Energy infrastructure priorities for 2020 and beyond

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Content

- Policy context and background
- Infrastructure challenges
- European infrastructure priorities
- Implementation toolbox
- Way forward
Energy Policy development

- Strategic Energy Review
- Energy and Climate Package
- SET Plan
- Second Strategic Energy Review
- Third Internal Energy Market Package (ad)
- Regulation on security of gas supply (ad)
- Energy Infrastructure Instrument
- Roadmap 2050
- Energy Efficiency Plan
- External Energy Policy

Timeline:
- 2007
- 2008
- 2009
- 2010 Nov
- 2011
The 20-20-20 EU policy By 2020

- Greenhouse gas levels: -20%
- Energy consumption: -20%
- Renewables in energy mix: +20%
EU-27 Import dependence

(based on 2009 baseline scenario)

OIL

- 2005: 82.4%
- 2008: 84.3%
- 2020: 92.7%
- 2030: 94.1%

GAS

- 2005: 57.7%
- 2008: 62.3%
- 2020: 75.9%
- 2030: 82.8%
The January 2009 gas crisis and its impact (6-20 January 2009)

% of missing gas supply – 300 mcm/d for 14 days

- > 75%
- 50 - 75%
- 25 - 50%
- < 25%
- 0%
- Ukraine
EU strongest variable renewable energy potentials

- Wind energy onshore
- Solar energy
- Wave energy
Energy Infrastructure challenges and drivers

**Electricity:**
- Increasing demand
- Growing share of RES
- Smart grid applications
- Large-scale storage
- Higher voltage - long-distance transmission

**Gas:**
- Stable share, growing import dependency
- Role as back-up fuel – need for more flexibility
- Single-source dependency in Eastern Europe – need for diversification

**CO2 transmission:**
Co-ordinated planning for future optimised deployment

**Oil:**
Security of supply of land-locked countries in Central-Eastern Europe

In addition, the modernisation of **district heating and cooling** networks can enhance energy efficiency.
European infrastructures priorities – electricity by 2020

- Baltic energy market interconnection plan
- Interconnections in South West Europe
- Interconnections in Central-South East Europe
- Offshore grid in the Northern Seas
- Smart grids in the EU
European infrastructures priorities – gas and oil by 2020

- Southern gas corridor
- Baltic energy market inter-connection plan
- South-North gas interconnections in Western Europe
- North south gas & oil interconnections in Central & South East Europe
European infrastructures priorities – beyond 2020

- Electricity highways
- European CO\textsubscript{2} transport infrastructure
Energy system investment needs

Total investment needs in the electricity and gas sector between 2010-20: over 1 trillion €

- Power generation: ~ 500 bn
- Transmission and distribution: ~ 600 bn
  - RES: ~ 310 – 370 bn
  - Distribution: ~ 400 bn
  - Transmission: ~ 200 bn

NB: approximative figures, mainly from DG ENER calculations based on data from PRIMES, ENTSO-E, KEMA, ECOFYS etc.
Obstacles to energy infrastructure development

- **Huge uncertainties**: future technologies, demand, generation and sources
- **Tariff regulation and financing**:
  - Projects with higher regional than national benefit: difficult cost allocation
  - Projects using innovative technologies - higher risks
  - Infrastructure for security of supply: often not justified by market demand
  - Financial crisis: difficult access to capitals
- **Permitting and social acceptance**
- **Infrastructures external to the EU**: political risks such as unattractive or non-transparent investment framework

→ *Estimated investment gap up to 100 bn € by 2020*
Energy infrastructure policy

- European priority corridors and areas
- Objective selection criteria

Regional approach

Identification of projects of European Interest

Prioritisation

- Better leverage of private resources through appropriate tariff regulation and public funding
- More efficient and transparent authorisation process, build public acceptance

Implementation
Way forward – implementation starting now

- **Regional initiatives/cooperation, e.g.**
  - BEMIP in the Baltic Sea region
  - NSCOGI in the Northern Seas area
  - High Level Group on North South connections in Central Eastern Europe on gas, electricity and oil

- **…to deliver in the course of 2012, i.a.**
  - List of projects of European interest, on the basis of criteria agreed at EU level
  - Proposals for solutions to regulatory issues
  - Best practice in permit granting

- **…in cooperation with**
  - ACER, ERGEG, ENTSOs
  - Florence, Madrid Fora
Way forward – European energy security and infrastructure instrument to be proposed in 2011

- **New EU planning approach**
  - Planning and selection method including criteria
  - Policy and project support tool

- **Improved cost allocation**
  - Effective cost allocation for complex (cross-border) projects (« beneficiary pays » principle)
  - Regulation matching risks (innovation) and objective (security of supply) of infrastructure investments

- **Financing only where market failure**
  - New financial instruments in cooperation with IFIs and direct EU support if needed

- **Faster and more transparent permit granting procedures**
  - One-stop shop approach and time limit for decisions
  - Transparency and early involvement of stakeholders
  - Compensation harmonisation
  - Rewards/incentives to regions and Member States
Questions to consider for this ENTSO-E workshop

・ Which common, measurable and verifiable criteria should be chosen to identify projects of European interest?

・ How should ENTSO-E’s TYNDP regional groups cooperate with other regional cooperation structures (e.g. BEMIP, NSCOGI, ERGEG electricity regions) to identify these projects of European interest?

・ How to get to a commonly accepted socio-economic project evaluation methodology to decide on the eligibility for EU financial support under a new instrument?

・ In what specific areas could support be usefully considered under the proposed planning and policy support tool?
Europe 2020

- Single Market for 21st century
- Resource Efficient Europe
- Networks
- Innovation Union
Thank you for your attention!

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