Smart Energy Security in the Baltics and the EU

Scientific support to energy security in the Baltic Sea Region

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Internal Market II: Wholesale: Electricity and Gas

Prices affect competitiveness

Trends in energy price indexes 2005-2012

	EU	US
Gas price index Industry	35%	-66%
Gas price index Households	45%	3%
Electricity price index Industry	38%	-4%
Electricity price index Households	22%	8%

Source: IEA

European Commission

Priority 1. Boosting energy efficiency

Benefits of EU energy savings target of 20% by 2020

2.6 billion barrels

Barrels of oil the EU does not have to import per year

=

€ 193 billion

Money saved at conservative 73 EUR/barrel per year

=

1 000 fewer coal power plants

=

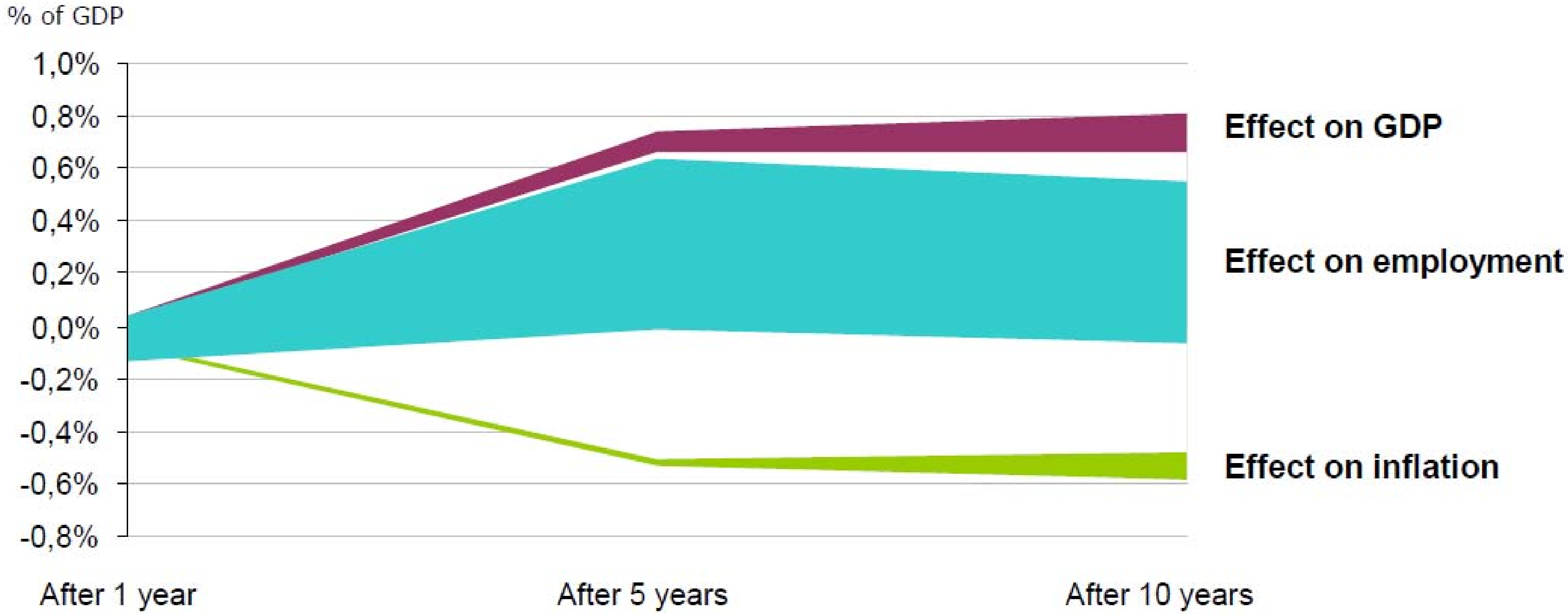
GDP of Finland

(in 2012)

Priority 2. Completing the internal energy market

Estimated effects of opening gas & electricity markets

(in % of GDP - ranges)



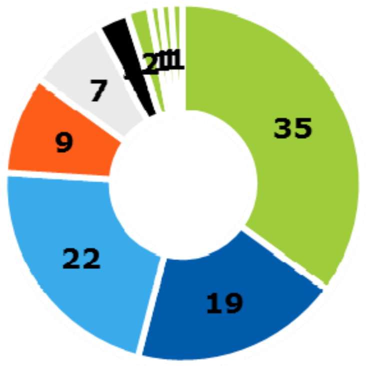
...or EUR 15-30bn and EUR up to 35bn savings respectively in gas and electricity!

Source: European Commission

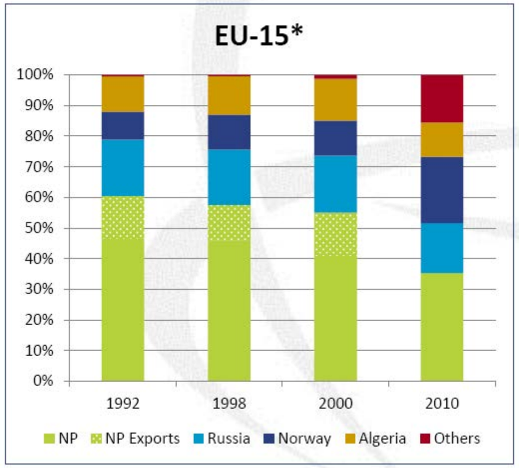
EU supply structure relatively diversified with large regional differences

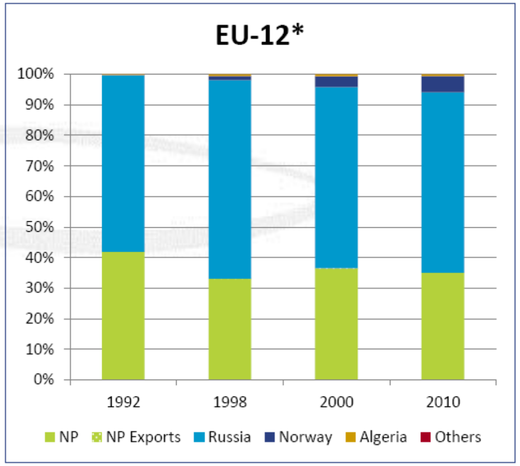
Breakdown of gas supplies in the EU-27, % (2010)

Total = 1799.3TWh (GCV)



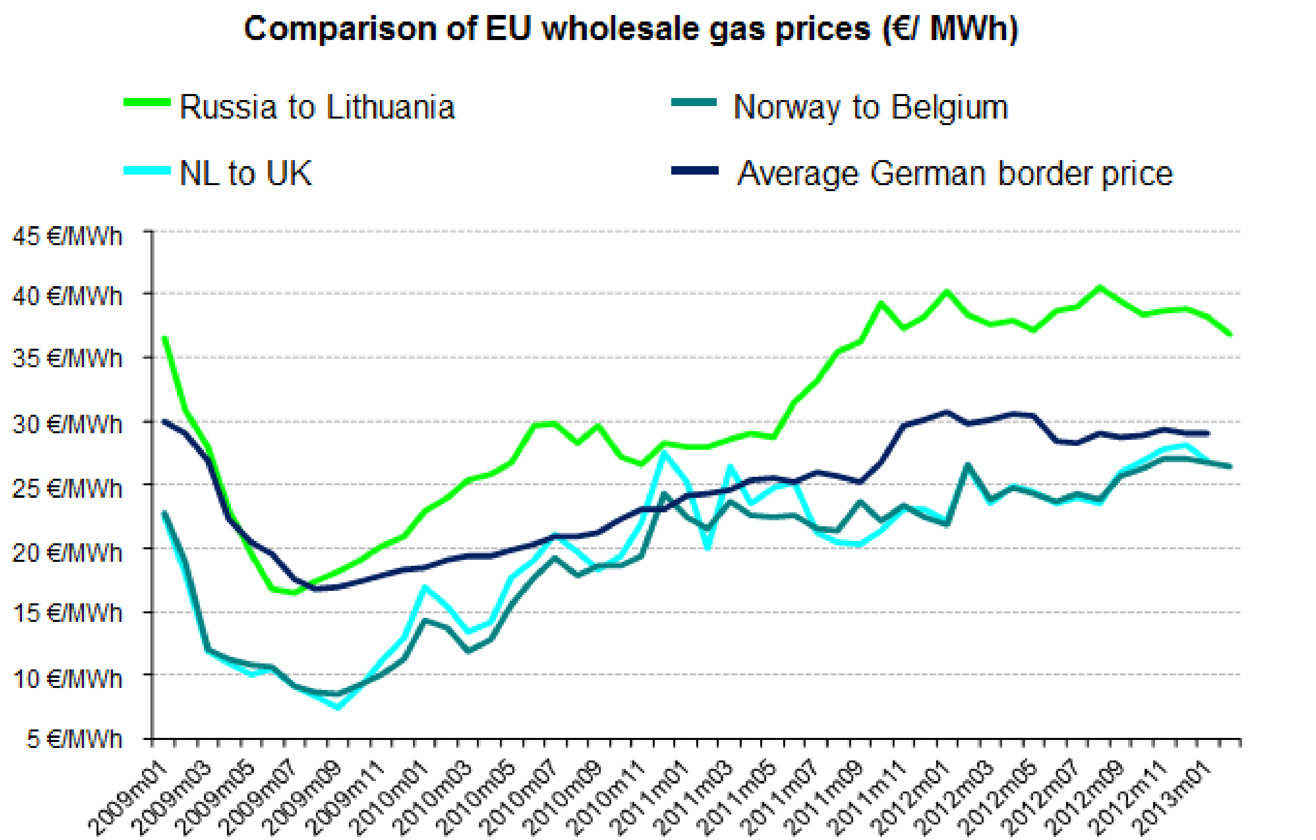
Breakdown of gas supplies in the EU-15 and EU-12, %





Source: ENTSO-G

Gas prices become more competitive with more suppliers/sources



Source: European Commission

Completion of the internal energy market by 2014: tough but good progress on most fronts

- **The key success factors:**

  Correct Implementation of the Third Energy Package

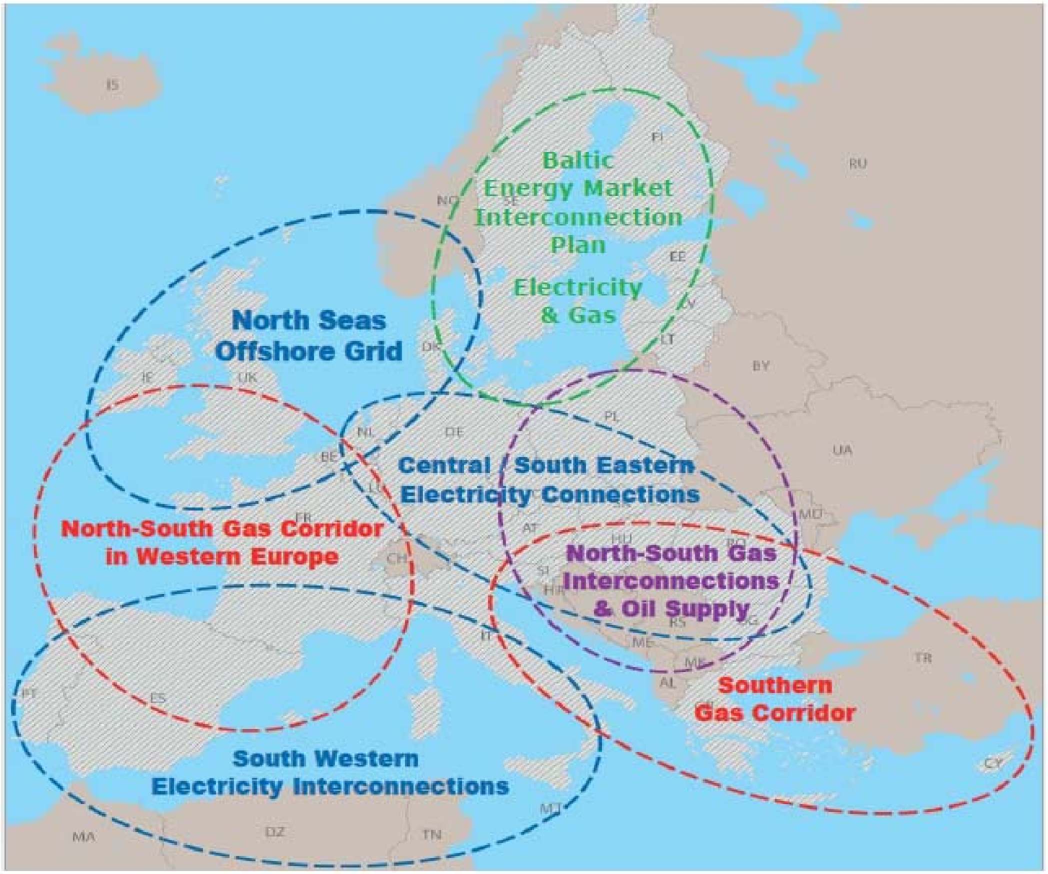
  Harmonization of market rules (Binding EU Network Codes in electricity and gas)

- **The pitfalls:**

  Lack of cooperation by Member State Governments, Regulators, TSOs to work towards common goal

  Member States with fragmented solutiuons to renewables support and capacity mechansisms

Priority 3. Smarter infrastructure



Gas

Electricity

Electricity and gas

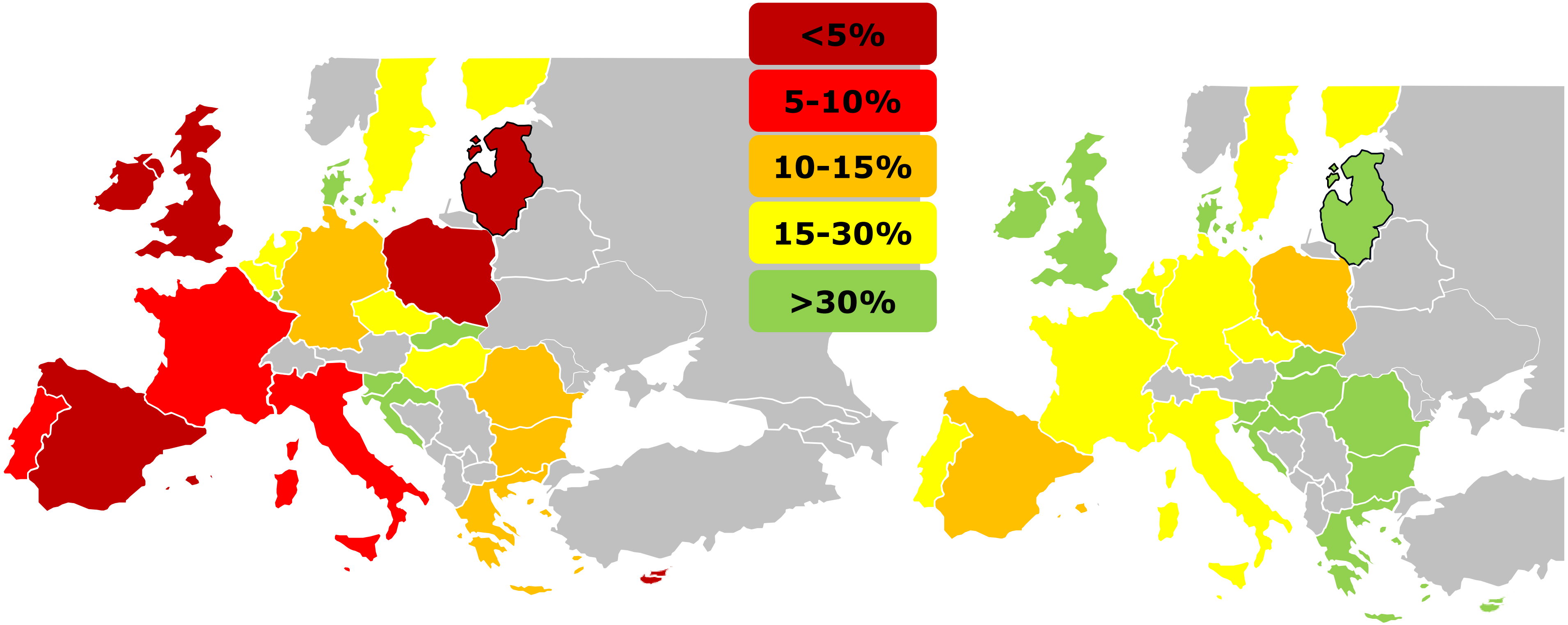
Oil and gas

Smart grids for electricity in the EU

Source: European Commission

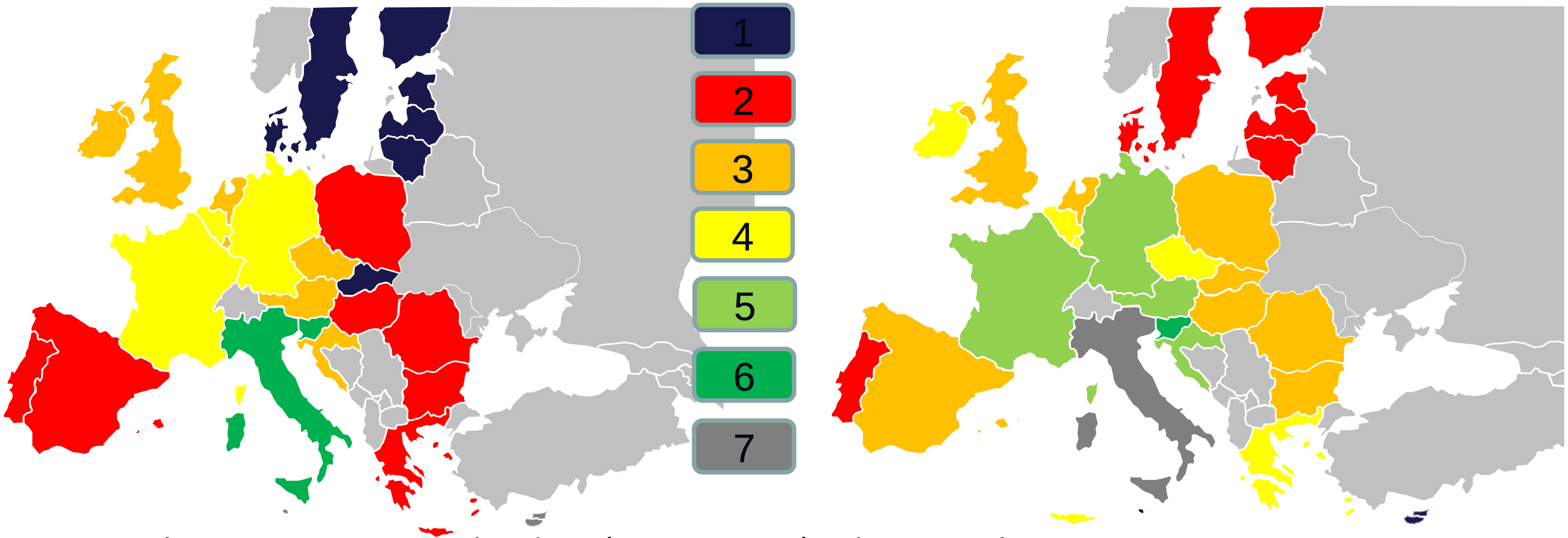
Impact of Projects of Common Interests – interconnection levels 2011 vs 2020+

Import capacity/net generation capacity before and after PCI implementation – 2020+



Source diversification before and after PCIs (2011-2022)

Number of supply sources a country may potentially access to through infrastructure (at least 5% share)



Supply Sources: Azerbaïdjan (new source), Algeria, Lybia, Norway, Russia, National Production, LNG (one source)

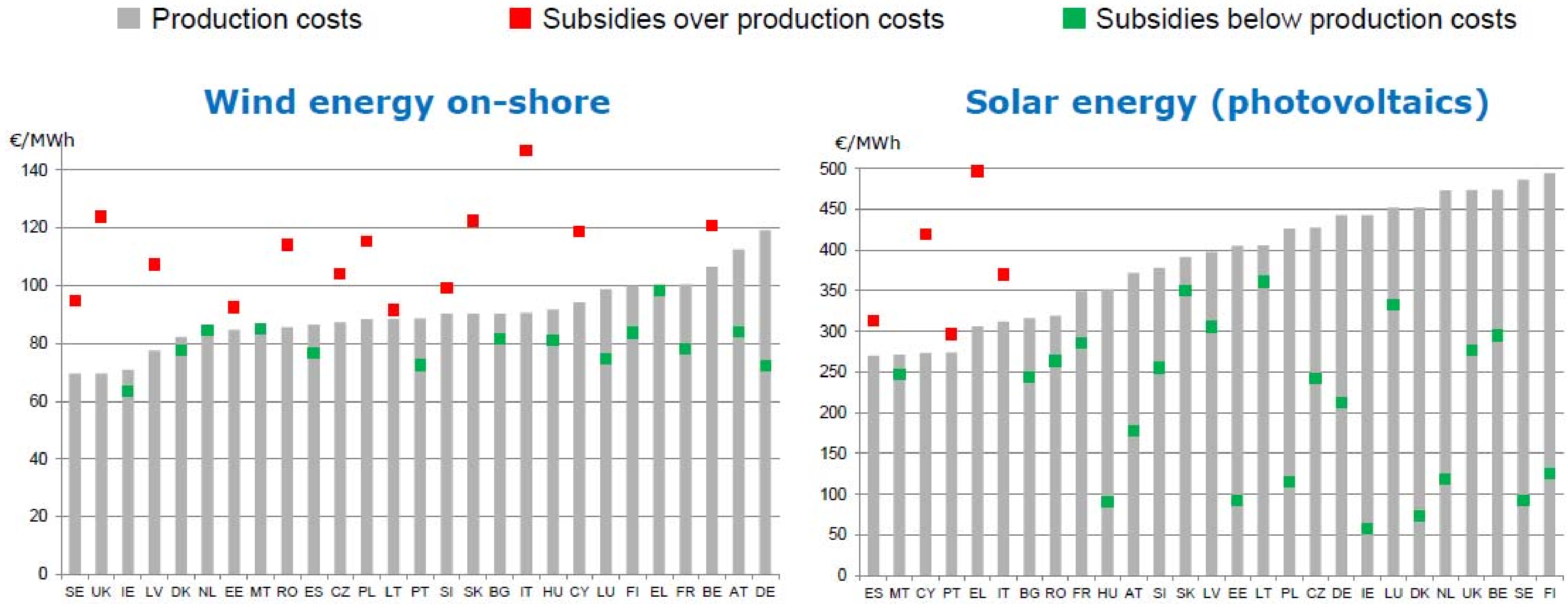
do not prejudge any commercial contracts

Source: ENTSO-G TYNDP 2013, Commission

Priority 4. Cost-effective use of renewable sources

Production costs versus subsidies for renewables

(averages, in €/MWh, latest year available)



Source: Fraunhofer

Priority 5. The external dimension

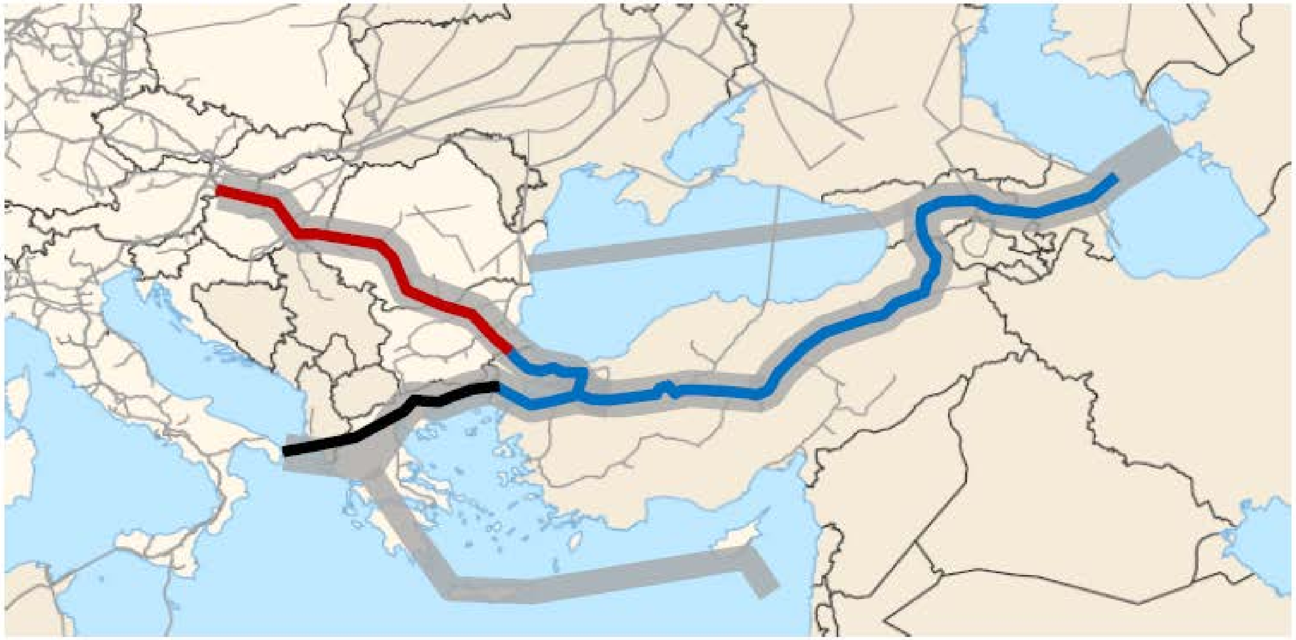
The example of the Southern Corridor

Corridor opening options (2018 - Shah Deniz II)

- Nabucco-West
- Trans-Adriatic Pipeline
- Trans-Anatolian Pipeline & South-Caucasus Pipeline

Corridor enlargement

- Extension of transport routes & new transport routes



Baltic Energy Market Interconnection Plan is a powerful tool – more could be gained from it

- **Electricity**
  - Implementation of the roadmap is on good track
  - Implementation of key projects and transposition of internal market legislation
- **Natural gas supply**
  - Roadmap only recently endorsed
  - Good progress in the Western Baltic area
  - Lack of agreements and progress in the Eastern Baltic region (regional LNG terminal, PL-LT IC, EE-FI IC)
- **Nuclear issues**
  - Nuclear Task Force
  - Ignalina decommissioning
  - Visaginas NPP project