

### Background

The project listed in Annexe III of the TEN-E Guidelines (3.60. St. Peter (AT) – Tauern (AT) line) and defined as Project of European Interest was introduced by the Austrian State government. This line will make an essential contribution to the security of supply in the west of Austria.

The regional discussion concerning technical arrangements of the new power line as an overhead line or with partially underground cable section(s), led to the facts that preparatory planning and permit procedures were finally stopped and that the Salzburg federal state government proposed a law with the aim to force the undergrounding of lines.

This law entered into force in March 2009. In the explanatory note of law it is stated that the European coordinator could play a role by analysing the technical and economic efficiency of such an underground cable section.

This idea of having underground cable section(s) in the transmission power ring was rejected by the Transmission System Operators Verbund APG. The Austrian Regulator (E-Control) was reluctant to give approval and the expert evaluated the underground cable as not being "State of the Art" in Austria. On the other hand, comparable 380kV overhead lines projects were, according to the Austrian law, authorized and constructed.

### The process

The process contributed to a large extent to the success of the European coordinator's work. It was important to provide the right frame work for the mediation and to have a global understanding of the barriers and of stakeholder's expectations.

Therefore Mr. Adamowitsch had intensive dialogue with representatives of Austrian's National government, Federal government and Parliament, E-Control (Regulator), the Transmission System Operator APG, Salzburg AG, as well as with social partners.

But the most valuable part of the process was the visit of the political responsible in each municipality concerned and the organisation of "information sessions" for the local citizens, during which the European coordinator explained his mandate, the importance of the line for the development of a European grid, and invited each of the participants to express their opinions, fears and expectations.

Also, several excursions on site were performed by the European coordinator, to see by himself the topological and settlement situations in the region, in order to take these parameters into account in his report.

### The report

Having taken into consideration all the facts and available information, the European coordinator in his report came to the conclusion that an overhead line, which correspond to the current "State of art" and fulfils the technical and legal requirements for security of supply reasons, would be the most appropriate solution for the 380kV Salzburg line, while bearing in mind the importance of space management and settlement compatibility.

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<sup>4</sup> [http://ec.europa.eu/energy/infrastructure/tent\\_e/coordinators\\_en.htm](http://ec.europa.eu/energy/infrastructure/tent_e/coordinators_en.htm)

The European coordinator also made further suggestions which should improve the planning and permit procedures. Thereby, the way the transparency aspects and the compensation/remuneration questions are treated during the route proposal process of the line, and the way the federal state policy plays its role as trustee of local interests and private expectations, is crucial for the acceptance of the population.

### Follow-up

The report led to a very good result. Following the report's recommendations, the federal state policy, representatives of municipalities and the Transmission System Operator decided to proceed with a common transparent procedure, which could lead to an acceptance by the population. Taking into account that the planning and licensing procedures for the planned Salzburg line are now progressing, the Project of European Interest aspect is thus fulfilled.

The European coordinator will continue to monitor the progress of the project and will report to the European Commission and Parliament.

### Conclusions

- Although the planned 380kV Salzburg line is a Project of European Interest of the TEN-E, the resolution of the problem was a matter of Austrian competence and responsibility. To be able to come up with a solution, specific regional knowledge was absolutely necessary for the European coordinator. The knowledge of the language is also of primary importance.

The planning and permit procedure is exclusively the competence of the Member State and a European coordinator has no influence on that. The national laws can not be called into question and must be respected and even if the impact of the planned 380kV Salzburg line goes beyond the Austrian borders, it remains an Austrian project.

- However, the European aspects have to be taken into account. The fact that the 380kV Salzburg line was designated by Austria to be part of the TEN-E, gives the political authorities and business organisations, a kind of responsibility to implement the project. The European coordinator is of the opinion that with the entering in force of the Lisbon treaty (Treaty on the Functioning of the European Union) and the planned TEN-E revision, actions for infringement against those member states, who do not follow their obligations in the implementation of TEN-E projects, should be possible.
- Together with ENTSO-E, it is urgent to have discussions on the topic "security of supply and state of the art" in the transmission network area. A European common understanding must be possible.
- New European directives do not seem necessary, in order to implement in an efficient way, the future-oriented European transmission network. The example of the planned 380kV Salzburg lines however, makes it clear that a sanctions mechanism is necessary, in order to implement such essential infrastructure in a defined time frame.
- In such planning and licensing procedures, the inclusion of the civil society must be arranged more transparently in the future. The European coordinator's experience in this project demonstrated that it is not absolutely necessary to modify the planning and permit procedure at National or European level but it rather requires more fantasy and transparency.

## **2. CONNECTION TO OFFSHORE WIND POWER IN NORTHERN EUROPE (NORTH SEA – BALTIC SEA)"**

Mr. Adamowitsch delivered his first report in September 2008<sup>5</sup>.

The European coordinator visited the ministries of the Member States in the North Sea and Baltic Sea areas and in each country witnessed a strictly national approach with little coordination with neighbouring countries – very much in line with the stakeholder feedback presented in the Off-shore wind energy communication 2008<sup>6</sup>. He concluded that a continuation of today's fragmented and un-coordinated national policies will severely limit the off-shore wind power generation capacity.

As a key step, he has therefore established in July 2008 a Working group for "Offshore/onshore grid development" (so-called Adamowitsch Working Group), which serves as a multi-stakeholder platform and which will inter alia allow developing "best practice scenarios" for selected cases, such as Krieger's Flak, this will promote the required grid planning in modular form in an open and transparent manner.

### Work plan for 2008-2009

The work plan was described in 6 Actions:

- Action 1: Promote Kriegers Flak as "best practise case" for the integration of offshore wind farms for three countries
- Action 2: Promote the development of the offshore grid in the North Sea in modular form connecting Norway with other markets
- Action 3: Clarify the role of the regulators for specific offshore and onshore projects
- Action 4: Analysis of possible changes to EU legislation for shortening the authorisation process

Action points added following the Working Group meeting on 30 November 2008:

- Action 5: Medium term solution for the offshore/onshore grid development in Northern Europe
- Action 6: Financial issues including the importance of the financial crisis, proposals for boosting infrastructure investments and the industry chain constraints

Due to the strong commitment of the European coordinator from December 2008 until July 2009 for the Salzburg Power line, not all Actions were able to be finalized and will therefore be ongoing tasks for next year.

### Working Group meetings

The 2<sup>nd</sup> "Offshore Industry expert group" and "Working group for offshore/onshore grid development" meetings were held on 29-30 October 2008. There was overall agreement that the European coordinator was bound to discuss practical cases and to deliver clear messages to the political level. He encouraged the group to think about the most urgent questions resulting from the defined Action and to come up with a 'European solution' for Kriegers Flak.

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<sup>5</sup> [http://ec.europa.eu/energy/infrastructure/tent\\_e/coordinators\\_en.htm](http://ec.europa.eu/energy/infrastructure/tent_e/coordinators_en.htm)

<sup>6</sup> COM(2008) 768 final, 13.11.2008

The two expert groups have been merged and the 3<sup>rd</sup> "Working group for offshore/onshore grid development" meeting was held on 5 February 2009. Within the group, two different views were expressed, namely the "small solution – first things first" and the "European solution – investments based on an integrated approach". Also, it was decided that the constraints linked to technical equipment and harmonisation needs were important and should be further addressed.

At the 4<sup>th</sup> Working group meeting held on 30 June 2009, the European coordinator welcomed representatives from the Pentalateral Energy Forum who presented their Working plan on offshore electricity infrastructure. A close collaboration between the Pentalateral Energy Forum and ENTSO-E was asked for by the group.

#### Workshop within the EWEC Conference (17<sup>th</sup> March 2009, Marseille)

The conclusions of the work so far carried out by the Adamowitsch Working Group have been presented during the Conference. This workshop was announced in the European coordinator's first annual report and constitutes an essential deliverable of his work plan 2008/2009.

The results presented highlighted the:

- TSO-base modular design of a North Sea Grid (North Sea Power Wheel concept)
- Need to progress from National to Regional/European solutions including a "To do list" for technical standardisation.
- TSO-based planning of the three-legged interconnector for Kriegers Flak

As conclusion, the accepted facts were:

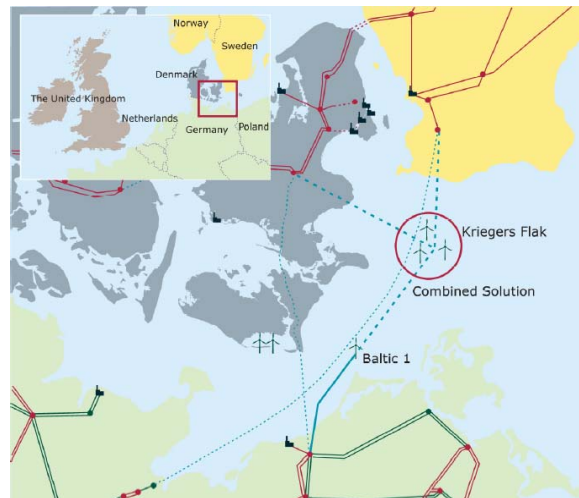
- A crucial feature is that off-shore wind power in Northern Europe is a European project, not limited to coastal states. Thus, an integrated European approach is needed for releasing the full offshore potential.
- Based on national support schemes and national regulation a "first thing – first" local approach is followed at present. It will require additional and costly investments to employ a regional strategy; therefore the fragmented national approach will be very costly to consumers and governments and also lead to an unnecessary burden on the environment.

The coordinator stated that there was clearly one European concept for Kriegers Flak which required decision making at company level as well as at political level, and added that "Kriegers Flak must not fail".

## 2.1. The Kriegers Flak Project (Action 1)

The Kriegers Flak project in the Baltic Sea is a project which has an important role to play to reach the targets the Commission has set for the development of renewable energy.

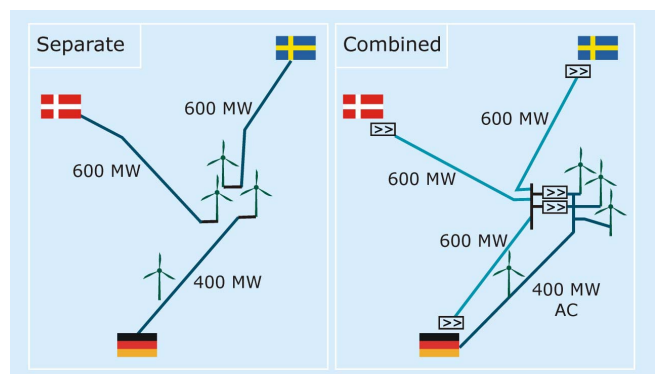
The Kriegers Flak area in the Baltic Sea is well-suited for offshore wind power. In total, a wind power generation capacity of 1 600 MW is being considered in this area situated in the territorial waters of Germany, Sweden and Denmark.



This project provides for the unique opportunity to connect wind power installations by means of an innovative and integrative approach combining the connection of offshore wind power with a significant increase in transmission capacity across the Baltic Sea. It would thus demonstrate that such projects can be carried out at industrial scale applying viable technical, regulatory and commercial solutions. It would therefore constitute an important European precedent.

### Towards a combined solution

During the European Offshore Wind Conference in Berlin on December 2007, Germany, Sweden and Denmark signed a declaration that they will cooperate more closely in wind energy deployment in the North and Baltic Seas. The initiative headed by the European coordinator since the beginning of his mandate, helped the project to go from a national solution towards a combined solution.



German, Swedish and Danish declaration<sup>7</sup>

The pre-feasibility study published in May 2009<sup>8</sup> has shown that the region as a whole is expected to benefit strategically, as well as directly (socio-economically), from a combined solution<sup>9</sup>. On the other hand, it has also shown that besides financial obstacles there were also technical, administrative, regulatory and political ones.

<sup>7</sup> <http://www.erneuerbare-energien.de/inhalt/40570/20214/>

<sup>8</sup> <http://www.energinet.dk/NR/rdonlyres/789F38D3-1296-404C-BD64-EB3E641A51D6/0/KriegersFlakPrefeasibilityReport.pdf>

<sup>9</sup> See figure 1

The three Transmission System Operators (TSOs) concerned, Vattenfall Europe Transmission, Svenska Kraftnät/Vattenfall AB and Energinet.dk, have in principle agreed to this combined solution which in terms of construction costs will be more expensive than separate grid solutions.

### The European Energy Programme for Recovery (EPR)

To facilitate the construction the European Union proposed to financially support the project with the adoption of the Regulation establishing the European Energy Programme for Recovery<sup>10</sup> (EPR) in July which defines the Kriegers Flak project as eligible for funding. The maximum amount allocated for Kriegers Flak being € 150 million.

A joint decision to continue the project needs to be taken before signing the Grant Agreement with the Commission. This decision is to be taken in December 2009 and requires a unanimous commitment from the TSOs concerned.

### The added value of Kriegers Flak

The European coordinator has given his maximum support to this project because he recognised that Kriegers Flak is:

- An innovative, European solution for secure and sustainable energy supply
- Cross-border interconnector with close coordination between the 3 TSOs
- Strengthening of the internal electricity market
- Enabling the use of efficient resources for balancing wind power variability
- Providing simultaneous optimization of interconnection of electricity grids and grid connection of offshore wind power
- Showing the way towards diversification and an increased share of renewable energy in Europe by improving the general potential of large-scale off-shore wind projects
- Technological-based, green solution for creating wealth and jobs in the EU

### Conclusion

The realisation of Kriegers Flak will be the demonstration of full-size and industrial-scale installations using technical, regulatory and commercial solutions with replication potential in the North Sea grid development.

On the advice of the European coordinator, Commissionaire Piebalgs sent in November 2009 a letter to the three national administrations asking for their full cooperation to support the TSO in their country in order to realise this combined solution.

The European coordinator was informed on 13 January 2010 by the Swedish Transmission System Operators, Svenska Kraftnät<sup>11</sup>, that the conditions for a European pilot solution for Kriegers Flak were not met at this stage. Reasons for that are on the one hand the differentiated Swedish offshore policy and on the other hand the missing technical and economic conditions. The European coordinator deeply regrets this decision and will present proposals, which conclusions are to be drawn for the European offshore policy. He will continue next year to closely follow-up the Kriegers Flak project.

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<sup>10</sup> Regulation (EC) No 663/2009 of 13 July 2009, OJ L200, 31.07.2009, p.31.

<sup>11</sup> <http://www.svk.se/Start/English/Press--Information/News/Press-releases/Svenska-Kraftnat-abstains-from-engaging-now-in-a-combined-development-of-Kriegers-Flak/>

## 2.2. Offshore grid development (Action 2 & 5)

### Modular Development of offshore grid

To develop the North Sea offshore grid concept, the Adamowitsch Working group followed a "modular approach", where several modules would complement each other and constitute the future offshore grid.

The group recognized that the main challenges for the TSO's were:

- Onshore connections and reinforcements of the onshore grid;
- Balancing large amounts of wind power;
- Standardization, following a top down approach. This standardisation would be a first step towards a European solution;
- Technical feasibility (R&D project Twenties proposed in the FP7 framework by TSOs).

The European coordinator promoted this concept in all Conferences he went to and tried to convince the stakeholders (Governments, Regulator, TSO's ...) that a European vision of the grid development (offshore as well as onshore) is crucial.

During the Conference in Stockholm (14-16 September 2009), EWEA presented his 20 Year Offshore Network Development Master Plan<sup>12</sup> which follows the "modular approach" taking into account the offshore wind power development and concessions zones (See Figure 2)

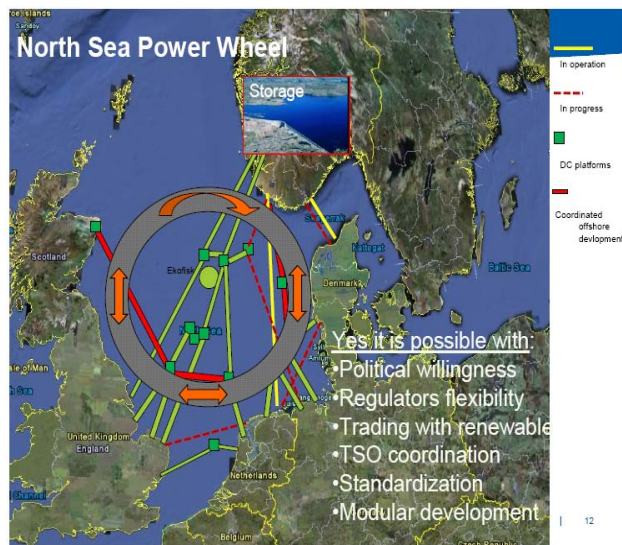
### Technical expertise

As member of the Adamowitsch Work Group, collaboration has been initiated with experts engaged in TradeWind study<sup>13</sup>, the European Wind Integration Study (EWIS)<sup>14</sup>, the on-going WINSPEED project and Offshore Grid<sup>15</sup>, and ENTSO-E<sup>16</sup>.

WINDSPEED is developing a roadmap to the deployment of offshore wind energy in the Central and Southern North Sea taking all spatial marine interactions (i.e. shipping, fishery, ecology, oil and gas) into account. The project will deliver a decision support tool system using geographical information system software. The tool will be available beginning of 2011.

## 2.3. The Regional approach (Action 3 & 5)

The European coordinator has always pleaded for a European solution for the offshore grid development and the regional approach is a very efficient tool. Since his last report, the framework for an efficient North seas grid development has improved.



<sup>12</sup> [http://ewea.org/fileadmin/ewea\\_documents/documents/publications/reports/Offshore\\_Report\\_2009.pdf](http://ewea.org/fileadmin/ewea_documents/documents/publications/reports/Offshore_Report_2009.pdf)

<sup>13</sup> <http://www.trade-wind.eu>

<sup>14</sup> <http://www.wind-integration.eu/>

<sup>15</sup> <http://www.offshoregrid.eu/>

<sup>16</sup> <http://www.entsoe.eu/>

There is a clear political willingness and mandate at the European Commission level to explore the resources of the North Sea and to play a coordinating role. This political desire needs to be consistently transferred to National governments and National regulatory bodies.

### ENTSO-E and ACER

With the adoption in November 2008 of the 2<sup>nd</sup> Strategic Energy Review and in June 2009 of the 3<sup>rd</sup> Internal Energy Market Package, the European Council and Parliament have approved the European Commission's strategy to make the market opening fully effective and create a single EU energy market, and to have a regional approach for the development of a future European transmission grid.

The European coordinator welcomed the creation of ENTSO-E<sup>17</sup> in July 2009. This association will allow him to have a single contact point for the Transmission System Operators, regrouping the former ATSOI, BALTSO, ETSO, NORDEL, UCTE and UKTSOA. One of their main tasks is to provide a 10 Years Network Development Plan (TYNDP) and grid codes.

The system development activities will be organized through regional groups, among which the North Sea Regional Group and the Baltic Sea Regional Group will be the platforms where the offshore grid development issues will be addressed.

The new agency for energy regulators (ACER) which will enter in force in March 2011 replacing ERGEG/CEER<sup>18</sup> will be the new platform for regulatory issue. Currently, a Framework Guideline document on connection of generators to the grid is being prepared as an input for the grid code being elaborated by ENTSO-E.

### Pentalateral Energy Forum

The European coordinator met Mr. Paul Magnette the Belgium Minister for Climate and Energy on 19 June 2009. He emphasised that the Pentalateral Energy Forum is the best structure and example for a regional development and that partnership with all countries around the North Seas should be established.

The Political Declaration of 7 December 2009<sup>19</sup>, initiated by the Pentalateral Energy Forum and signed by the Ministers of the North seas countries (Belgium, Denmark, France, Germany, Ireland, Luxemburg, the Netherlands, Sweden and the United Kingdom) is an important step supported by the European coordinator towards international collaboration.

In this declaration, following objectives were set:

- *Identify national ambitions for offshore renewable energy sources, shortcomings in present and future cross border grid infrastructure developments and national policies on relevant issues which have impacts on the sustainable development of an offshore North Seas grid (incl. maritime physical planning for offshore wind, site selection, grid configurations),*

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<sup>17</sup> European Network of Transmission System Operators for Electricity

<sup>18</sup> [http://www.energy-regulators.eu/portal/page/portal/EER\\_HOME](http://www.energy-regulators.eu/portal/page/portal/EER_HOME)

<sup>19</sup>

[http://www.ewea.org/fileadmin/ewea\\_documents/documents/policy/Offshore\\_Wind/Political\\_declarati\\_on\\_on\\_the\\_North\\_Seas\\_Countries\\_Offshore\\_Grid\\_Initiative.pdf](http://www.ewea.org/fileadmin/ewea_documents/documents/policy/Offshore_Wind/Political_declarati_on_on_the_North_Seas_Countries_Offshore_Grid_Initiative.pdf)

- *Facilitate a coordinated electricity infrastructure development, both offshore and the necessary onshore connections, in view of the large amounts of wind power planned,*
- *Achieve a compatible political and regulatory basis for long term offshore infrastructure developments within the North Seas region,*
- *Foster a joint commitment of all relevant stakeholders to tackle all technical, market, regulatory and policy barriers, and,*
- *Organize a workshop with relevant stakeholders, at the beginning of 2010 to prepare a strategic working plan aiming at coordinating the offshore wind and infrastructure developments in the North Seas and listing the potential actions, studies and issues to be tackled by the North Seas Countries' Offshore Grid Initiative.*

From the point of view of the European coordinator the most important challenges is to find a solution at European level to the regulatory issues for cross-border interconnectors as well as the question of a more market-oriented network adjustment in the transmission area. For this matter, initiatives by the European Commission and the Energy Council have to be taken. Taking into account the Treaty on the Functioning of the European Union (Treaty of Lisbon) and the specified competencies in the energy sector between European Commission, European Parliament and the Member States, a new chapter of European energy policy could tackle these challenges.

If the Belgian Presidency of the European Council, starting on 1 July 2010, would succeed in launching appropriate initiatives in the European Council, conditions for planning and investments of a future integrated European offshore grid in the North and Baltic Seas could be established. The European coordinator would offensively support this process.

#### Commission Blueprint for a North Sea Grid

The 2009 EU Renewable Energy Directive requires Member States to submit National Renewable Energy Action Plan (NREAPs) to the European Commission by 30 June 2010. The NREAPs covers the period 2010-2020 and includes, amongst other things, onshore and offshore wind energy installed capacity. This information will be a major input for the Commission Blueprint with a common vision for a North Sea offshore grid.

#### European coordinator activities (June – November 2009)

Taking into account this new framework, the European coordinator organised on 7<sup>th</sup> September and 19<sup>th</sup> November 2009 joint meetings between Pentilateral, ENTSO-E and Commission. The aim of this group is to deliver substantial outputs by end of March 2010 in order to provide input to the Belgium Presidency.

The ENTSO-E System Development Committee (North Sea Regional Group) started his work by identifying processes and barriers towards the development of an offshore grid. The preliminary results are expressed in point 4 of this report.

In parallel, the European coordinator met the CEER Sustainable Development Task Force and, Electricity Networks and Markets Task Force on the 22<sup>nd</sup> September 2009. CEER was preparing a public consultation document on Regulatory aspects of the integration of Wind generation in European electricity markets. This document will be presented to the Adamowitsch Working Group on the 16<sup>th</sup> December 2009.

## **2.4. Change in EU legislation (Action 4)**

The European coordinator recognises that changes or adaptations in EU legislation will probably be needed to accelerate and facilitate the development of the offshore/onshore grid. His workload didn't allow him to go deeper into the subject in 2009 but he will closely follow the ongoing initiatives in 2010.

### TEN-E programme

In November 2008, the European Commission published a Green Paper "Towards a secure, sustainable and competitive European energy network"<sup>20</sup> to launch the revision of the TEN-E programme. ENTSO-E's TYNDP and the National Renewable Energy Action Plans should contribute to the ongoing work which will lead to the proposal for a new infrastructure instrument by the end of 2010.

### Environmental legislation

The Directorate-General for the Environment is drafting a guidance document on "wind energy development in accordance with EU nature legislation". The purpose is to provide guidance on how best to ensure that wind energy developments are compatible with the provisions of the Habitats and Birds Directives. It focuses in particular on the procedures to follow under Article 6 of the Habitats Directive when dealing with wind farm plans and projects which could affect a Natura 2000 site and provides clarifications on certain key aspects of this approval process in the context of wind farm developments, both onshore and offshore.

The document will contain a summary of the current scientific knowledge regarding the impacts of wind farms on nature.

The European coordinator would like to underline that during the authorisation phase by the competent national authorities of offshore farms and grid, European environmental standards like the Habitats and Birds Directives are already taken into account. Therefore new conditions for permit do not seem necessary.

## **2.5. Onshore grid development (Action 5)**

The onshore and offshore grid development has to be coordinated in time, design, and adequacy of wind power generation and transmission needs.

The TradeWind<sup>21</sup> study finalised in February 2009 and more recently the European Wind Integration Study (EWIS)<sup>22</sup> have concluded that additional risk mitigation measures and reinforcements of the grid needed to accommodate high wind conditions in Northern Europe. The physical power flow patterns in 2015 (figure 3) shows that the central East-West region, the Nordic region and the United Kingdom need urgently to reinforce their onshore grid.

Due to obstacles and challenges regarding grid reinforcement, such as different legal framework between countries, inappropriate length for approval procedures and social acceptance by civil society, the European coordinator pleads for an increase in political support.

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<sup>20</sup> COM(2008)782 ([http://ec.europa.eu/energy/strategies/consultations/2009\\_03\\_31\\_gp\\_energy\\_en.htm](http://ec.europa.eu/energy/strategies/consultations/2009_03_31_gp_energy_en.htm))

<sup>21</sup> <http://www.trade-wind.eu>

<sup>22</sup> <http://www.wind-integration.eu>

### Interconnections German - Poland and Regional initiative

Mr. Adamowitsch has collaborated with Prof. Mielczarski, the European coordinator responsible for the TEN-E projects of European interest Lithuania-Poland link (LitPol link)<sup>23</sup> and Poland-Germany link, on new power interconnections between Germany and Poland

The "First Stakeholder meeting for the Polish-German TEN-Projects" held on the 15<sup>th</sup> of May 2008 in Berlin with Vattenfall Europe Transmission (VE-T) and PSE-Operator was followed by a second meeting in Warsaw on the 24<sup>th</sup> October 2008.

Based on the experience of the Pentalateral Energy Forum, Mr. Adamowitsch proposed to enlarge the German - Polish cooperation to other Central Eastern Europe countries. In April 2009, the German Minister of Economics and technology, together with the Polish Deputy Prime Minister and Minister of Economy, invited Austria, Czech Republic, Hungary, Slovakia and Slovenia to create a Heptalateral Central Eastern Energy Forum. This new regional initiative will strengthen political cooperation between Member States. Finally, the signature of the "Memorandum of Understanding regarding Central Eastern European Forum for Electricity Market Integration" was signed on the margins of the meeting of the Council of the European Union on 7<sup>th</sup> December 2009.

During the "Stakeholder meeting for the Polish-German TEN-Projects" held on the 3<sup>rd</sup> of June 2009 in Berlin, the participants came to the conclusion that a third interconnection between their countries is absolutely necessary to improve the security of supply and the integration of renewable energy sources. Finally, on the 23<sup>rd</sup> of September 2009 in Brussels, a Letter of Intent to create a joint venture company aiming in the preparation of the investment was signed.

### NordBalt Interconnection Project between Sweden and Lithuania

The NordBalt interconnection between Sweden and Lithuania that is currently in the development stage offers a very special opportunity to combine an interconnector with an offshore wind project. Lithuania is facing a severe supply gap because of the shutdown of major generating capacities while being poorly connected Western European Networks. To improve the security of supply, the NordBalt interconnector shall connect the Baltic power market with the Nordic power market from 2016 onwards.

The NordBalt interconnector is planned to pass by the Södra Midjöbanken offshore wind project with tremendous potential at very suitable seabed conditions: about 2,000 MW in water depths between 15 and 30 meters, about 100 kilometers off the Swedish coast. Combining this offshore wind project with the NordBalt interconnector would not only take advantage of substantial cost synergies, but also enable the export of renewable energy between regional markets to support the fulfillment of the 2020 targets in an efficient manner by exploiting the rich offshore wind potentials in the Baltic Sea.

Issues to be solved are the definition of a suitable policy framework for renewables support mechanism and grid regulation between Sweden and Lithuania and to integrate both projects early in the development phase.

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<sup>23</sup> [http://ec.europa.eu/energy/infrastructure/tent\\_e/coordinators\\_en.htm](http://ec.europa.eu/energy/infrastructure/tent_e/coordinators_en.htm)

## **2.6. Financing (Action 6)**

The liberalisation of the European energy market, the development of renewable energies as well as the guarantee of security of supply require new approaches for the financing of infrastructures within the European Union. Without such a view, the European offshore wind generation potential will not be fully exploited.

To establish an efficient, market-oriented and integrated offshore grid in the North and Baltic Seas, three conditions must be achieved:

- 1°) the national development targets and the implementation of the national offshore investments must be transparent and coordinated as possible.
- 2°) the decisions of the national regulatory authorities concerning the payment of a future offshore grid must be made transparently. For cross-border offshore connectors (outside economic areas and national boundaries) new concepts must be developed, which would enable such kind of investments.
- 3°) in order to ensure the financing of an offshore grid, regulatory decisions, taking into account the developments on the financial markets are necessary. The more regulatory decisions moves away from the developments of the interest and capital markets, the higher are the refinancing expenditures. Thus the profitability of the networks can be endangered and therefore the investments private as well as public transmission operator.

The financing of the future European offshore grid will involve significant investments. According to specialists, at least 30 billion € investments in offshore transmission up to 2030 are necessary. Those investments will only be possible if the regulatory regime takes into account the developments of the financial and capital markets.

The current European regulatory system must be accordingly adapted.

### 3. RECOMMENDATIONS / PROPOSALS

#### 3.1. European coordinator

- Personality (availability, access to top level decision makers, independence and impartiality)
- Experience (EU and Regional knowledge, language knowledge)
- Task (clearly defined mandate and objectives, cross-border projects)
- Support (from the Commission and degree of commitment of countries/companies is required)

#### 3.2. TEN-E Programme

- A TEN-E label should be created (no financial support by the EU)
- The authorisation procedures must be facilitated and accelerated for TEN-E projects
- Binding: an infringement procedure must be foreseen if the TEN-E project is not implemented in a certain timeframe

#### 3.3. Grid development

The European Coordinator would like to thank the ENTSO–E Regional Group North Sea and EWEA for their valuable inputs.

##### Political willingness and support

#	Barriers	What could be done to help / Proposals
A1	<p>Political wish to explore the resources of the North Sea exists on EU level.</p> <p>This political desire has not been consistently transferred to National governments and National regulatory bodies.</p> <p>Thus, there is not yet national political will to build a coordinated offshore grid.</p>	<ul style="list-style-type: none"><li>• Clarification needed: where it doesn't exist, the onshore-TSOs should be nominated to be responsible also for offshore grids (e.g. SE, NL, NO, etc...).</li><li>• Intense and clear communication to governments and a public discussion is needed to involve relevant stakeholders more actively.</li><li>• Tasks of Pentalateral Energy Forum<sup>+</sup> (PLEF+)<sup>24</sup>:<ul style="list-style-type: none"><li>- identify responsibilities (who builds an offshore grid?),</li><li>- identify the set of rules (may lines be used for trade when connecting offshore</li></ul></li></ul>

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<sup>24</sup> Pentalateral Energy Forum<sup>+</sup> (PLEF+) includes Belgium, Denmark, France, Germany, Ireland, Luxemburg, the Netherlands, Sweden and United Kingdom

	No clarity concerning responsibility to built offshore grid.	<p>wind? Who announces transmission capacity to the market – e.g. in case of merchant lines?),</p> <ul style="list-style-type: none"> <li>- develop agreements on how to define respective interfaces solving the offshore-task.</li> <li>• National (and local if concerned) Governments must clearly support faster permissions and authorisations processes and coordinate this issue internationally.</li> </ul>
A2	Level of cost	<ul style="list-style-type: none"> <li>• Governments should support anticipatory <sup>(*)</sup> investments by TSOs: i.e. efficient, economic, coordinated, standardized approach.</li> </ul> <p>(*) building some additional capacity aiming at the long-term-plan</p>

### Regulatory Regime

#	Barriers	What could be done to help / Proposals
B1	General	<ul style="list-style-type: none"> <li>• A common regulatory regime should be put in place to incentivise the organisations responsible for wind farm connection (TSOs) and the organisations responsible for planning interconnection (TSOs, market parties) to plan and construct the most economically efficient grid system.</li> <li>• Preliminary assessments of the economic value of the offshore grid indicate that it will bring significant economic benefits to all society</li> </ul>
B2	Risk of stranded investment and costs due to an uncertain future	<ul style="list-style-type: none"> <li>• A “North Seas-Masterplan” should be developed and agreed by all stakeholders (“PLEF+”). The allocation of costs can be addressed there.</li> <li>• Regulators should proactively allow the recovery of costs related to anticipatory investment.</li> </ul>
B3	Volatility, Size and Volume call for proper long-term planning	<ul style="list-style-type: none"> <li>• An international “North Seas-Masterplan” allowing a modular coordinated construction should be developed and agreed by all stakeholders (“PLEF+”).</li> <li>• In a first stage standardization concerning regulatory schemes and technical rules is essential to facilitate later inter-connections.</li> </ul>
B4	No incentive mechanisms for TSO to build the offshore	<ul style="list-style-type: none"> <li>• Common long-term “North Seas-Masterplan” of all stakeholders, which is based on</li> </ul>

	grid	<p>socio-economics, is needed. System adequacy and Grid Implications have to be investigated and compared for different solutions. Iteration with whole process-chain might be necessary.</p> <ul style="list-style-type: none"> <li>• The TSO-costs for (on-and offshore-grids) should be recovered.</li> </ul>
B5	Regulatory framework for interconnectors and offshore transmission are not compatible (Responsibilities to build, own, operate and maintain offshore assets differ)	<ul style="list-style-type: none"> <li>• Regulators should coordinate and develop interfaces between different schemes</li> <li>• Complete harmonisation might in a first step not be necessary, but an alignment of commercial and operational drivers is essential</li> <li>• The Commission / ENTSO-E, “PLEF+” and ACER should propose rules facilitating an offshore grid / new interconnectors in such a context.</li> </ul>
B6	Research & Development (R&D) efforts are internationally not recovered equally	<ul style="list-style-type: none"> <li>• Definition of common treatment (proposals by ENTSO-E Working Group R&amp;D, future task for ACER).</li> </ul>
B7	Allocation of costs varies under current national regulatory frameworks	<ul style="list-style-type: none"> <li>• The allocation of (on- and offshore) grid-costs can be addressed by the Commission / ENTSO-E, “PLEF+”, with ACER being responsible.</li> </ul>
B8	Inconsistency of grid codes	<ul style="list-style-type: none"> <li>• Alignment of security / planning standards and connection rules with special focus on designing an offshore grid (already in Terms of Reference of ENTSO-E / ACER)</li> </ul>

### Design of market rules

Constant cross-border trading on an intraday timescale should be facilitated through implicit auctioning. Where appropriate, specific regional intraday trading solutions should be developed (e.g. harmonized gate closure times, sharing of all bid data among involved Power exchanges, cross-border intraday markets for balancing power could be introduced in Pilot projects)” and “Harmonised standards on information exchange amongst TSOs, generators and traders should be introduced to ensure transparency.”

#	Barriers	What could be done to help / Proposals
C1	Compatibility / clarity needed concerning: <ul style="list-style-type: none"> <li>- National RE subsidy framework schemes do not allow cross-border RE flows and efficient use of capacity</li> <li>- Clarity needed concerning the concept of</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of responsibilities for definition of rules (task for European Commission)</li> <li>• Definition of interfaces or complete harmonisation (between Quota obligation, Tenders, Feed-in tariff) of prioritised grid access for sustainable generation (task for</li> </ul>

	prioritised grid usage for sustainable generation (there are a range of different interpretations of the definition of priority access)	ACER)
C2	Lack of clarity on rules concerning trading and balancing (who gets the CO2-credit for the "international" wind?)	<ul style="list-style-type: none"> <li>• Identification of responsibilities</li> <li>• Definition of interfaces to solve the task</li> </ul>

### Technical solution

#	Barriers	What could be done to help / Proposals
D1	Technical feasibility of multi-terminal HVDC technology and capacity is not proven today	<ul style="list-style-type: none"> <li>• Interconnector development is challenging but achievable (multi terminal technology is not yet proven).</li> <li>• TSOs can only integrate proven technologies into the grid due to system security.</li> <li>• TSO's have to cooperate closer with manufacturers.</li> </ul>
D2	Power control and protection schemes, DC breakers have to be developed	<ul style="list-style-type: none"> <li>• Standardisation of technology</li> </ul> <p>ENTSO-E Working Group R&amp;D is prepared to take action in the cooperation of research activities by the release of an R&amp;D plan. Also thoughts about the "Eurogrid 2020"; and the outcomes of EU's Twenties"- projects deliver input for further R&amp;D developments</p>

### Supply chain

#	Barriers	What could be done to help / Proposals
E1	Supply chain need clear signals before developing the technology and increasing manufacturing capability	<ul style="list-style-type: none"> <li>• A "North Seas-Master Plan" and cooperation on technical solutions and standards together with manufacturers, e.g. in CIGRE</li> </ul>
E2	Financing	<ul style="list-style-type: none"> <li>• EIB should work closely with industry to ensure that cable, substructure and turbine installation vessels are financed to ease supply chain bottlenecks.</li> </ul>

## Infrastructure

#	Barriers	What could be done to help / Proposals
F1	Authorisation process	<ul style="list-style-type: none"> <li>• Governments must speed up the processes for building and construction authorisations, including land planning, with clear criteria, transparent guidelines and deadlines, appropriate appeals mechanisms and the consistent and transparent definition of roles of various authorities</li> <li>• ENTSO-E's TYNDP, the European Commission's Blueprint for a North Sea Grid, the Baltic Energy Market Interconnection Plan and the PLEF+ should all aim for planning and constructing a Trans-National offshore grid infrastructure to connect the predicted 40 GW by 2020, 85 GW by 2025 and 150 GW of offshore wind power by 2030, together with the promotion of trade between electricity markets</li> </ul>

## Maritime Spatial Planning

#	Barriers	What could be done to help / Proposals
G1	Congestions in the North Sea	<ul style="list-style-type: none"> <li>• Member States should be encouraged to develop spatial planning to dedicate areas for offshore wind developments and electricity interconnectors, to send clear positive signals to the industry</li> </ul>

## General challenges

#	Challenges	What could be done to help / Proposals
H1	To plan and build the most efficient and economic grid, clarity of sitting and timing of wind power plants is essential	<ul style="list-style-type: none"> <li>• TSOs are already taking forecasted Wind Power Plant into account as inputs into the TYNDP, but consistent generation (e.g. NREAPs) and exchange scenarios have to be built and agreed by stakeholders before grid planning can be undertaken.</li> <li>• Parallel and coordinated, work of all stakeholders is necessary.</li> </ul>
H2	International coordination of onshore grid and offshore grid development is needed – in time, design and	<ul style="list-style-type: none"> <li>• ENTSO-E already works out a TYNDP</li> </ul>

	adequacy of generation and transmission needs	<ul style="list-style-type: none"> <li>• From the comparison of the TYNDP with the June 2010 National Renewable Action Plan (NREAPs), a number of test cases should be taken forward.</li> <li>• Permissions and authorisations should be faster, improved communication between neighbouring Member states is necessary, coordination is urgently needed.</li> <li>• Existing mechanisms could be used as they are or after being slightly reviewed to support this set of projects (TEN-E for instance)</li> </ul>
H3	Public awareness on relation “CO2-target – wind energy – transmission lines” is missing	<ul style="list-style-type: none"> <li>• Communication and acceptance needed.</li> </ul>

### 3.4. Others

#### Health & Safety standards across Europe

#	Barriers	What could be done to help / Proposals
I1	Different Health & Safety standards across Europe hamper realization of projects and suppress use of best practice	<ul style="list-style-type: none"> <li>• Elaborate best practice standards as a recommendation for EU member states involving the offshore industry and offshore wind developers</li> </ul>

#### Port infrastructure for storage and pre-assembly

#	Barriers	What could be done to help / Proposals
J1	Port capacity is far too low for future offshore wind development in large-scale. Only few ports in Europe provide the necessary storage space for large-scale and the suitable equipment (e.g. cranes) for the pre-assembly of offshore wind equipment	<ul style="list-style-type: none"> <li>• EU development plan for port infrastructure with best practice criteria and requirements derived from realized and currently developed projects, combined with suitable funding. This offers a unique opportunity to support the offshore wind industry</li> </ul>

#### 4. CONCLUSIONS AND WORK PROGRAMME 2010

The European coordinator promoted a **European vision** of an integrated offshore and onshore grid development in order to create a functioning electricity market integrating renewable energy.

To achieve this European vision, political willingness and support is required, market rules needs to be defined and technical solutions must to be found. A joint commitment of all stakeholders is necessary to overcome the identified barriers.

The Pentalateral Energy Forum<sup>+</sup> will play a major role in the development of offshore wind energy in the North Seas. Together with ENTSO-E and ACER, they will have to ensure that national Transmission System Operators, Regulators and Governments **move from national thinking to European thinking** and approaches. International solutions (“North Seas-Masterplan”) have to be developed and the permission procedures for transmission grids, both, on- and offshore, have to be accelerated.

##### Way Forward

The European coordinator will liaise closely with the Pentalateral Energy Forum<sup>+</sup>, the Regulators and ENTSO-E (Regional Group North Sea and other relevant Working Groups). Contacts with the European Investment Bank (EIB) will be established.

He will make sure that national solutions which differ to EU-requirements will be coordinated internationally. For example, rules challenging each other like open market versus priority of renewable energies and different support schemes must be clarified. The EU-priority must be discussed and communicated to the national governments and regulators and motivate them to cooperate. He will ensure that the main deliverables foreseen (Ten Year Network Development Plan, Blueprint for a North Sea Offshore Grid, TEN-E Instrument, European Energy Regulators work programmes for 2010, ...) will facilitate planning and building of new infrastructures.

In addition, the following main topics could be examined:

- Development of a cost-recovery mechanism to support anticipatory investments of Transmission System Operators towards a long-term offshore grid;
- Help to promote standardized approach (regulatory rules and techniques) to a modular solution by supporting ENTSO-E Research & Development Work program;
- Raise public awareness on the relation “CO2-target – Wind energy – Infrastructure”.

##### Role of the Working Group

The Working Group should continue to ensure an active cooperation between the Administrations, Regulators and Transmission System Operators on one side and the industry and financial parties on the other side. The group will continue to support ongoing studies and will liaise R&D projects like the European Wind Initiative, the TWENTIES project and the European Grid Initiative to provide support for their coordination.

The group could provide “independent” inputs and advices on the way to remove the identified barriers.

##### Work programme 2010

As stated before in the report, not all 2009 Actions were completed. For this reason certain actions were included in the Work programme 2010.

- Action 1: Promote the development of the offshore grid in the North Sea in modular form

The European coordinator will take forward the principles behind the combined solution for the Kriegers Flak project as "best practise case" and apply them to other infrastructure developments like for example Norway/UK interconnector, NordLink or NorGer.

- Action 2: Clarify the role of the regulators for specific offshore and onshore projects

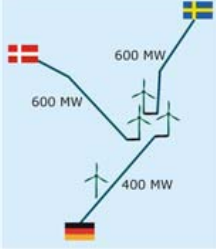
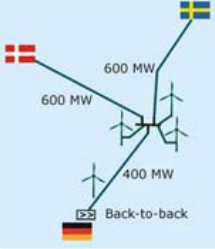
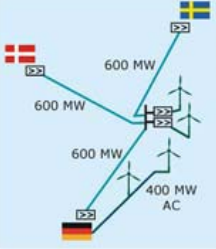
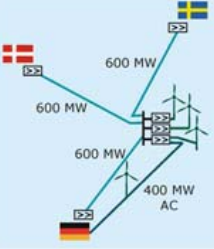
The Regulatory aspects of the integration of wind generation in European electricity markets have to be clarified to facilitate the deployment of wind generation and market integration.

- Action 3: Analysis of possible changes to EU legislation for shortening the authorisation process.

In view of sustainability there is a need to adapt environmental law to facilitate the realisation of sustainable energy installations and related transmission lines; this includes considerations for adequate and timely integration of the public concerned.

- Action 4: Financial issues and proposals for boosting infrastructure investments and the industry chain constraints

**Figure 1: Kriegers Flak Options with social-economic benefit analyse**

	(A) Separate, national grid connection of wind power plants	(B) Combined solution based on AC technology	(C) Multi-terminal, VSC-based HVDC solution (without Kriegers Flak 1)	(D) Hybrid solution combing (C) and AC-connection for Kriegers Flak 1
Concept				
Type of solution	Separate	Combined	Combined	Combined
Max. power exchange capacity: Nordel-UCTE	0	400 MW	600 MW	1000 MW
Additional cost of construction for a combined solution*	-	+ 130 M€	+ 245 M€	+ 300 M€
Costs for internal reinforcements, maintenance and losses	Not included			
Total Investment*	> 500 M€	> 630 M€	> 745 M€	> 800 M€
Socio-economic benefit from increased day-ahead trading**	-	38 M€/y	72 M€/y	95 M€/y

\* Costs for platforms are not included  
 \*\* This is a potential benefit - calculated under the assumption that German legislation does not limit day-ahead trading

Figure 2: EWEA's 20 Year Offshore Network Development<sup>25</sup>



- Currently operating offshore cable    ■ Under construction or planned offshore cable    ■ Under study by TSO
- Under study by TSO/EWEA recommendation    ■ Proposed by EWEA in the 2020 timeframe
- Proposed by EWEA in the 2030 timeframe    ⚡ Proposed offshore node    ■ Concession and development zones

[www.ewea.org](http://www.ewea.org)



<sup>25</sup> Source: EWEA/La Tene Maps (Oceans of opportunities – September 2009)  
[http://ewea.org/fileadmin/ewea\\_documents/documents/publications/reports/Offshore\\_Report\\_2009.pdf](http://ewea.org/fileadmin/ewea_documents/documents/publications/reports/Offshore_Report_2009.pdf)

Figure 3 Physical power flow patterns in 2015<sup>26</sup>.

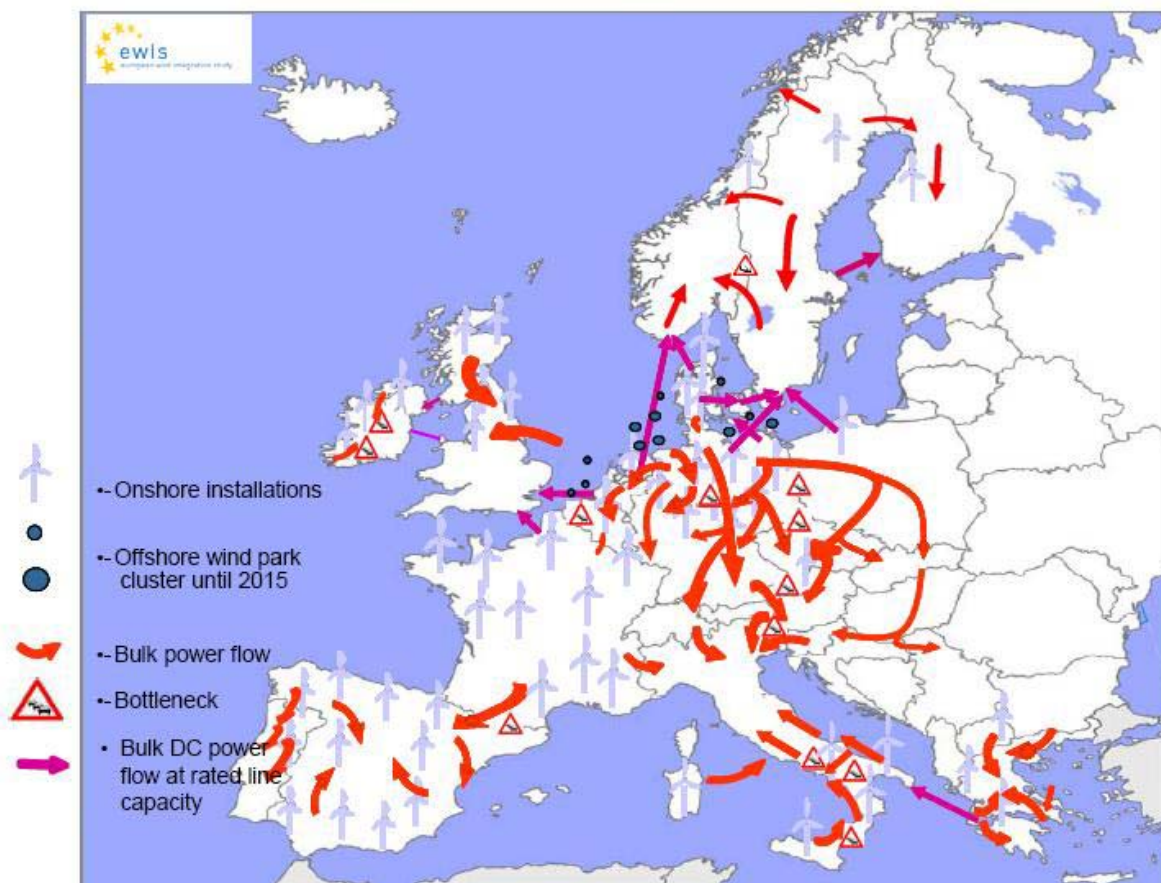


Figure 4-2 Illustration of 2015 physical power flow patterns

<sup>26</sup> This map is taken from the intermediate result of the EWIS study

### Annex 1: List of events / persons met

#### "Salzach neu (AT) – Tauern (AT) line"

Date, Place	Event / Main contacts	Objective
<b>2008</b>		
10/11, Brussels	<b>Commissioner A. Piebalgs</b> Wolfgang Kerner	Discussion for additional coordination of the "Salzburgleitung"
26/11, Brussels	<b>Commissioner A. Piebalgs</b> Gabi Burgstaller, Salzburg Landeshauptfrau Josef Eisl, Christoph Gappmaier, Salzburg Landesrat Andreas Kiefer, Leiter Landes-Europabüro Michaela Petz-Michez, Director Salzburg Verbingungsbüro zur EU Wolfgang Kerner	Mandate for coordination of the "Salzburgleitung" is given to Mr. Adamowitsch
17-18/12, Salzburg	<b>Discussion With members of the Salzburg Landesregierung, stakeholder such as society and environment, technology and business, technical and legal experts</b> Gabi Burgstaller, Salzburg Landeshauptfrau Sprechern von Bürgerinitiativen, Bürgermeinster and Salzburger Landesumweltanwaltschaft Representatives of the Salzburg AG, Interrrensvertretung (Wirtschaftskammer, Industriellenvereinigung, Arbeiterkammer)	Set the frame for the mediation task of the European coordinator, develop contacts and start detailed discussions with citizens / groups / organisations
19/12, Vienna	<b>Dr. Mittelehner, Wirtschafstminister</b> Mr. Boltz, E-Control Mr. Anzengruber, Verbund APG	Discussion between government, regulator and TSO representatives
<b>2009</b>		
09-10/02, Vienna	<b>DI W. Boltz, Director of E-Control</b> <b>Meeting with Verbund APG</b>	Set the frame for the mediation task of the

	<p>Mr. Karall, Mr. Christiner, Mr. Keller, Mr. Helmel, Mr. Tamerl, Mr. Lugschitz Reich</p> <p><b>Site visit of a cable</b></p> <p>Mr. Maier</p> <p><b>Univ.-Prof. Dr G Lienbacher</b></p>	<p>European coordinator</p> <p>Develop further contacts</p> <p>Prepare factual discussion with citizens and groups / organisations / stakeholders concerned</p>
23-24/03, Salzburg	<p><b>Mediation visits for the "Salzburgleitung"</b></p> <p>Monika Schwaiger (Seekirchen), Greisberger (Eugendorf), Wolfgang Ganzenhuber (Plainfeld), Rupert Reischl (Koppl), Discussion with the local citizens (Eugendorf - Gastwirt)</p> <p>Tiefenbacher (Elsbethen), Klose (Puch), Auer (Adnet), Sartori (Bad Vigaun), Kaufmann (Golling), Dürnberger (Oberalm), Anzengruber (Hallein)</p> <p>Discussion with local citizens (Anif – Hubertushof)</p>	<p>Start detailed discussions with the majors of the municipalities concerned by the power line</p> <p>Have "Information sessions – discussions" with citizens, groups / organisations, stakeholders concerned</p>
27/04, Salzburg	<p><b>Mediation visits for the "Salzburgleitung"</b></p> <p>Meißl Franz (Werfen), Jakob Rohrmoser (Bischofshofen), Günther Mitterer (St Johann), Sebastian Pirnbacher (St Veit)</p> <p>Discussion with local citizens (Bischofshofen)</p>	<p>Detailed discussions with the majors of the municipalities concerned by the power line</p> <p>Have "Information sessions – discussions" with citizens, groups / organisations, stakeholders concerned</p>
28/04, Vienna	<p><b>Mediation visits for the "Salzburgleitung"</b></p> <p>Mr. Anzengruber (Präsident APG Verbund)</p> <p>SCH Dipl.-Ing. Mag. Dr. Alfred Maier (Bundesministerium für Wirtschaft, Familie und Jugend), Dr. Matthias Neubauer (Bundesministerium für Wirtschaft, Familie und Jugend), Mag. Christina Fürnkranz (Industriellenvereinigung), Mag. Christina Kramer (Wirtschaftskammer Österreich), Dr. Stephan Schwarzer (Wirtschaftskammer Österreich), Mag. Dorothea Herzele (Arbeiterkammer), Professor Norbert Nischkauer (Österreichischer Gewerkschaftsbund)</p> <p><b>Dr. Reinhold Mittlehner (Minister für Wirtschaft, Familie und Jugend)</b></p> <p>SCH Dipl.-Ing. Mag. Dr. Alfred Maier (Bundesministerium für Wirtschaft, Familie und Jugend), Dr. Matthias Neubauer</p>	<p>Have a dialogue with the various stakeholders: major, citizens, social partners, Verbund APG and local national authorities</p> <p>Announcement that the final report to the Commission, European Parliament, national and local Austrian authorities will be available for July 2009. A new and innovating routing proposal will be a main outcome of the report</p>

	(Bundesministerium für Wirtschaft, Familie und Jugend), Mag. Gerhard Langeder, Dipl.-Ing. Dr. Tahir Kapetanivoc (E-Control)	
08-09/06, Salzburg	<p><b>Mediation visits for the "Salzburgleitung"</b> Hans Mayr (Goldegg), Franz Wenger (Taxenbach), Herbert Reisinger (Bruck), Leonhard Madreiter (Fusch), Norbert Karlsböck (Kaprun), Discussion with local citizens (Goldegg)</p> <p><b>Gabi Burgstaller (Landeshauptfrau)</b> Wilfried Haslauer und David Brenner (Landeshauptmann-Stellvertreter), Sepp Eisl, Walter Blachfellner, Doraja Eberle und Erika Scharer (Landesrat/Landesrätin)</p> <p><b>SPÖ Landtagsklub</b> Hans-Peter Lacher - Politischer Referent</p>	<p>Detailed discussions with the majors of the municipalities concerned by the power line Have "Information sessions – discussions" with citizens, groups / organisations, stakeholders</p> <p>Inform the political actors on the progress of the mediation</p>
01/07, Salzburg	Route visit around Salzburg	Find an alternative route for the "Salzburgleitung"
6-7/07, Leipzig	Redaction of the Salzburg report	First draft of the final report
20/07, Düsseldorf	<p><b>Meeting with KEMA</b> Mr. Gunnar Heymann (Managing Director), Mr. Jörg Zillmer (Principal Consultant Power Projects) Mr. Kees-Jan van Oeveren (Market Issue Leader Power Projects) and Mr. Frank de Wild (Consultant), KEMA Arnhem</p>	To discuss some specific points of the KEMA study made in the context of the "Salzburgleitung"
23/07, Salzburg	<p><b>Presentation of the final report of the "380kV Salzburgleitung"</b> Landesregierung, Landtag Salzburg, Press conference, ORF interview, Majors, Verbund APG and social partners</p>	End of Mr. Adamowitsch coordination work

**"Connection to offshore wind power in Northern Europe (North Sea – Baltic Sea)"**

Date, Place	Event / Main contacts	Objective
<b>2008</b>		
06/10, Brussels	<b>Visit of Mr.Adamowitsch to DG TREN</b> Mr. Vinois DG TREN, HoU Energy Policy & Security of Supply	Discussion on the release of the first annual report
07-08/10, Malmö	<b>International Conference "VIND2008"</b> Representative of the Swedish government Prof. Zervos, EWEA - Mr. von Uthmann, Vattenfall – Mr. Martensen, Vestas – Mr. Fjelde, Airtricity Wolfgang Kerner	Key note speech entitled "Integration of offshore wind power in Northern Europe"
29/10, Brussels	<b>Offshore Industry expert group – 2nd meeting</b> Fawaz Al Bitar, Gernot Blanke, Peter Wibæk Christensen, Paul Cooley, David De Jager, Dolf Elsevier Van Griethuysen, Nicolas Fichaux, Hermann Gangl, Werner Götz, Dorte Buus Jensen, Kaj Lindvig, Filip Martens, Andrew Oldroyd, Hans Vandenbroucke, Bo Normark, Frauke Thies, Annemie Vermeulen, Karina Veum, Andreas Wagner, Justin Wilkes	Experts from offshore industry and developers report on test sites and ongoing studies exemplifying the risks, obstacles and barriers related to offshore power generation and transmission
30/10, Brussels	<b>Working group for Offshore/onshore grid development – 2nd meeting</b> Bas Batelaan, Peter Wibaek Christensen, Paul Cooley, David Densley, David de Jager, Thorsten Dietz, Imar Doornbos, Carsten Dovland, John Greasley, Kjartan Hauglum, Philip Hicken, Wil Kling, Hanne Kortegaard Nielsen, Antje Gesa Orths, Rüdiger Reinisch, Gert Schwarzbach, Albrecht Tiedemann, Frauke Thies, Frans van Hulle, Hans Vendenbroucke, Jean Verseille, Tina Wildeboer	Open and transparent discussion of offshore/onshore grid planning issues & Development of data and analysis delivered to the timely implementation of the electricity network connecting offshore renewables
<b>2009</b>		
15/01, Brussels	<b>Visit of Mr.Adamowitsch to DG TREN</b> Mr. Ruete, Director-General	European Economic Programme for Recovery

	Mr. Jones, Director D Mr. Kerner	Blue print of the offshore grid
26/01, Glasgow	<b>Jim Mather, Minister for Enterprise, Energy and Tourism</b>  <b>Scottish Renewables Grid Conference</b>	Set the frame for collaboration for the offshore grid development  Presentation entitled “Integration of offshore wind power in Northern Europe”
27/01, Edinburgh	<b>Alex Salmond, First Minister</b>	Scottish position on renewable energy, in particular on offshore power generation and transmission Joint press statement
05/02, Brussels	<b>Working group for Offshore/onshore grid development – 3rd meeting</b> Alain Baron, Niels Ladefoged, Andrea Hercsuth, Stefan Tostmann, Jean-Marie Bemtgen, Loic Blanchard, Achim Woyte, Bo Normark, Bas Batelaan, Paul Cooley, Dolf Elsevier van Griethuysen, Viola Rocher, Natalie McCoy, Nailia Dindarova, Annemie Vermeulen, Albrecht Tiedemann, Philip Hicken, David De Jager, Jan Verbeeck, Hanne Kortegaard Nielsen, Ole Graabaek, Antje Orth, Thorsten Schneiders, Guido Fricke, Christian Schneller, Ritva Hirvonen, Sven Prochaska, Michael Hogan, Nicolas Fichaux, Franz Van Hulle, Justin Wilkes, Kedar Kolharkar, Wilhelm Winter, Claude Adams, Fawaz Al Bitar, Frauke Thies, Jürgen Lange, Aoife Crowe, Tilman Schwencke, Imar Doornbos, Ton Sledsens, Jean Verseille, Colin Imrie, Michael McElhinney, Hermann Gangl, Hermann Koch, Carsten Dovland, Kjartan Hauglum, Han Van Asten, Jan Van Den Berg, Tina Wildeboer, Rüdiger Reinisch, Peter Wibaek Christensen, Karina Veum, Jean-Philippe Denruyter, Philip Hicken, Achim Berge	Grid development  Two groups Industry Stakeholders & Offshore / Onshore grid development were merged  Programme for the workshop held on 17 March within the EWEV Conference in Marseille
04/03, Düsseldorf	<b>Visit of Mr. Adamowitsch to E.ON</b> Gert von der Groeben, Vera Brenzel, Michael Gerech	E.ON plans concerning Renewable Energy

	Dr. Thorsen Schneiders, Thorsen Dietz, Dr. Christian Schneller	Sources Obstacles to investments
16-18/03, Marseille	<b>EWEC 2009 Conference</b> Presentations made by: Ms Antje Orths (Energinet.dk) Mr. Rüdiger Reinisch (Vattenfall Europe Transmission) Mr. Kjartan Hauglum (Statnett) Ms Paolo Bresesti (EIB)	Workshop to disseminate the main results of the coordinator's activities and of the working group analysis. It focused on Kriegers Flak and the modular grid development (North Sea Power wheel concept)
03/04, Brussels	<b>Visit of Mr. Adamowitsch to DG TREN</b> Mr. Ladefoged Mr. Kerner, Mr. Bourrel	Working session – Handover from Mr. Kerner to Mr. Bourrel
07/05, Brussels	<b>Visit of Mr. Adamowitsch to DG TREN</b> Mr. Vinois, HoU C1, Mr. Bourrel	Working session and planning before the summer break
15/05, Stockholm	<b>Power Circle Conference</b> Mr. Stig Göthe, Ms Viveka Wahlstedt, Mr. Frans van Hulle, Mr. Thomas Kaberger, Mr. Matthias Rapp, Mr. Sture Larsson	Presentation of Mr. Adamowitsch titled "Coordination of the European electricity Grids, What is possible and plausible?"
19/06, Brussels	<b>Paul Mquette, Minister for Climate and Energy</b> Mr. Philippe Detheux, Mr. Stéphane Marchand, Ms Nancy Mahieu  <b>Visit of Mr. Adamowitsch to DG TREN</b> Mr. Ruete, Director-General	Pentalateral Energy Forum initiative and draft "Working plan proposal on offshore electricity infrastructure"  Activities report
25/06, London	<b>BWEA Conference</b> Mr. Adam Bruce  <b>Lord Philip Hunt , Minister of State, Department for Energy and Climate change</b> Mr. Tim Abraham, Mr. John Overton	Presentation of Mr. Adamowitsch  Be informed on the United Kingdom offshore grid development policy
30/06, Brussels	<b>Working group for Offshore/onshore grid development – 4th meeting</b> Niels Ladefoged, Patrick Bourrel, Bas Batelaan, Georg Brodach, Ola Carlson, Peter Wibæk Christensen, Paul	Grid development

	Cooley, Joe Corbett, Alexandre Courcambek, Frederik Deloof, Philippe Detheux, Imar Doornbos, Dolf Elsevier van Griethuysen, Nicolas Fichaux, Holger Gassner, Ton Geul, Elizabeth Giraut ruso, Kjartan Hauglum, Klaus Hemberger, Andrea Kaszenski, Hans Erik Kristoffersen, Frank Krummer, Markus Lang, Pierre Lestienne, Nancy Mahieu, Raul Manzanos, Stéphane Marchand, Bo Normark, Antje Orths, Robert O'Rourke, John Overton, Rüdiger Reinisch, Thorsten Schneiders, Etienne Serres, Ton Sledsens, Sebastian Schüssler, Tilman Schwencke, Erik Kjær Sorensen, Chanthira Srikandam, Jan Verbeeck, Jean Verseille, Andreas Wagner, Paul Wilczek, Justin Wilkes, Achim Woyte	Interaction with Regulators  New ENTSO-E organisation
07/09, Brussels	<b>1<sup>st</sup> Meeting with Pentalateral and ENTSO-E</b> Mr. Detheux, Mr. Marchand Mr. Verseille, Mr. van Biert, Mr. Luther, Mr. Hauglum, Ms Orths, Ms Korteggard Nielsen, Mr. Verbeek, Mr. Berger Mr. van Steen, Mr. Ladefoged, Mr. Supponen, Mr. Bourrel	Outcome of Adamowitsch Working Group meeting on 30 June 2009  Grid development issues Create a Working platform
14-16/09, Stockholm	<b>EWEA Conference (VIND 2009)</b> Mr. Richert (Swedenegy) Mr. Larsson (Svenska Kraftnät) , Mr. Keussen (E.ON Netz) Mr. Schiel (VDMA)	Presentation of Mr. Adamowitsch titled "Kriegers Flak - A model for an European offshore grid" Panel discussion on grid development
22/09, Brussels	<b>CEER</b> Mr. Martin Crouch (UK, Ofgem), Ms Siobhan Carty (UK, Ofgem), Ms Angelika Barann (DE, Bnetza), Ms Anna Carlsson, Mr. Gabriel Hanna and Mr Johan Carlsson (SE, Energy Markets Inspectorate), Ms Aoife Crowe (IE, CER), Mr. Bart DeWaele (BE, CREG), Ms Ritva Hirvonen (FI, EMVI), Mr. Jose Miguel Unsiön Rodriguez (ES, CNE) Mr. Ladefoged, Mr. Bourrel	CEER Sustainable Development Task Force and Electricity Networks and Markets Task Force presented their objectives and Work Plan for 2009/2010  The integration of wind generation in European electricity markets and the role of the regulators
12/10, Helsinki	<b>Energy Market Authority</b> Ms Sihvonen-Punkka (EMA Director-General and ERGEG Chairman of the Electricity Working group), Mr. Paananen Mr. Holttinen (WPD Finland), Mr. Ruusunen (Fingrid)	Regulatory issues  Network development in Finland

27/10, Brussels	<b>Commissioner A. Piebalgs</b> Mr. Ruete, Director-General	Support to Kriegers Flak project
19/11, Brussels	<b>2<sup>nd</sup> Meeting with Pentalateral and ENTSO-E</b> Mr. Hensmans, Mr. Marchand Mr. Luther, Mr. Herz, Ms Orths, Mr. Verbeek Mr. Bourrel	Processes and identified barriers towards the creation of an Offshore Grid

### "Germany – Poland new interconnector"

Date, Place	Event / Main contacts	Objective
<b>2008</b>		
24/10, Warsaw	<b>Second Stakeholder meeting for the Polish-German TEN-E project</b> PSE-O: Mr. Andruszkiewicz, Ms. Wasiluk-Hassa, Mr. Dudzik, Mr. Szwed, Ms. Sankowska VE-T: Mr. Neldner, Mr. Erbring, Mr. Reinisch, Mr. Kranhold EC; DG TREN + EU Coordinators: Mr. Adamowitsch, Mr. Mielczarski, Mr. Kerner, Mr. Schwartz German Regulator: Ms. Thomaschki, Mr. Mueller Polish Regulator: Mr. Kowalak, Mr. Gawin, Mr. Biedrzycki German Ministry of Economy: Mr. Pape, Ms. Inka Meyer-Lueerssen Polish Ministry of Economy: Mr. Waldemar Łagoda	Follow-up of the Polish-German stakeholder cooperation initiated in May 2008 in Berlin  Report on the discussion between VE-T (DE TSO) and PSE (PL TSO) on the grid interconnection between Germany and Poland
<b>2009</b>		
11/03, Brussels	<b>Visit of Mr. Adamowitsch to DG TREN</b> Mr. Ruete, Director-General Mr. Vinois, HoU C1 Mr. Kerner, Mr. Bourrel	Status of the work carried out and suggestions for future coordination of the DE-PL interconnections
03/06, Berlin	<b>Third Stakeholder meeting for the Polish-German TEN-E project</b>	

	<p>Mr. Adamowitsch, Prof. Mielczarski Mr. Bourrel, Mr. Schwartz</p> <p>German delegation: Dr. Mühl, Dr. Frass, Dr. Genz and Ms. Meyer-Lüerssen (Federal Ministry of Economics and Technology), Mr Neldner and Mr. Kranhold (Vattenfall Europe Transmission GmbH), Dr. Thomaschki and Mr. Zerres (Federal Network Agency for Electricity, Gas, Telecommunications, Postal Service and Railways)</p> <p>Polish delegation: Mr. Majchrzak (Ministry of Economy), Mr. Andruszkiewicz (PSE Operator S.A.), Dr. Gawin and Mr Kowalak (Energy Regulatory Office)</p>	<p><u>Policy issues:</u> Strengthening of power links between Germany and Poland Improvement of the security of supply and functioning of the internal market</p> <p><u>Way to proceed:</u> Establishment and financing of a Project Development Company (PDC) by the German and Polish Transmission System Operator (TSO)</p>
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