

Offshore Connectivity and European Energy Policy

Berliner Energietage 2010



Directorate-General
for Energy



**Mr. Georg Wilhelm Adamowitsch,
European Coordinator**

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

● The 3 challenges

Competitiveness

- Internal Market
- Interconnections
- **European electricity and gas grid**
- Research and innovation

Clean coal
Carbon capture and storage
Alternative fuels
Energy efficiency
Nuclear

- **Renewable** energy
- Interconnections
- Energy **efficiency**
- Nuclear
- Research and innovation
- Emission trading

FULLY
BALANCED
INTEGRATED
AND
MUTUALLY REINFORCED

Sustainable Development

Security of supply

- International Dialogue
- European stock management (oil/gas)
- Refining capacity and **energy storage**
- **Diversification of sources and routes**
- Interconnections

“In Spirit of Solidarity
between Member States”

European Energy Policy



- Competitiveness
- Sustainable Development
- Security of supply



Energy Policy for Europe (1st Strategic Energy Review)



Energy and Climate Change Package

European Energy Programme for Recovery

Energy Security & Infrastructure Instrument

A European Strategic Energy Technology Plan (SET-Plan)



2nd Strategic Energy Review



3rd Internal Energy Market Package



Energy Infrastructure Package

Directorate-General for Energy

2007 March
(Jan. 2007)

2007 November

2009 February
(Nov. 2008)

2009 April
(Jan. 2008)

2009 June
(Sep. 2007)

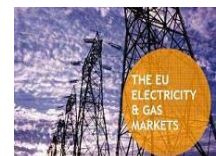
2009 July
(Nov. 2008)

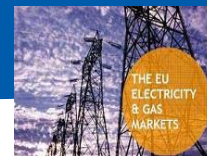
2010 November
2011 Spring



● Outcome of the European Policy Offshore

- Directive of Renewable Energy (binding targets to reach 20% by 2020)
 - » National Renewable Action Plan (June 2010)
- Energy Market Directives (Unbundling, ENTSO-E, ENTSO-G and ACER)
 - » 10-Year Network Development Plan (March 2010)
- Financing
 - » €565 million for offshore projects
 - » €925 million for electricity infrastructure
- Intelligent Energy Europe Programme
 - » OffshoreGrid study (<http://www.offshoregrid.eu>)

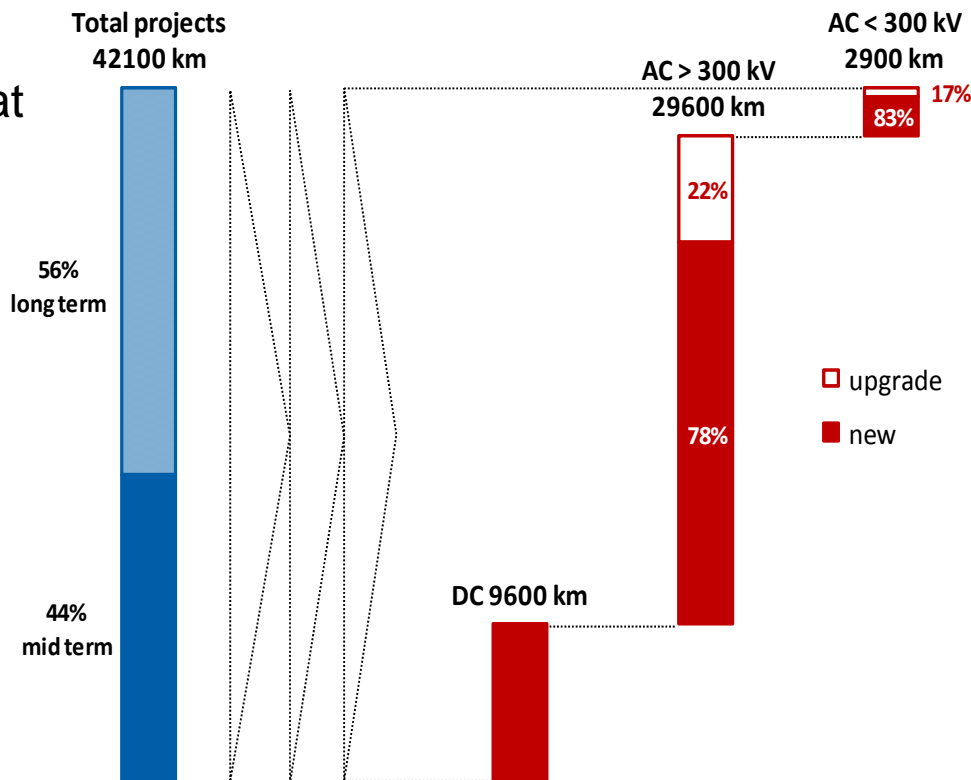




Pilot TYNDP delivers Source: entsoe

Transmission investment projects that answer the three pillars of EU energy policy:

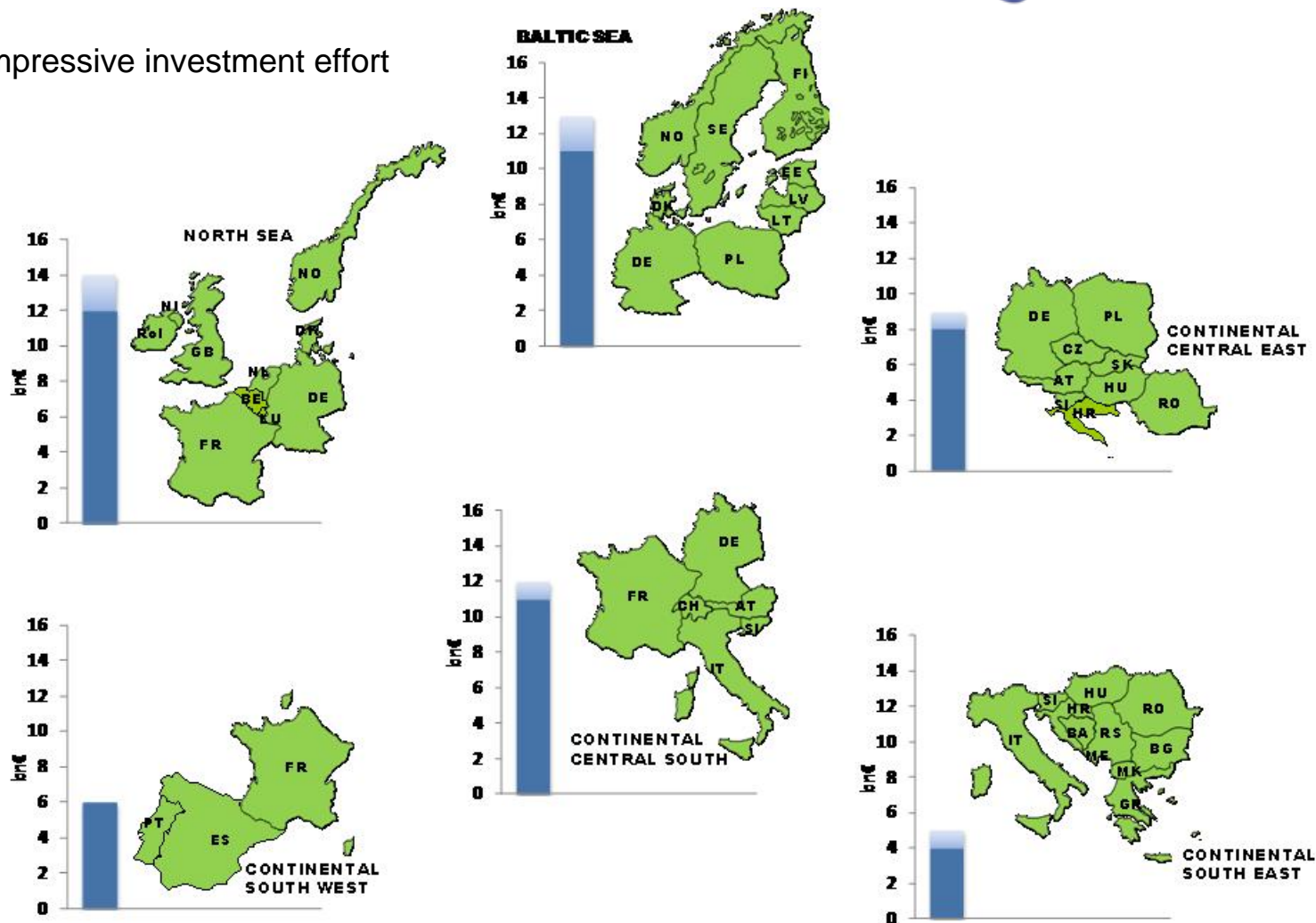
- » Security of Supply
- » Integration of RES
- » The completion of the IEM



Demonstrating the beneficial network effect ...

Pilot TYNDP delivers Source: entsoe

... and an impressive investment effort



Energy Programme for Recovery

- List of Offshore Wind Energy (OWE) Projects (5)

| Project | Countries concerned | Amount M€ |
|--|---|------------|
| Baltic – Kriegers Flak I, II, III | Denmark, Sweden, Germany | 150 |
| North sea grid | United Kingdom, The Netherlands, Germany, Ireland, Denmark, Belgium, France, Luxembourg | 165 |
| Borkum West II – Bard 1 Nordsee Ost – Global Tech I | Germany | 200 |
| Aderdeen offshore wind farm | United Kingdom | 40 |
| Thornton Bank | Belgium | 10 |
| TOTAL | | 565 |

Offshore capacity

Source:  OffshoreGrid

| Country | Total OffshoreGrid | | |
|----------------------------|--------------------|---------------|----------------|
| | 2020 | 2020-2030 | 2030 |
| Belgium | 1.994 | 1.800 | 3.794 |
| Denmark | 2.329 | 1.470 | 3.799 |
| Estonia | 0 | 1.600 | 1.600 |
| Finland | 590 | 2.600 | 3.190 |
| France | 2.510 | 2.404 | 4.914 |
| Germany | 10.249 | 16.304 | 26.553 |
| Ireland | 1.055 | 2.725 | 3.780 |
| Latvia | 0 | 900 | 900 |
| Lithuania | 0 | 1.000 | 1.000 |
| Netherlands | 4.622 | 7.500 | 12.122 |
| Norway | 957 | 8.710 | 9.667 |
| Poland | 500 | 4.800 | 5.300 |
| Russia | 0 | 500 | 500 |
| Sweden | 2.983 | 7.539 | 10.522 |
| UK | 15.303 | 22.843 | 38.146 |
| Total Northern EU | 42.135 | 73.485 | 115.620 |
| Total Baltic and North Sea | 43.093 | 82.695 | 125.787 |

| Sea | 2020 | 2020-2030 | 2030 |
|--------------------|-------|-----------|-------|
| North Sea | 27309 | 48557 | 75866 |
| Baltic Sea | 6891 | 21696 | 28587 |
| Kattegat | 501 | 0 | 501 |
| Irish Sea | 5882 | 6963 | 12845 |
| English Channel | 2510 | 2050 | 4560 |
| Atlantic (Ireland) | 0 | 100 | 100 |
| Bay of Biscay | 0 | 1354 | 1354 |
| Norwegian Sea | 0 | 1975 | 1975 |



Governmental initiative

North Seas Countries' Offshore Grid Initiative

- Political declaration of 9 countries (7 December 2009)
 - » Belgium, Denmark, France, Germany, Ireland, Luxembourg, the Netherlands, Sweden and the United Kingdom
 - » Joint by Norway on the 2nd February 2010
- Nomination of Wind Coordinator (February 2010)
- Mains issues to be addressed
 - » Offshore Grid configuration/integration
 - » Regulatory issues
 - » Market
 - » Planning & Authorisation procedures
- Memorandum of Understanding (end 2010)

● 2nd Strategic Energy Review

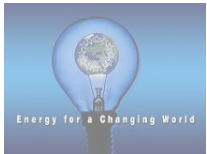


Infrastructure

Energy security priorities



European Energy Policy



- Competitiveness
- Sustainable Development
- Security of supply



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● Follow-up of Energy Policy

- **Priority: Energy Infrastructure Package**
- Energy efficiency action plan (Nov. 2010)
- Action Plan 2011-2015 (early 2011)
- Roadmap 2050 for a European low carbon energy system (early 2011)



Focus on infrastructure development

● Energy Infrastructure Package - challenges

- Ensuring the well functioning on the EU **internal electricity and gas market**; enhancing security of supply and creating the right scale for **innovation**
- Modernisation of the infrastructure is needed to integrate the variety of **renewable energy sources** – “super grid” for electricity transport; **CO2 transport infrastructure (CCS)**
- Addressing the **external dimension** through diversification of routes and sources of supply (gas and oil)
- **Financing** – optimal balance between user pays (tariffs) and tax payer pays (EU funds) principles

● Energy Infrastructure Package - content

November 2010

- Political communication on **energy infrastructure development and priorities for 2020/2030**
- Communication on the contribution of **the six priority infrastructure actions** proposed under the Second Strategic Energy Review (supported by CSWPs)
- Accompanied by the **Impact Assessment Report**

To be followed-up in **Spring 2011** by a legislative proposal for an **EU Energy Security and Infrastructure Instrument**



Securing our Energy Future



http://ec.europa.eu/energy/index_en.htm