



Energy infrastructure priorities for 2020 and beyond

Directorate-General
for Energy



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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



Third Internal
Energy Market
Package (ad)

Regulation on
security of gas
supply (ad)



Energy 2020

**Energy
Infrastructure
Instrument**

**Roadmap
2050**

**Energy
Efficiency Plan**



SET Plan



Second Strategic
Energy Review

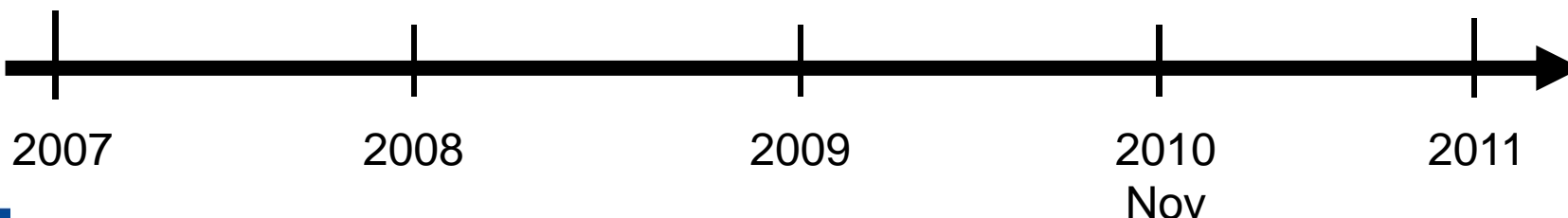


EEPR

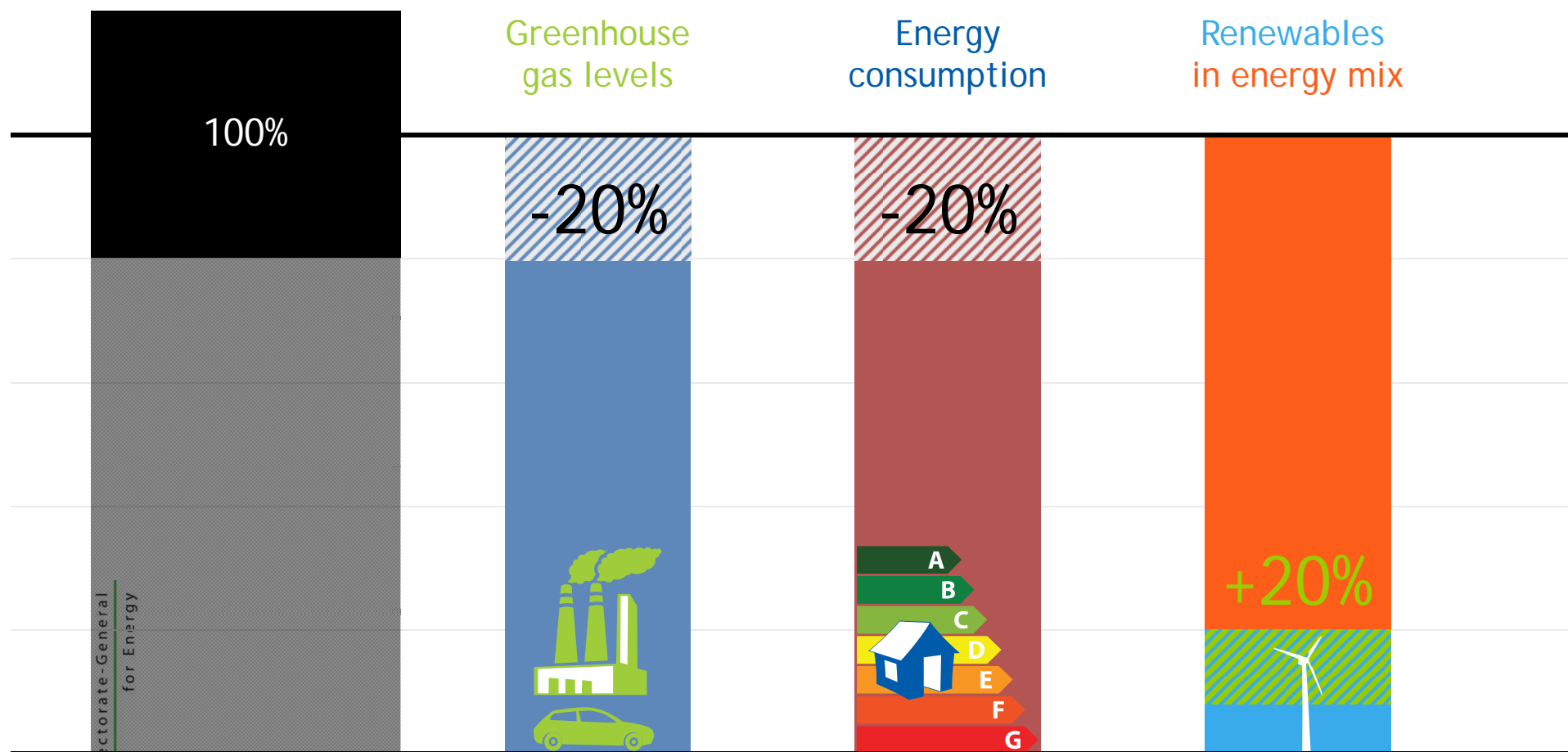


**External
Energy Policy**

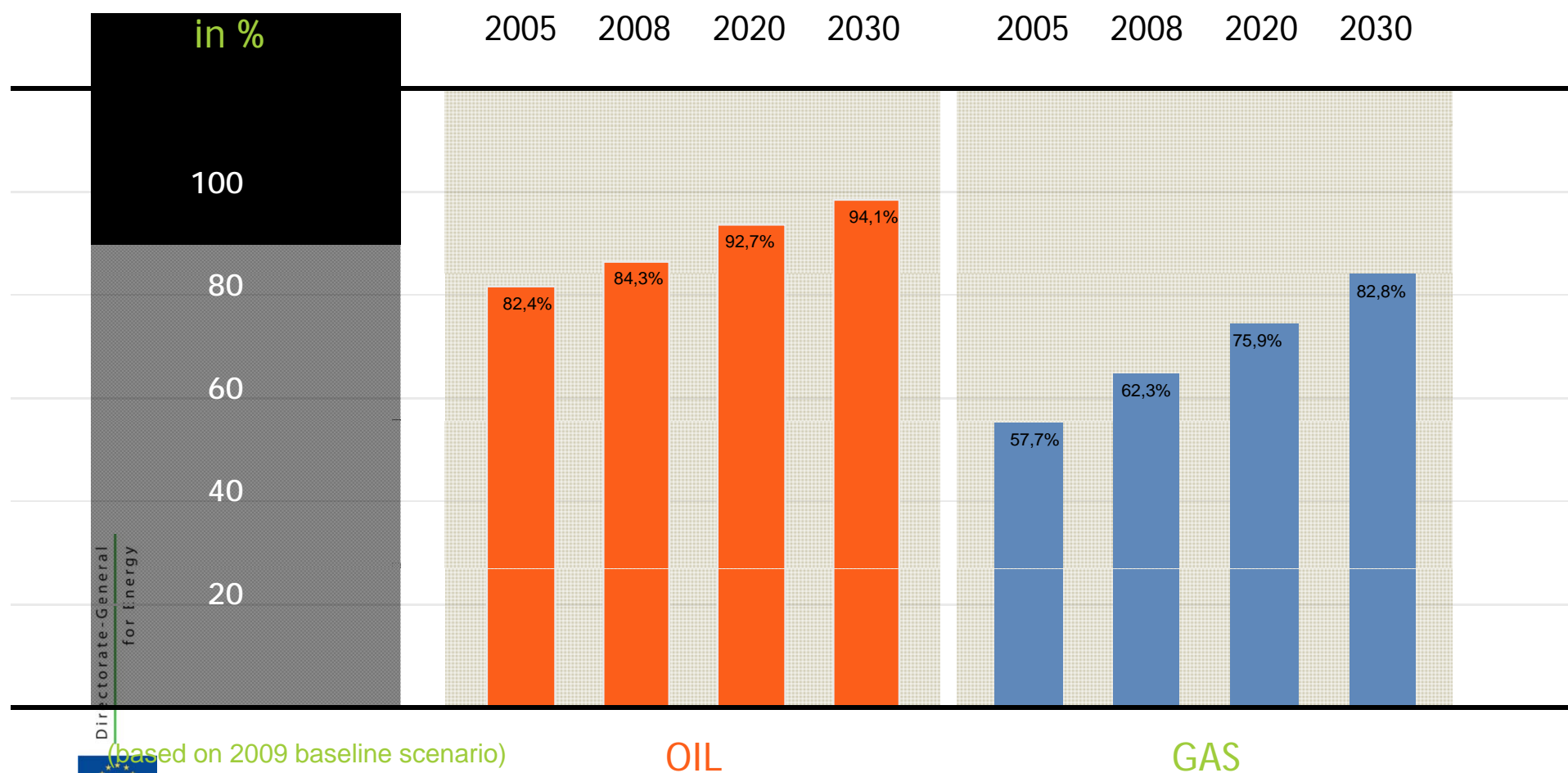
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● The 20-20-20 EU policy By 2020

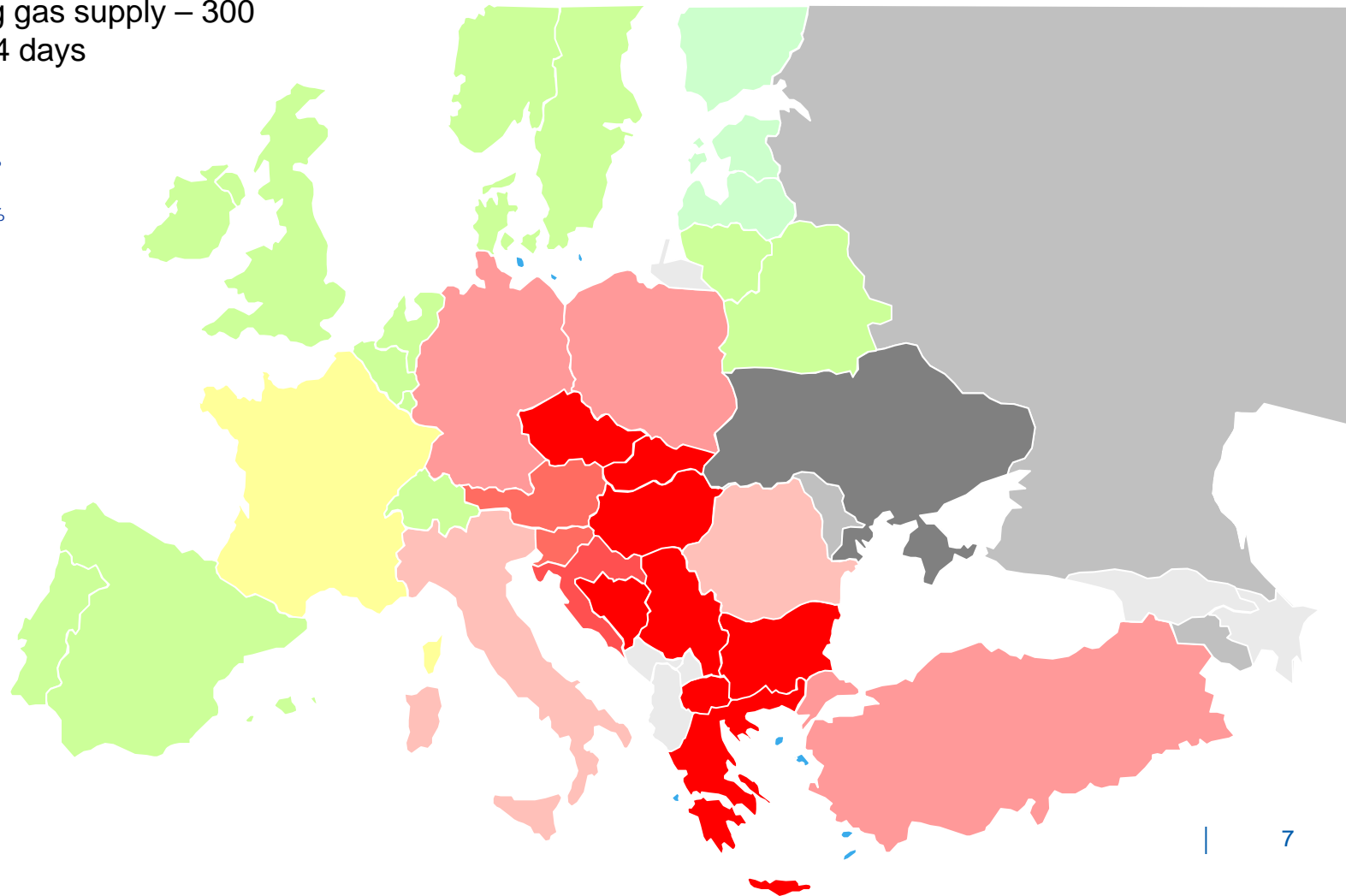
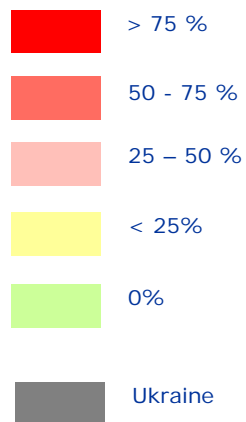


● EU-27 Import dependence



● The January 2009 gas crisis and its impact (6-20 January 2009)

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

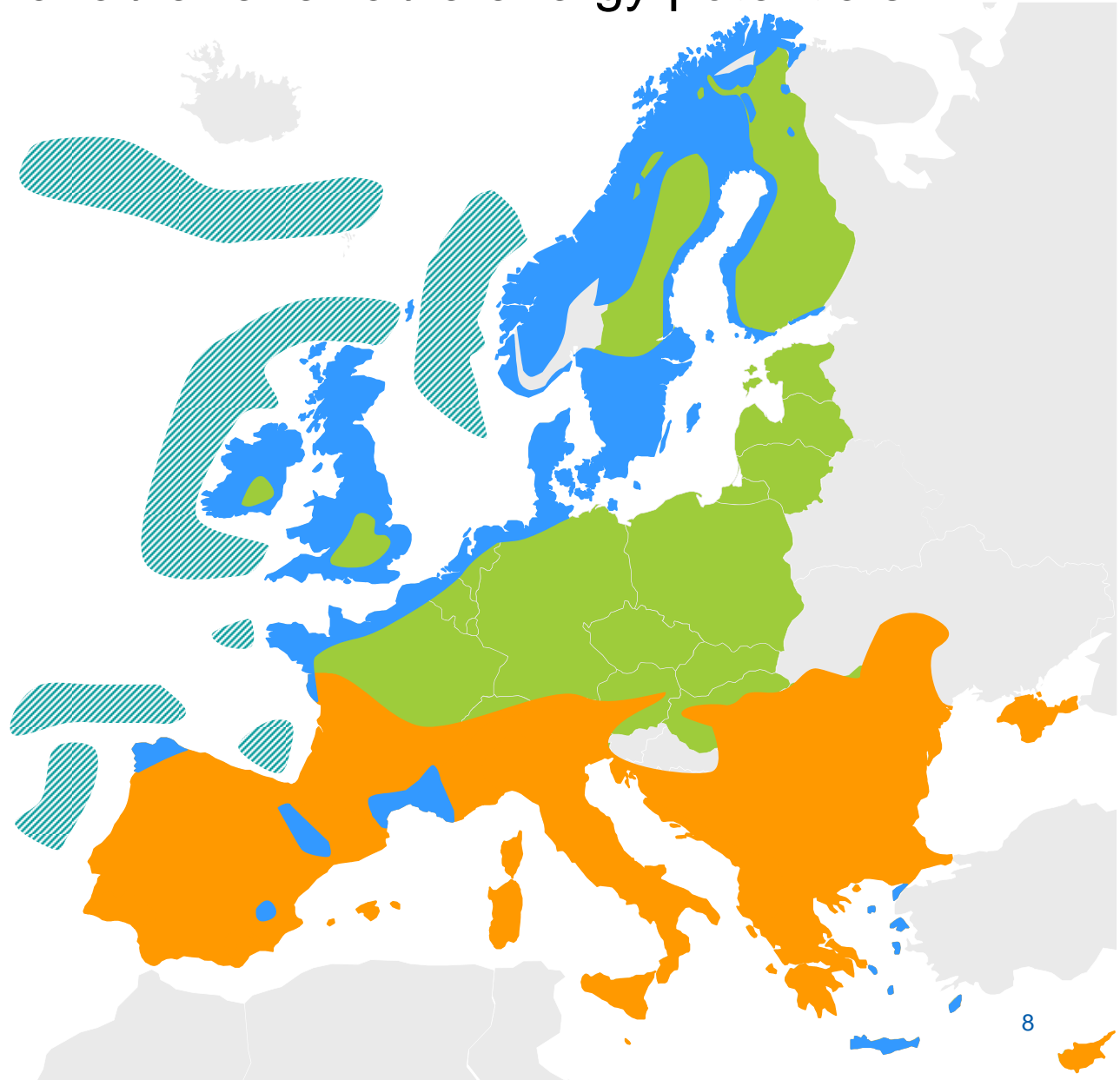


EU strongest variable renewable energy potentials

- Wind energy onshore
- Solar energy
- Wave energy

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Simplified Map



● 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

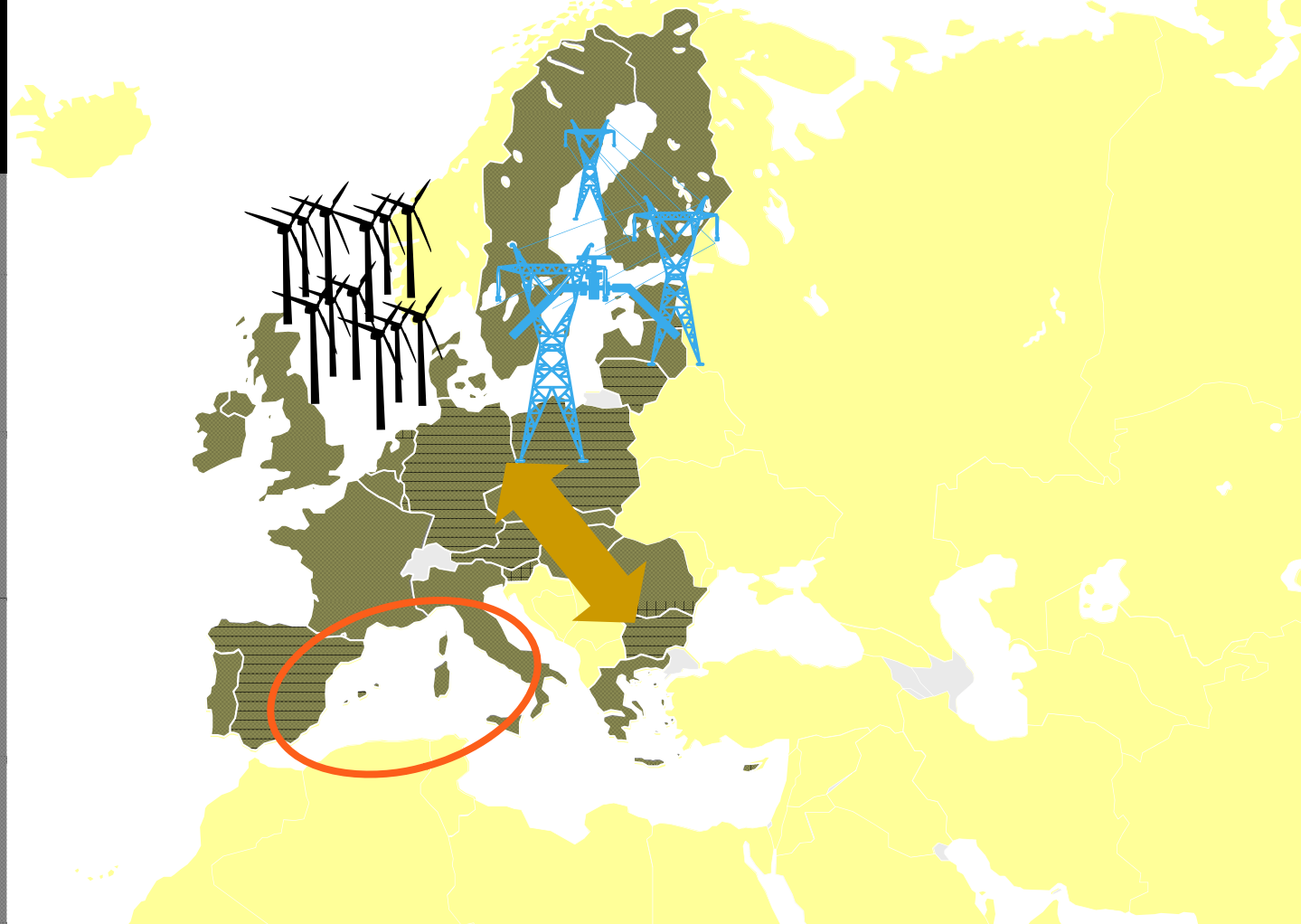
*In addition, the modernisation of **district heating and cooling** networks can enhance energy efficiency.*

European infrastructures priorities – electricity by 2020

- Baltic energy market inter-connection plan
- Interconnections in South West Europe
- Interconnections in Central-South East Europe
- Offshore grid in the Northern Seas

Smart grids in the EU

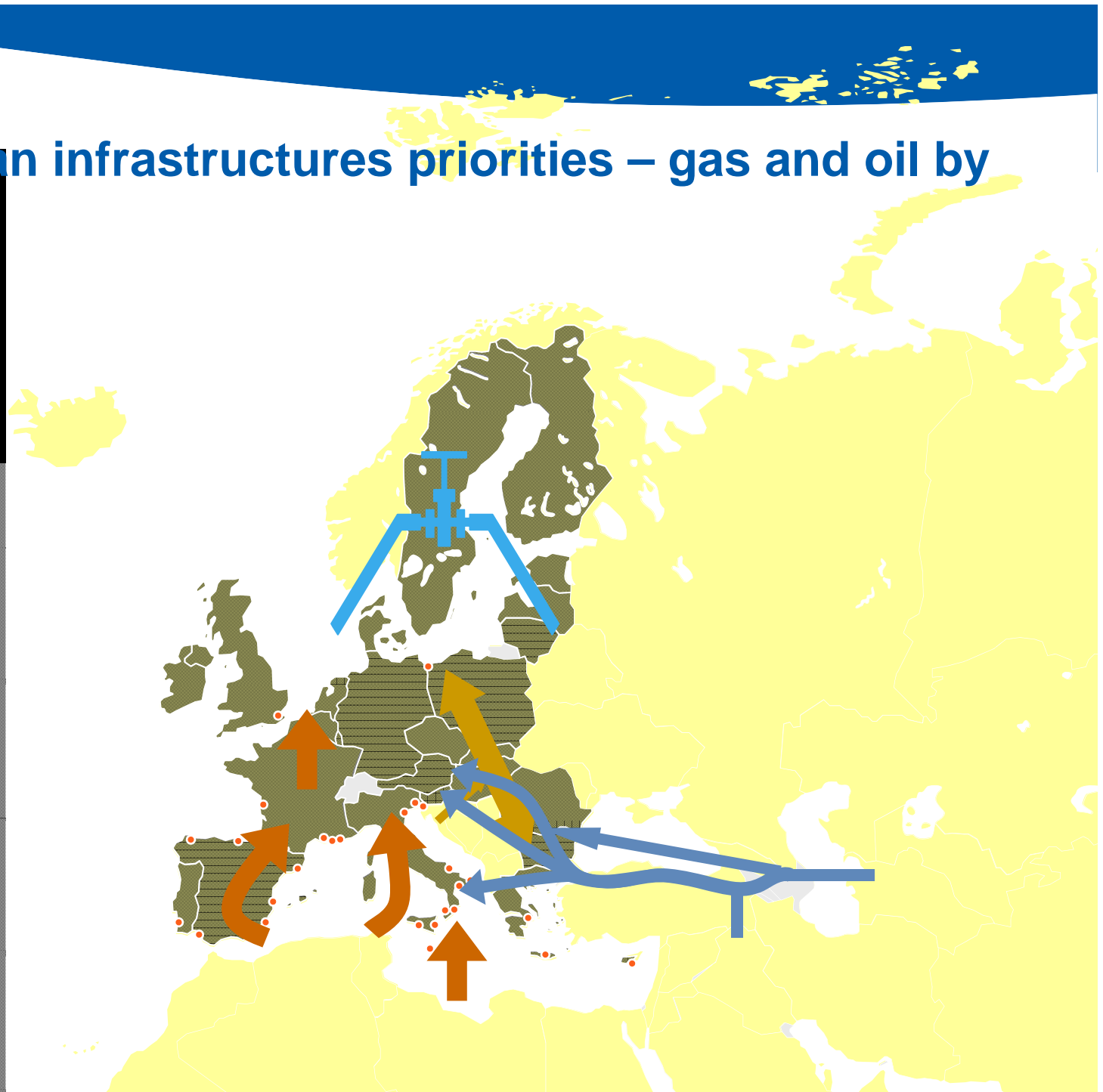
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European infrastructures priorities – gas and oil by 2020

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- The infographic features a vertical list of four energy interconnection projects in Europe. Each project is preceded by a colored circle: a blue circle for the Southern gas corridor, a light blue circle for the Baltic energy market inter-connection plan, an orange circle for South-North gas interconnections in Western Europe, and a yellow circle for North south gas & oil interconnections in Central & South East Europe. The text is white on a dark background for the first two items and white on a grey background for the last two. A vertical green line on the left side of the bottom two items is labeled 'Directorate General for Energy'.
- 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

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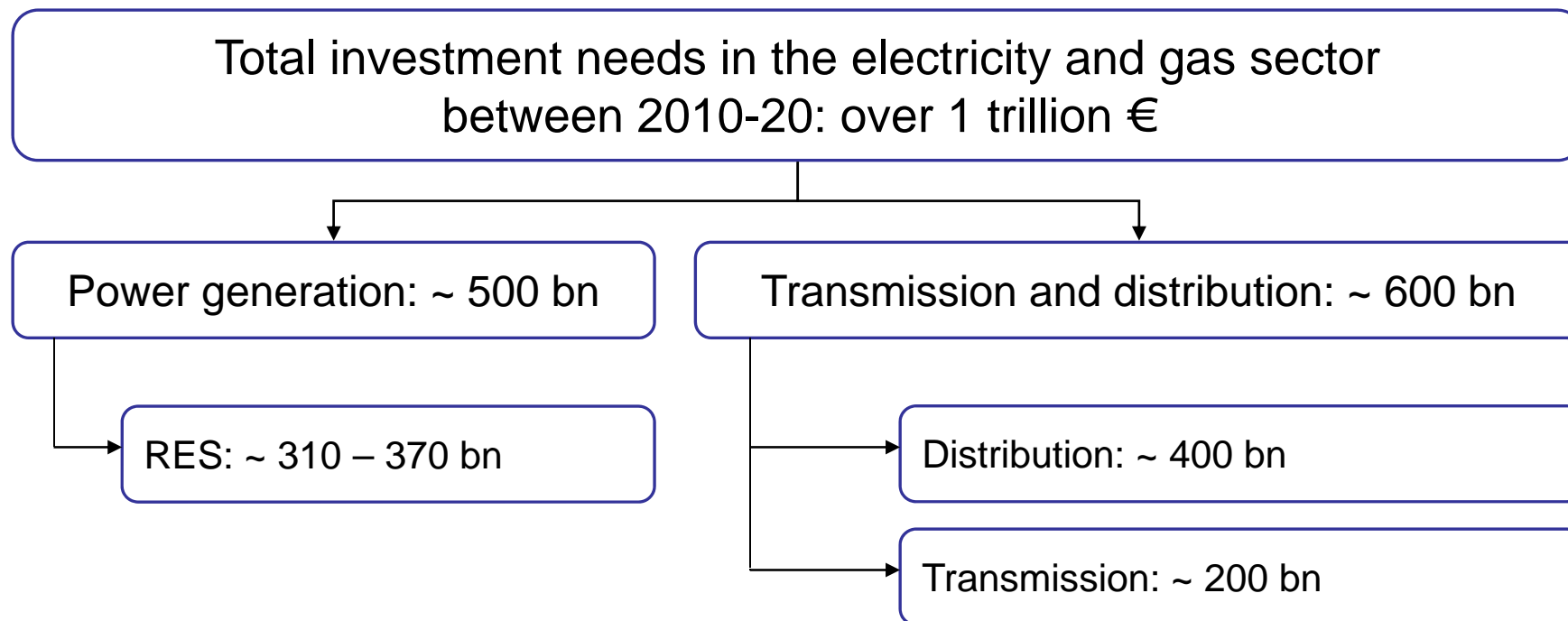




European infrastructures priorities – beyond 2020

- Electricity highways
- European CO₂ transport infrastructure

Energy system investment needs



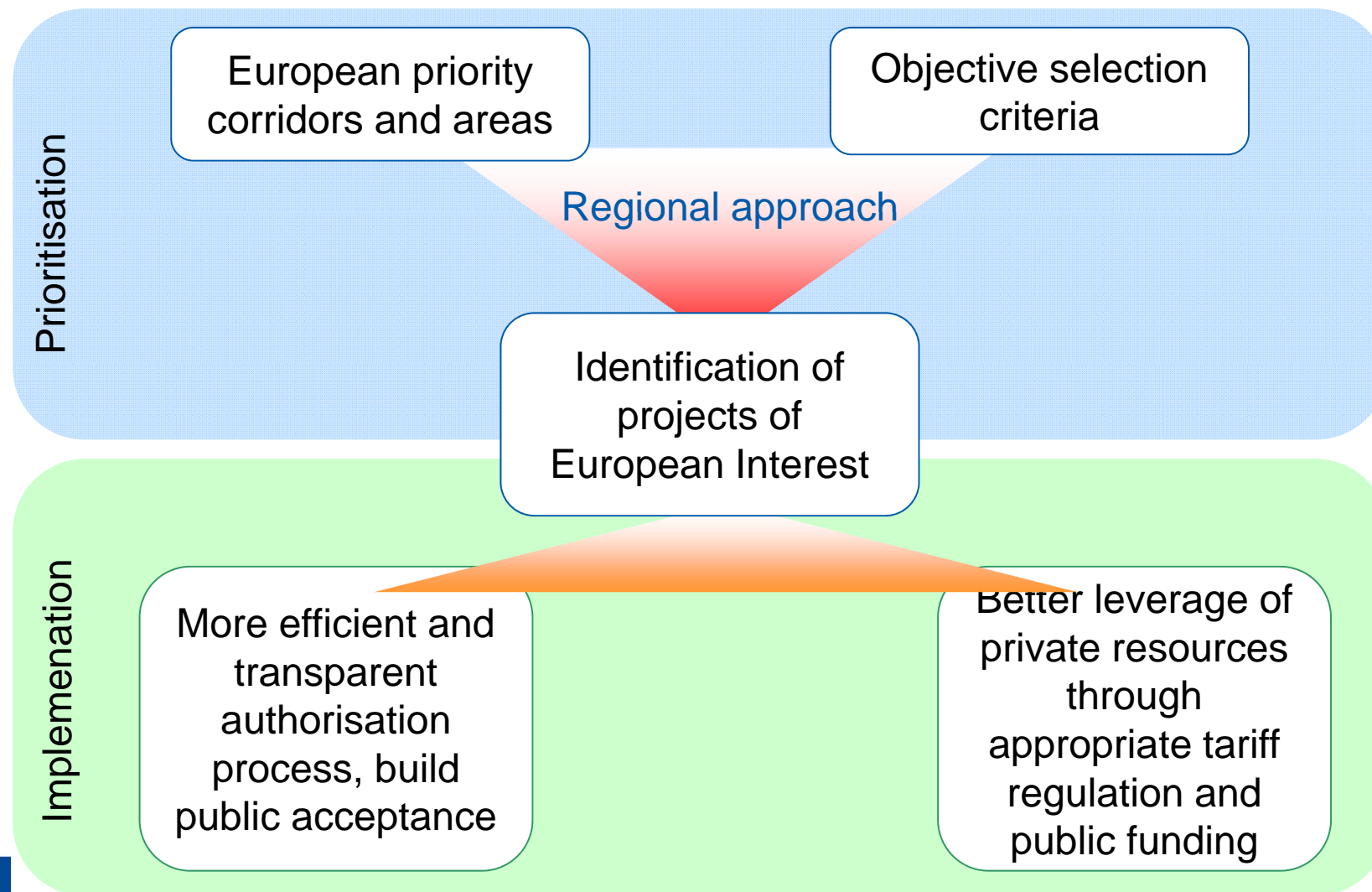
NB: approximative figures, mainly
from DG ENER calculations based
on data from PRIMES, ENTSO-E,
KEMA, ECOFYS etc.

● 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



● 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



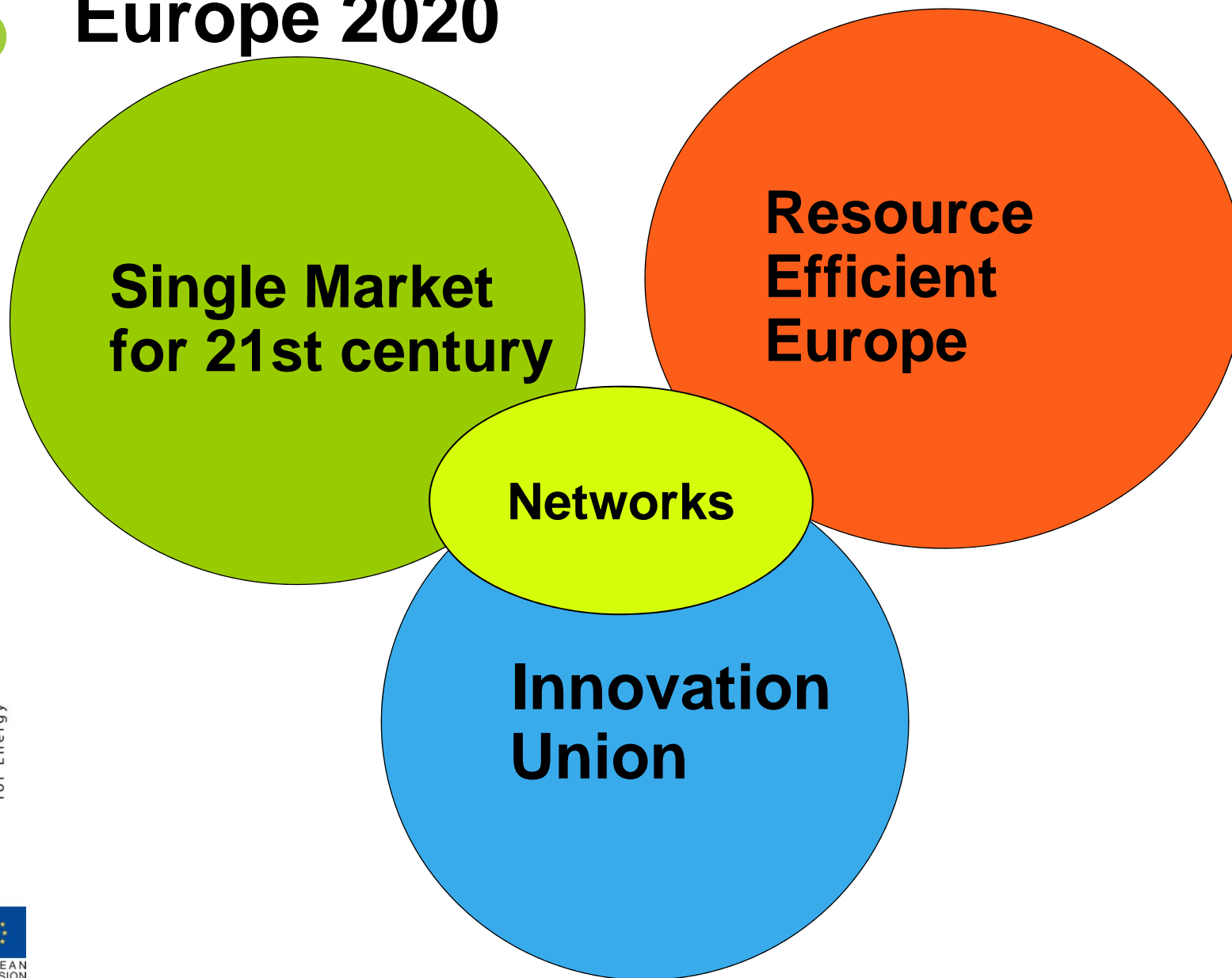
Way forward – European energy security and infrastructure instrument to be proposed in 2011

- **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





Thank you for your attention!