



Directorate-General  
for Energy

# Energy Infrastructure Package

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EREGG workshop on  
Gas 10-year network development plan - 14/06/2010



# ● Policy context

## Recent policy developments:

- Strategic energy reviews 1 and 2
- Third internal energy market package (ACER, ENTSOs and TYNDP)
- Directive on renewable energy sources
- Regulation on the security of gas supply (proposed)
- Strategic Energy Technologies Plan
- Implementation Report on TEN-E (*April 2010*)

## To come:

- **Energy Infrastructure Package**
- Energy efficiency action plan
- Action Plan 2011-2020
- Roadmap 2050 for a European low carbon energy system

# ● Objectives for the new energy infrastructure policy

2<sup>nd</sup> Strategic Energy Review, Green Paper and Council Conclusions of the 19th February 2009:

- The **EU Energy Security and Infrastructure Instrument** with the possible objectives of
  - » completing the ***Internal Energy Market***,
  - » ensuring the development of the grid to permit the achievement of the EU's ***renewable energy*** objectives,
  - » guaranteeing EU ***security of energy supply***,  
through assistance for key infrastructure projects **within and outside the EU**.

# ● Energy Infrastructure Package - content

*November 2010*

- Communication on **energy infrastructure development and priorities for 2020/2030**
- Document on **the six priority infrastructure actions** proposed under the Second Strategic Energy Review and the instruments needed to implement them
- Accompanied by the **Impact Assessment Report**

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

# 2<sup>nd</sup> Strategic energy review priority areas



# ● Approach

## Energy Infrastructure Package

1. Identify infrastructure needs along the core criteria: market integration/competitiveness, SoS and sustainability
2. What will the market deliver – which are the obstacles (market and regulatory failures)
3. What is already addressed in the 3rd package
4. Where must the new Energy Security and Infrastructure Instrument step in:
  - » Permitting
  - » Emphasis on regional coordination
  - » Funding

ENTSOs  
developing  
and updating  
of  
TYNDPs

**ERGEG /  
ACER**  
overview of  
TYNDPs, and  
regional  
initiatives

To ensure compatibility / complementarity with the ERGEG/ACER and ENTSOs work

# ● **ENTSO-E / G 10-year Network Development Plan – *Regulations 714&715/2009***

- [...] Community-wide network development plan [...] shall include the modelling of the integrated network, scenario development, a European generation/supply adequacy outlook and an assessment of the resilience of the system.
- The [...] plan shall in particular
  - » Build on national investment plans, taking into account [...] Community aspects of network planning, including the guidelines of the TEN-E
  - » Regarding cross-border interconnections, also build on the reasonable needs of different network users and integrate long-term commitments from investors [...]
  - » Identify investment gaps, notably with respect to cross-border capacities.



# ● ACER's role in infrastructure planning

- The Agency shall monitor the implementation of the Community-wide network-development plans.
- If it identifies inconsistencies between such a plan and its implementation, it shall
  - » investigate the reasons for those inconsistencies and
  - » make recommendations to the transmission system operators, national regulatory authorities or other competent bodies concerned with a view to implementing the investments in accordance with the Community-wide network-development plans.



# Energy Infrastructure Package

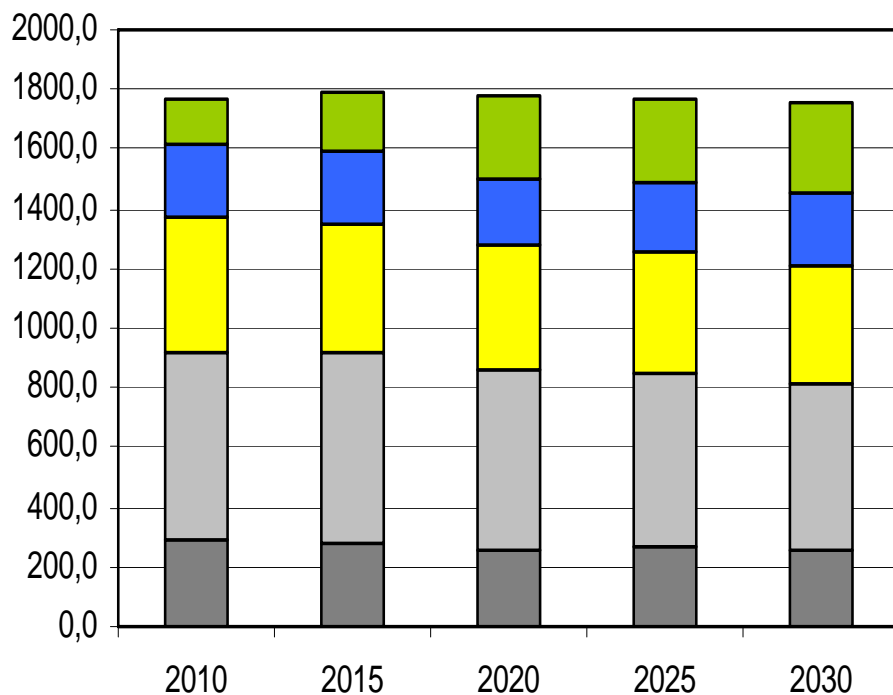
## Challenges – demand drivers

- **EU energy and climate policy heavily impacts the electricity sector:**
  - » Massive fuel / technology shift, both for production and transmission
  - » Paradigm shift: baseload to intermittent, on- to offshore, close-to-consumer to close-to-ressource
  - » Possible import of « green electricity » from third countries
  - » Development of CCS?
- **Security of supply, especially in the gas and oil sector:**
  - » High import dependence (especially in Eastern EU with high single-source dependence)
  - » Lack of interconnections or reverse flows, mostly in Eastern Europe
  - » Insufficient interconnection level of national networks
  - » Possible knock-on effects from the development of RES
  - » Oil: land-locked countries in Eastern EU
- **Massive investment is needed in the coming years. Not all of it will be taken up by the market alone.**

# PRIMES scenarios

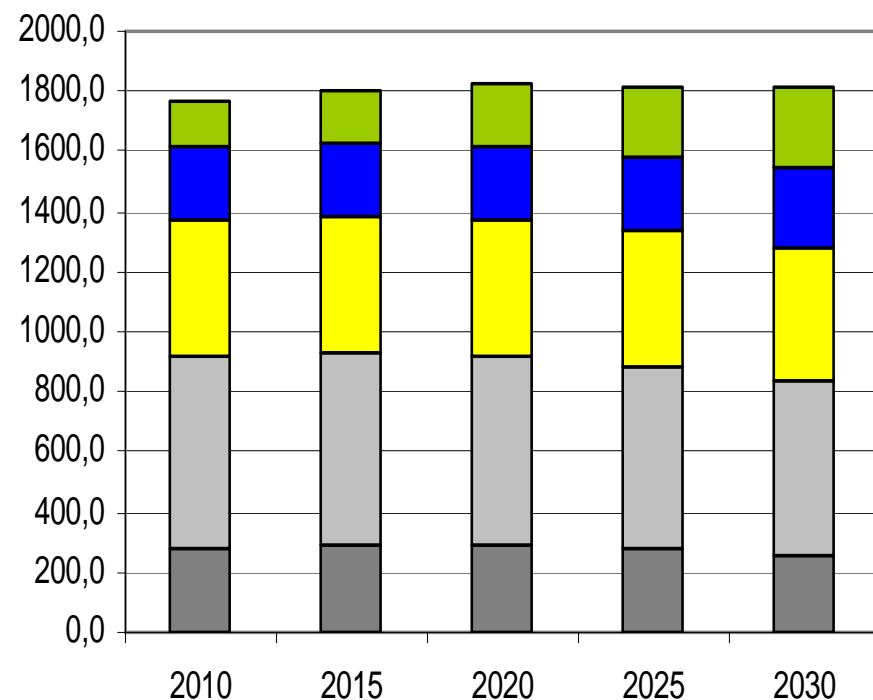
Total primary energy consumption in Mtoe

PRIMES reference case



■ Solids ■ Oil ■ Natural gas ■ Nuclear ■ Electricity ■ Renewables

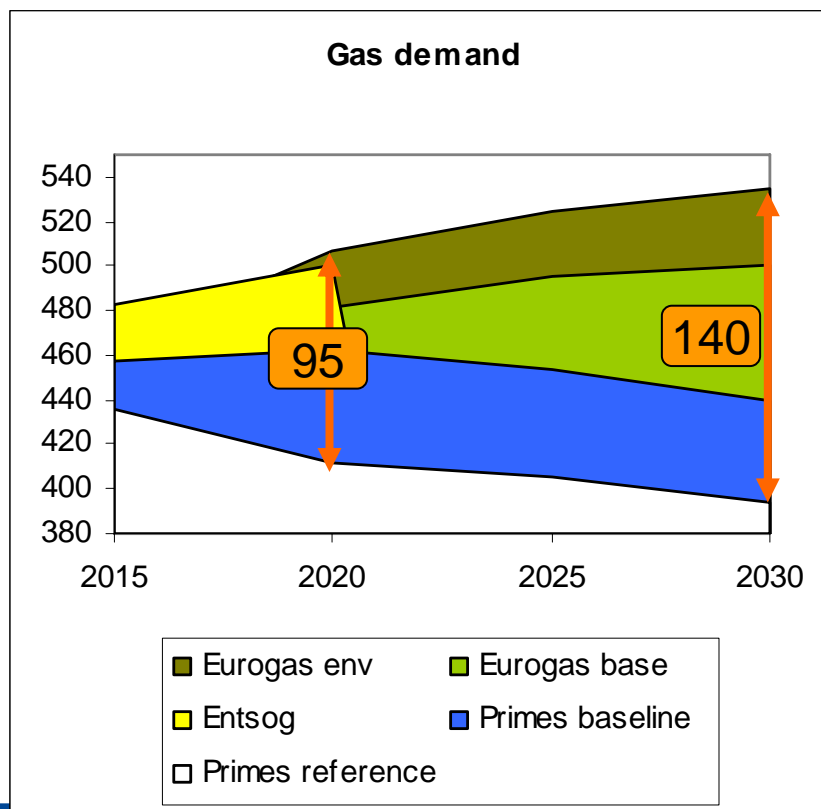
PRIMES baseline



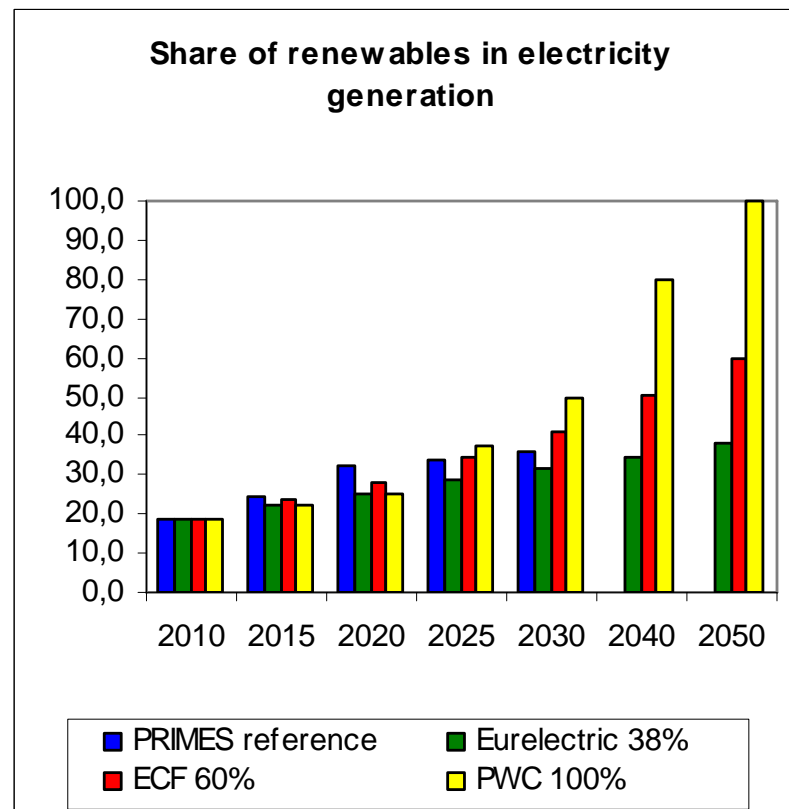
■ Solids ■ Oil ■ Natural gas ■ Nuclear ■ Electricity ■ Renewables

# PRIMES scenarios

## Gas consumption scenarios (Mtoe)



## RES share scenarios (%)



# ● Difficulties in energy infrastructure development

- **General context:**

- » Uncertainty about future gas demand
- » Risk premium for new technologies
- » Local opposition and uncertain permitting procedures
- » Recent financial crisis, more difficult access to funding

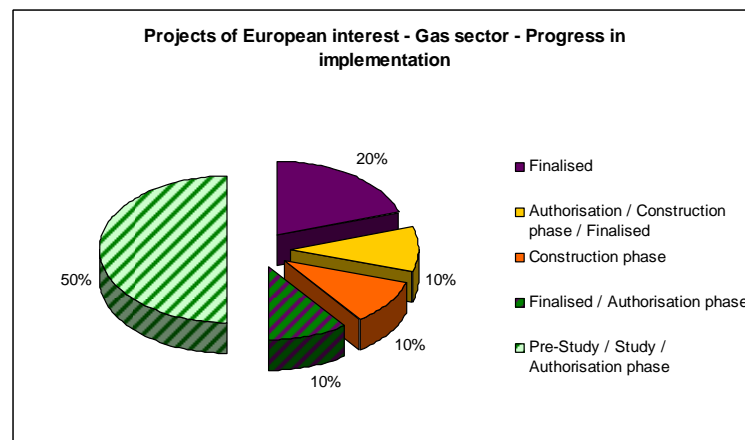
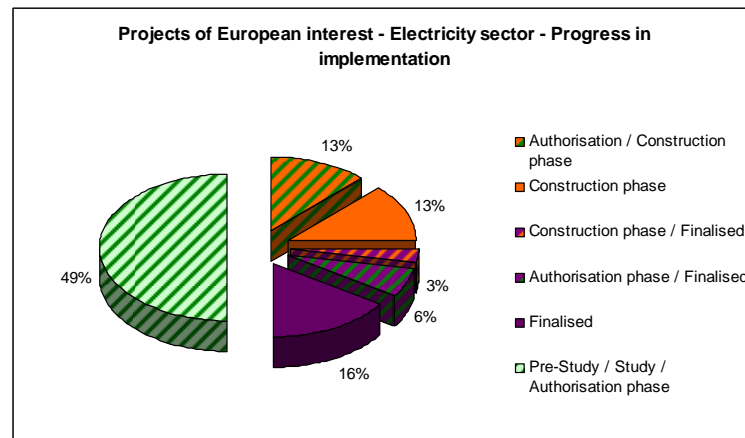
- **Incentive and cross-border issues:**

- » « catch 22 »: market vs. infrastructure development
- » EU interest vs. national interest
- » Regulatory differences (for open seasons, investment approvals, TPA exemptions...)
- » Adequate rates of return for investment
- » Lack of political coordination between Member States
- » Cost allocation difficulties for projects of EU-wide interest

# TEN-E Implementation Report 2007-2009

## Projects of European Interest – Progress in Implementation

- Most of the projects have progressed significantly and moved to the next implementation phase
- 32 electricity projects of European interest
  - » Finalised: 5 completely; 3 partly
  - » Under construction: 4 completely; 5 partly
- 10 gas projects of European interest
  - » 10 projects of European interest in total
  - » Finalised: 2 completely; 2 partly
  - » Under construction: 1 completely; 2 partly



# **TEN-E Implementation Report 2007-2009**

## **Lessons learnt**

- TEN-E contributed to the integration of Europe's fragmented energy market.
- However, little impact in dealing with recent challenges, such as diversification of supply sources and security of supply or delivering EU's strategic energy and climate goals.
- Budget is limited and financial instruments are inadequate. They are not sufficiently co-ordinated with other EU funds (regional, neighbourhood).
- There is no flexibility to include new/innovative projects and technologies.
- And no solution to improve permitting and public acceptance.

# ● Outlook: Issues for a new European Energy Security and Infrastructure Instrument

- Include oil and CO<sub>2</sub> transport infrastructure?
- Allow for innovative projects and technologies
- Planning, permitting and public acceptance
- Leveraging other funds (regional and neighbourhood policies)
- How to match bottom up approach of the European Network of Transmission System Operators (10-Year Network Development Plans) with the top down approach (Commission/ ERGEG/ACER)
- EU financial support:
  - » Balance between user pays (tariffs), beneficiary pays (compensation) and tax payer pays (public funds) principles?
  - » Which form (guarantees, equity, grants)?





# Thank you for your attention!