

EU future strategies and policies

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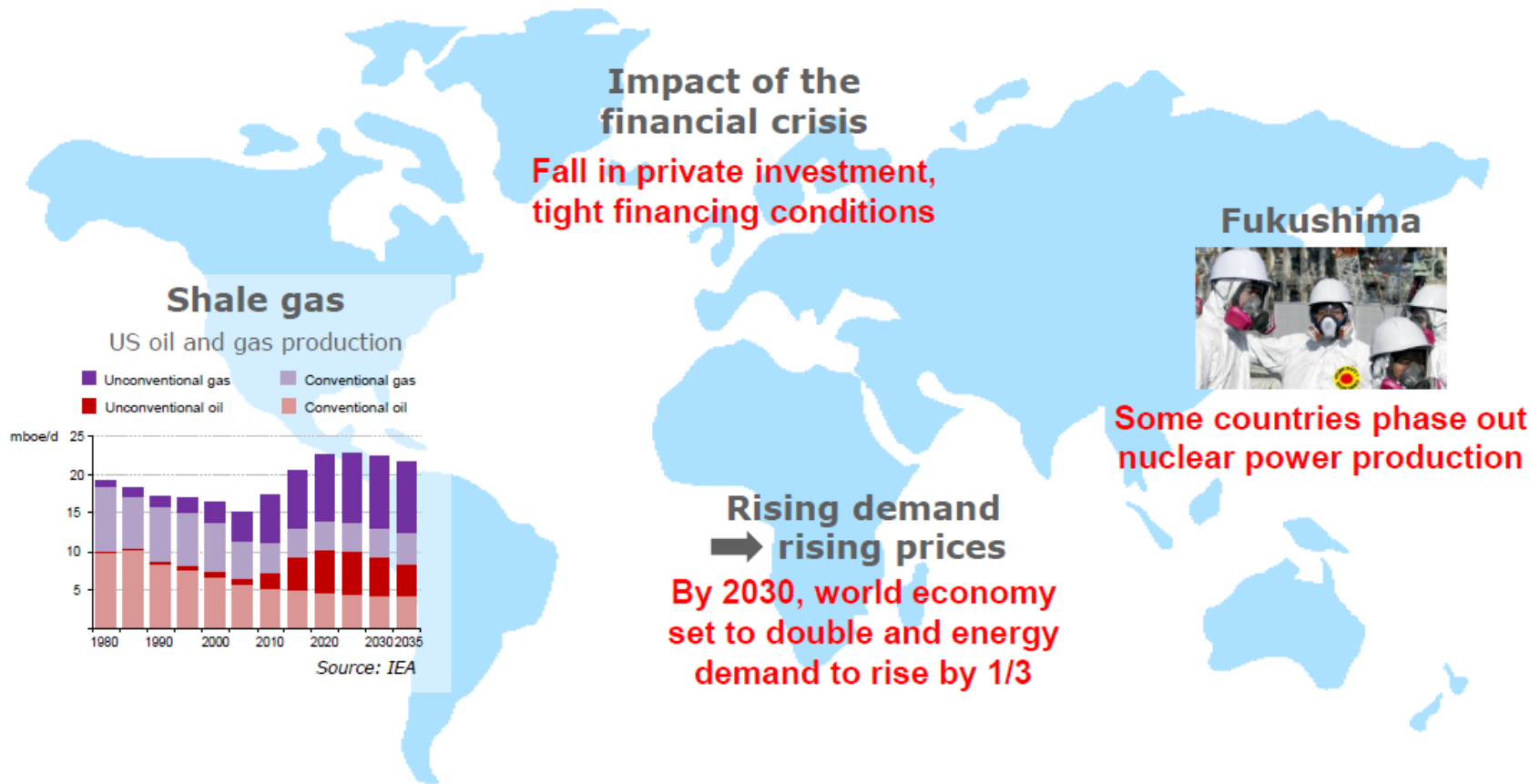
European Commission

Directorate-General for Energy

Head of "New energy technologies, innovation and clean coal" unit

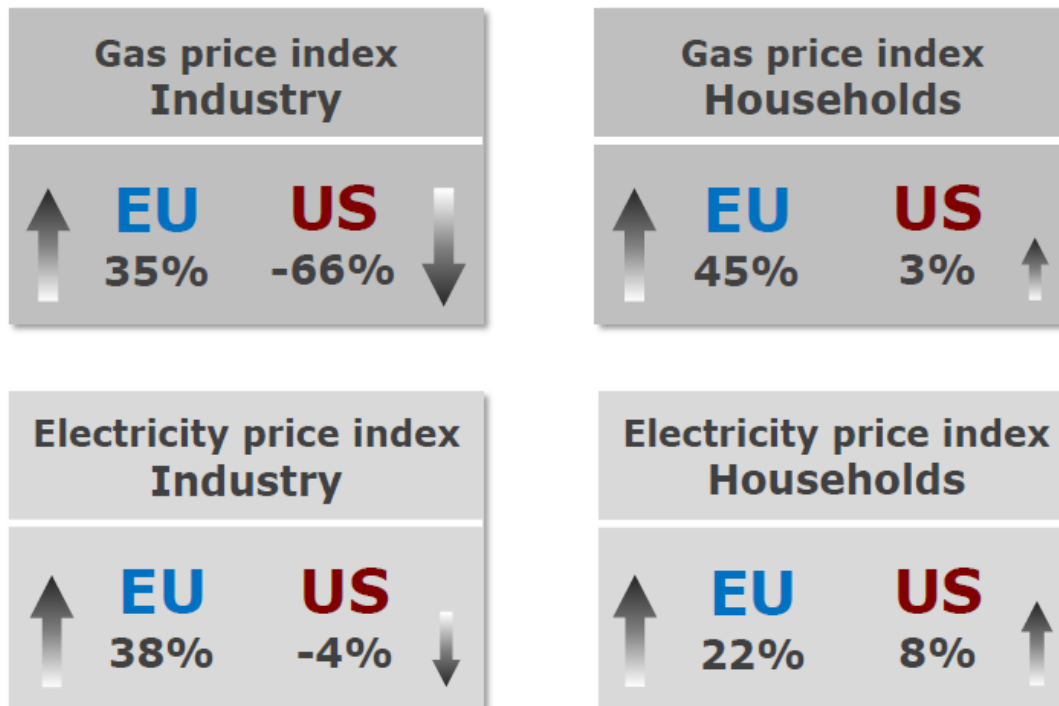


New realities in the global energy market



Prices affect competitiveness

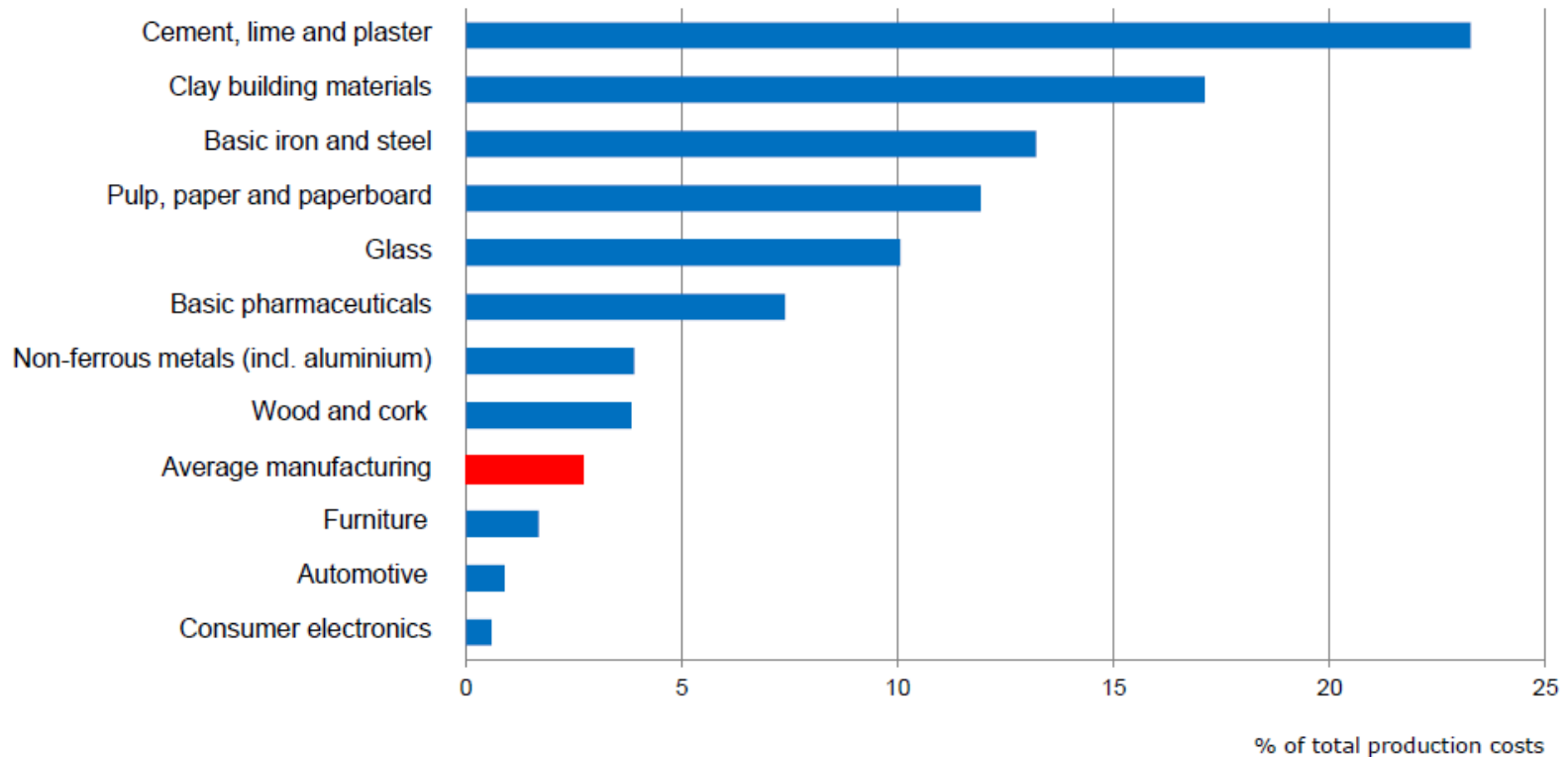
Trends in energy price indexes 2005-2012



Source: IEA

Energy-intensive industries are most exposed

Share of energy in % of production costs – selected sectors in Germany (2010)

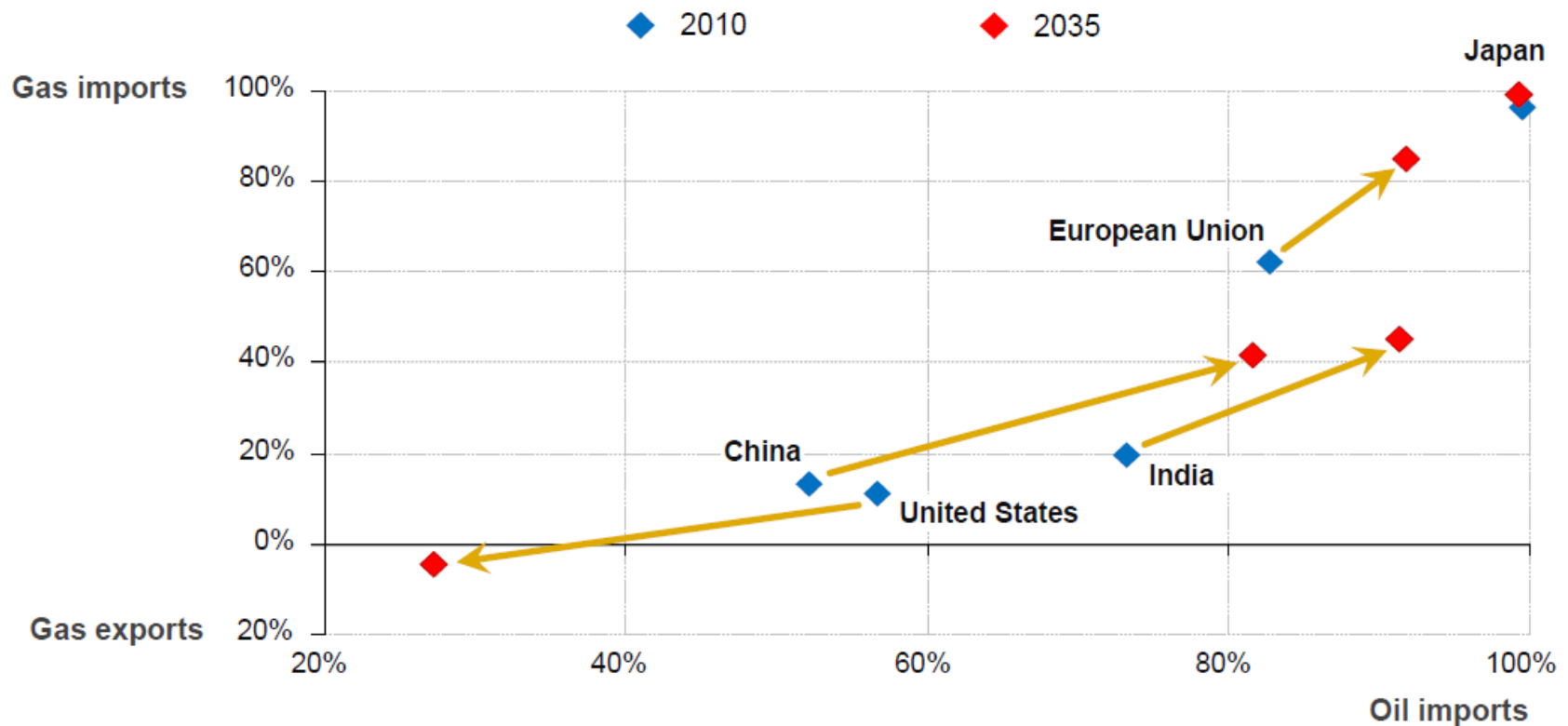


% of total production costs

Source: European Commission

Europe's dependence is set to increase

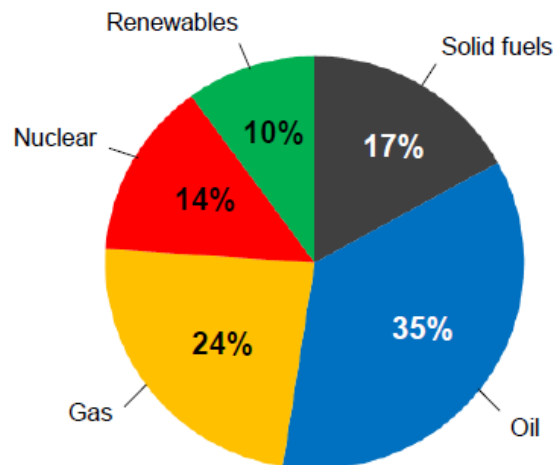
Net oil and gas import dependence by region



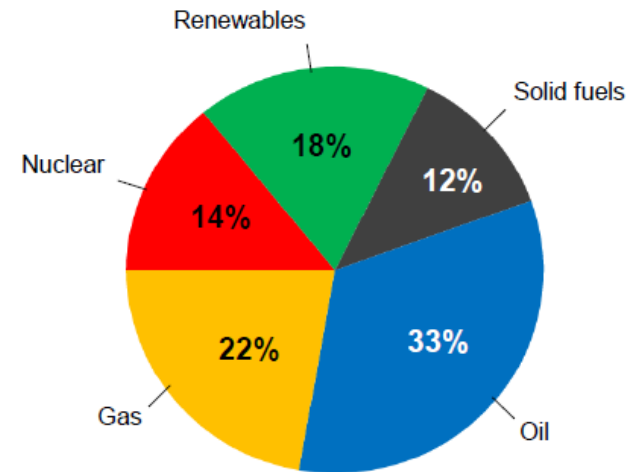
Source: IEA

Our energy mix will evolve

**EU gross inland consumption
2011**

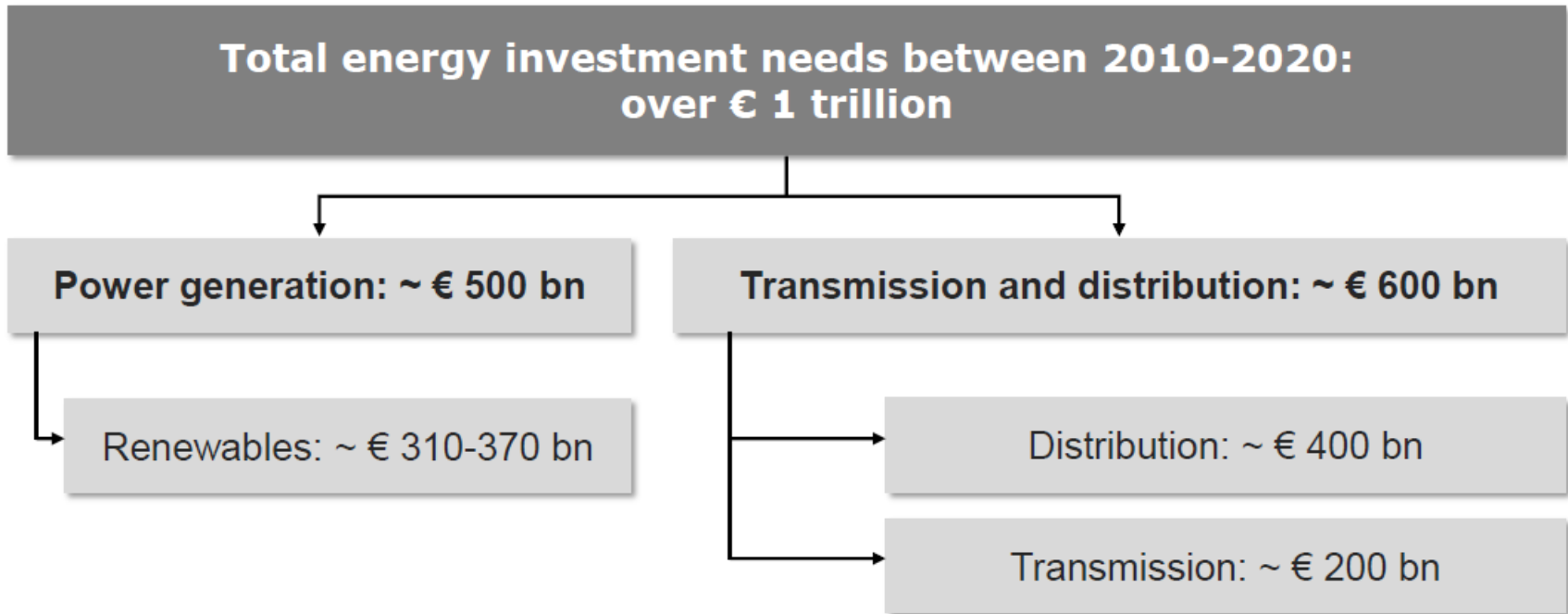


**EU gross inland consumption
2030 (scenario)**



Source: European Commission

Massive investments are required

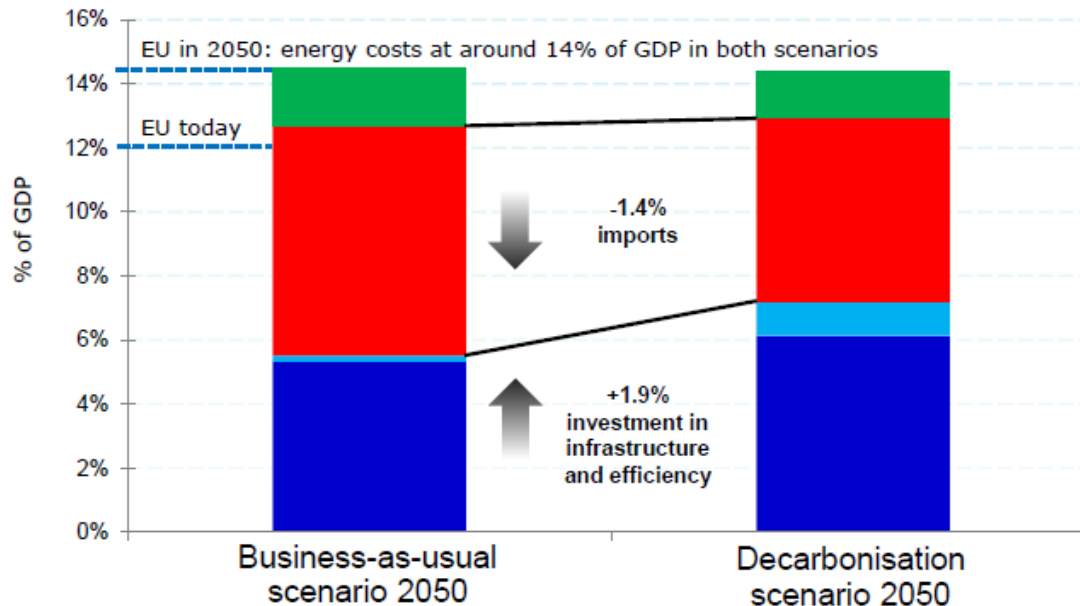


Source: European Commission

Will there ever be cheap energy for Europe?

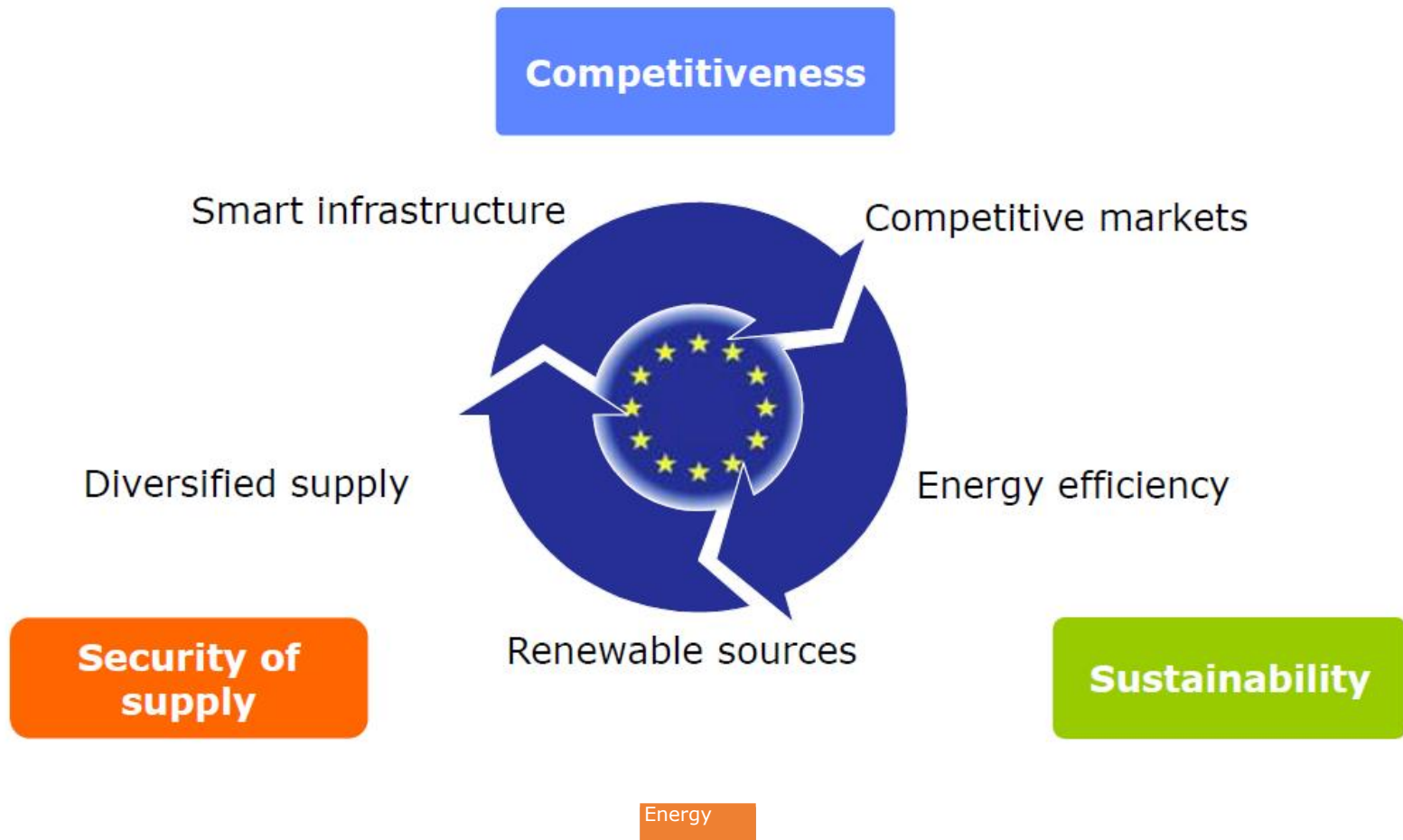
Energy costs to rise in all scenarios but Europe will benefit most from decarbonisation
(in % of GDP, annually until 2050)

- Fuel imports
- Other energy purchase (domestic)
- Investment in infrastructure
- Investment in energy efficiency



Source: European Commission

A "no regrets" scenario for Europe



2030 framework



Investment security



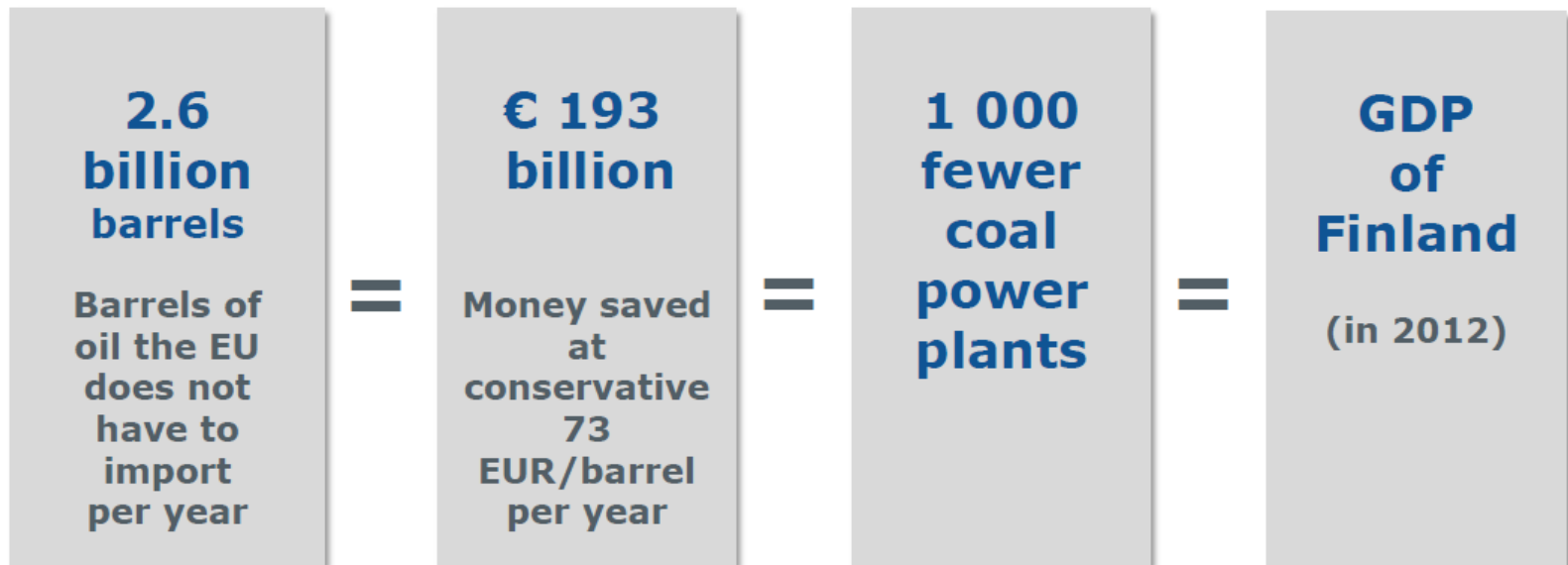
Economic recovery
and energy security



UNFCCC 2015

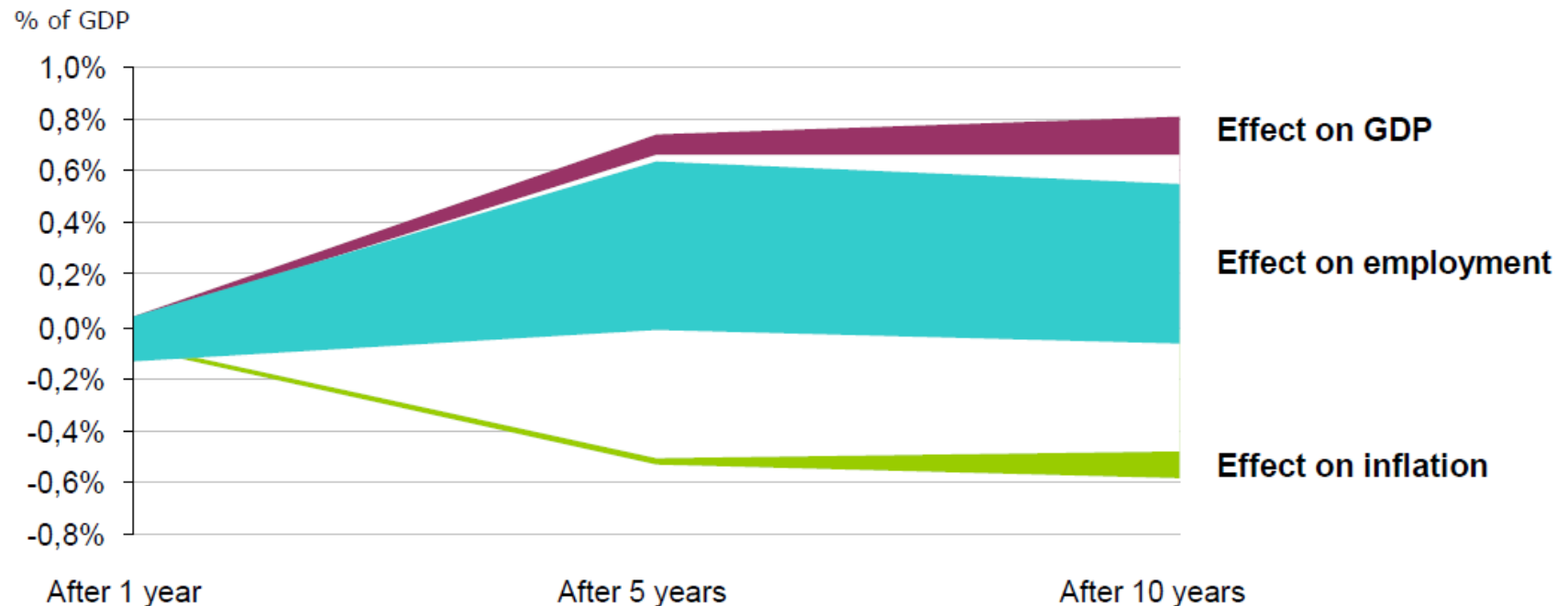
Priority 1. Boosting energy efficiency

Benefits of EU energy savings target of 20% by 2020

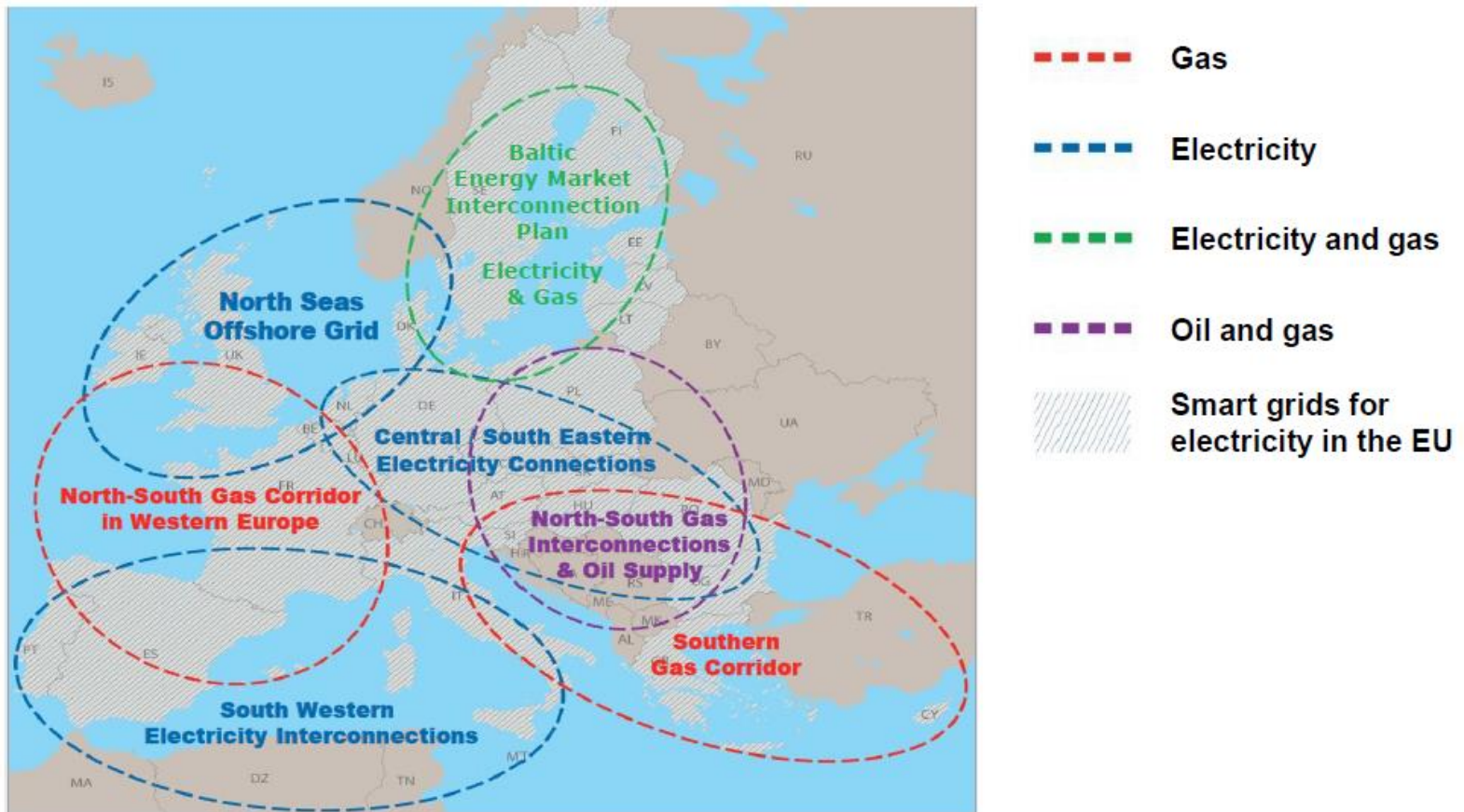


Priority 2. Completing the internal energy market

Estimated effects of opening gas & electricity markets (in % of GDP - ranges)



Priority 3. Smarter infrastructure



Source: European Commission

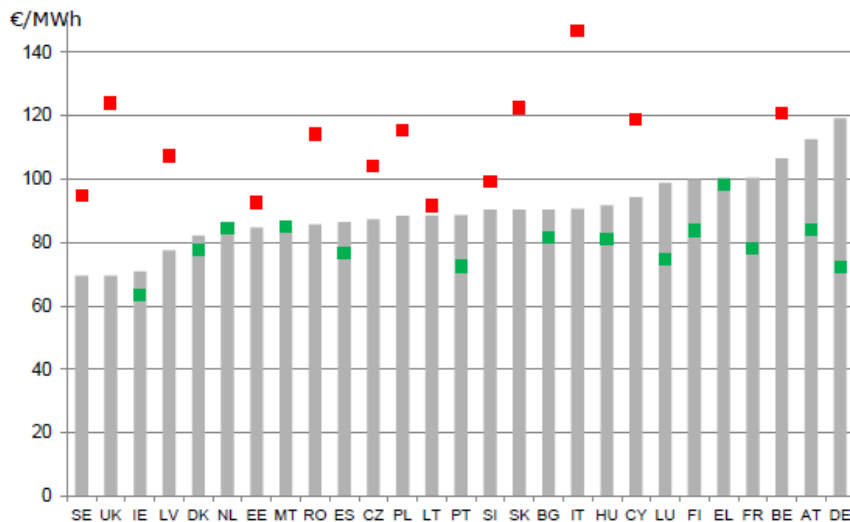
Priority 4. Cost-effective use of renewable sources

Production costs versus subsidies for renewables

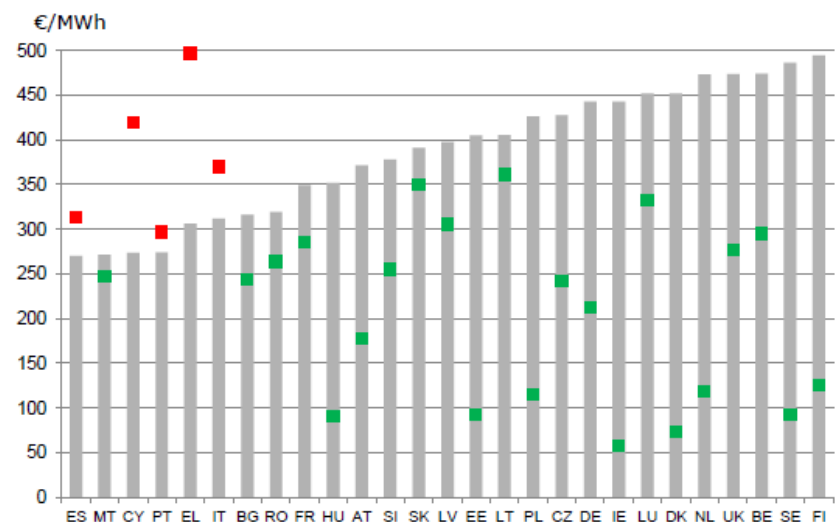
(averages, in €/MWh, latest year available)

■ Production costs
 ■ Subsidies over production costs
 ■ Subsidies below production costs

Wind energy on-shore



Solar energy (photovoltaics)





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Priority 5. diversified energy supply

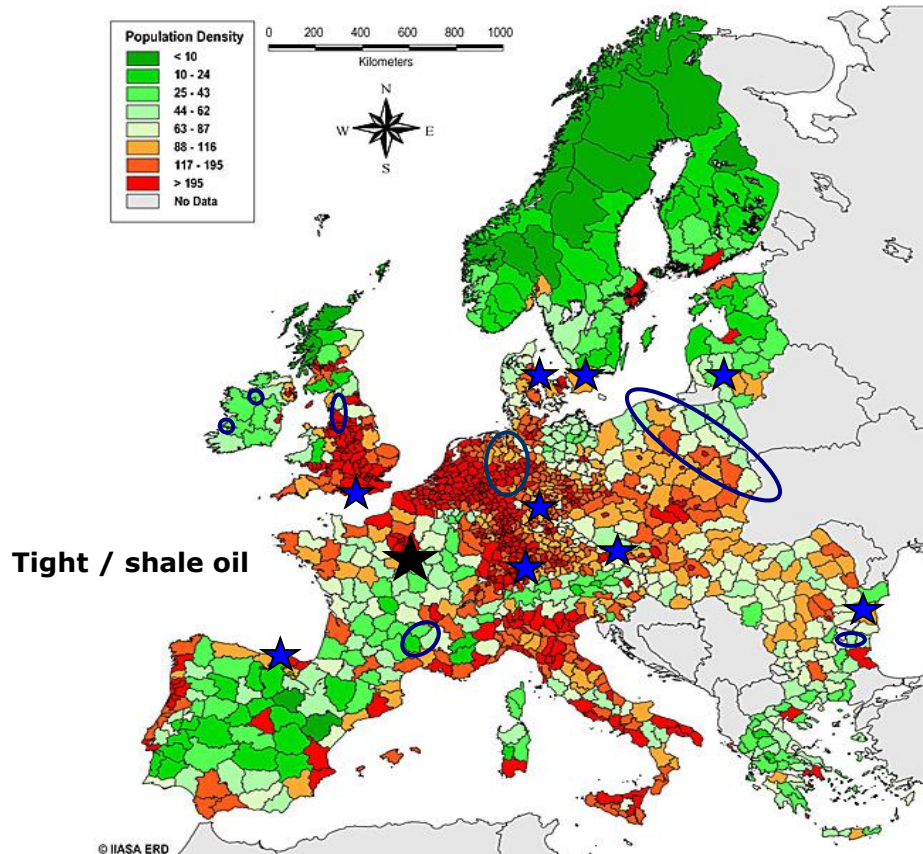
The external dimension



This map is for communication purposes only.
The information contained in this map does not necessarily reflect the policy of the European Union.

Priority 5. diversified energy supply

More indigenous resources



Shale gas licenses and population density

Granted Shale gas licenses:



Future funding for energy policy

What do we want to achieve?

The importance of energy policy is well reflected in the multi-year EU budget for 2014-2020.

Funding priorities over this period will be:

- infrastructure,
- technology,
- energy efficiency and renewables, and
- improving nuclear safety and decommissioning.

Research and Innovation INTEGRATION



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- *Energy efficiency - end use consumption*
- *Solutions for a competitive & sustainable energy system*
- *Fostering innovation in real environments*



Energy

SET Plan adopted in 2008



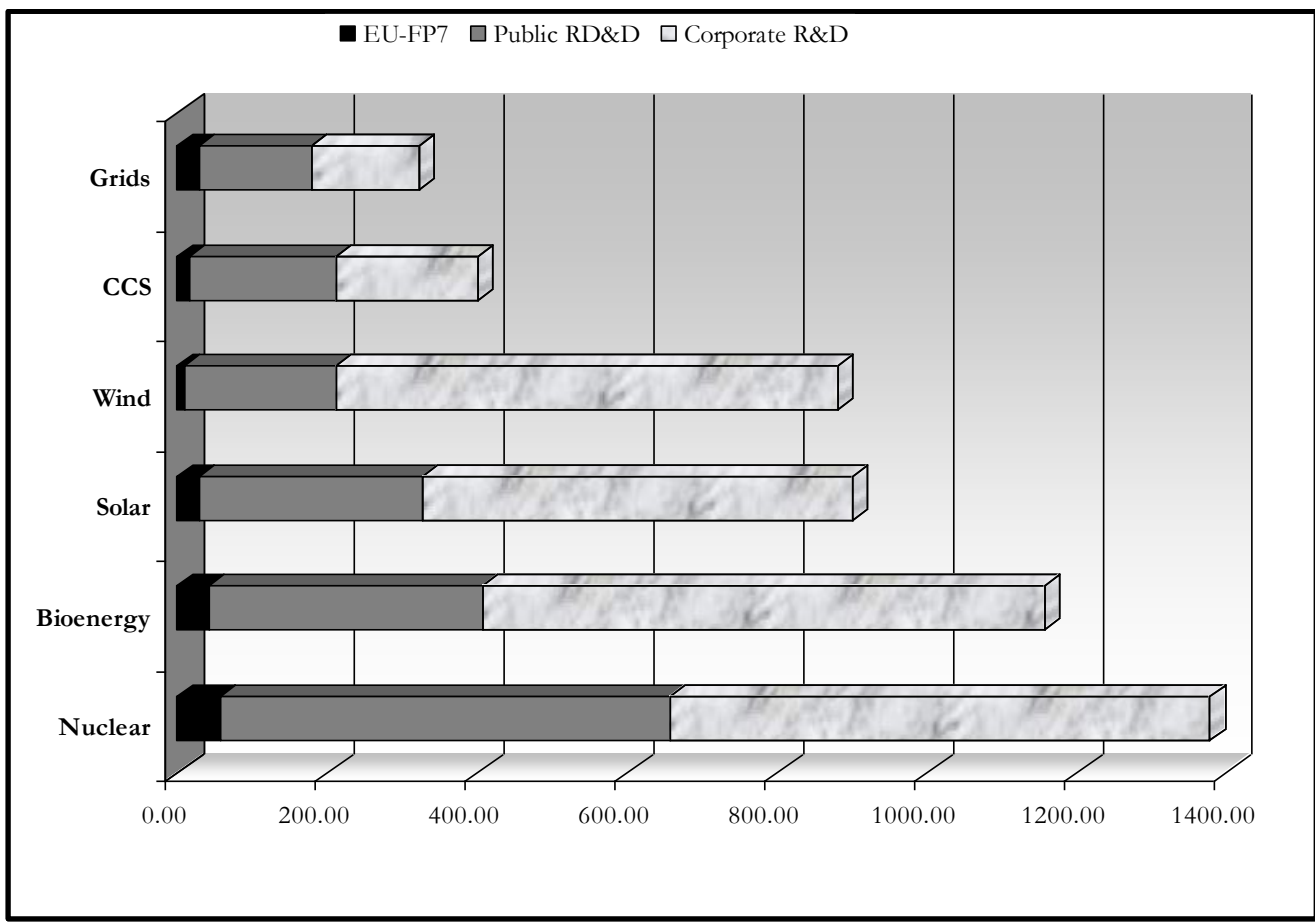
- ***Focus on technologies with market impact up to 2020 (set up of EIIs)***
 - Wind
 - Solar
 - Electricity grids
 - CCS
 - Bioenergy
 - Nuclear
 - Smart Cities and Communities
 - Fuel cells and hydrogen
- ***Focus on longer-term research actions beyond 2020 (set up of EERA)***
- ***Financing***



SET Plan R&D investments in 2010



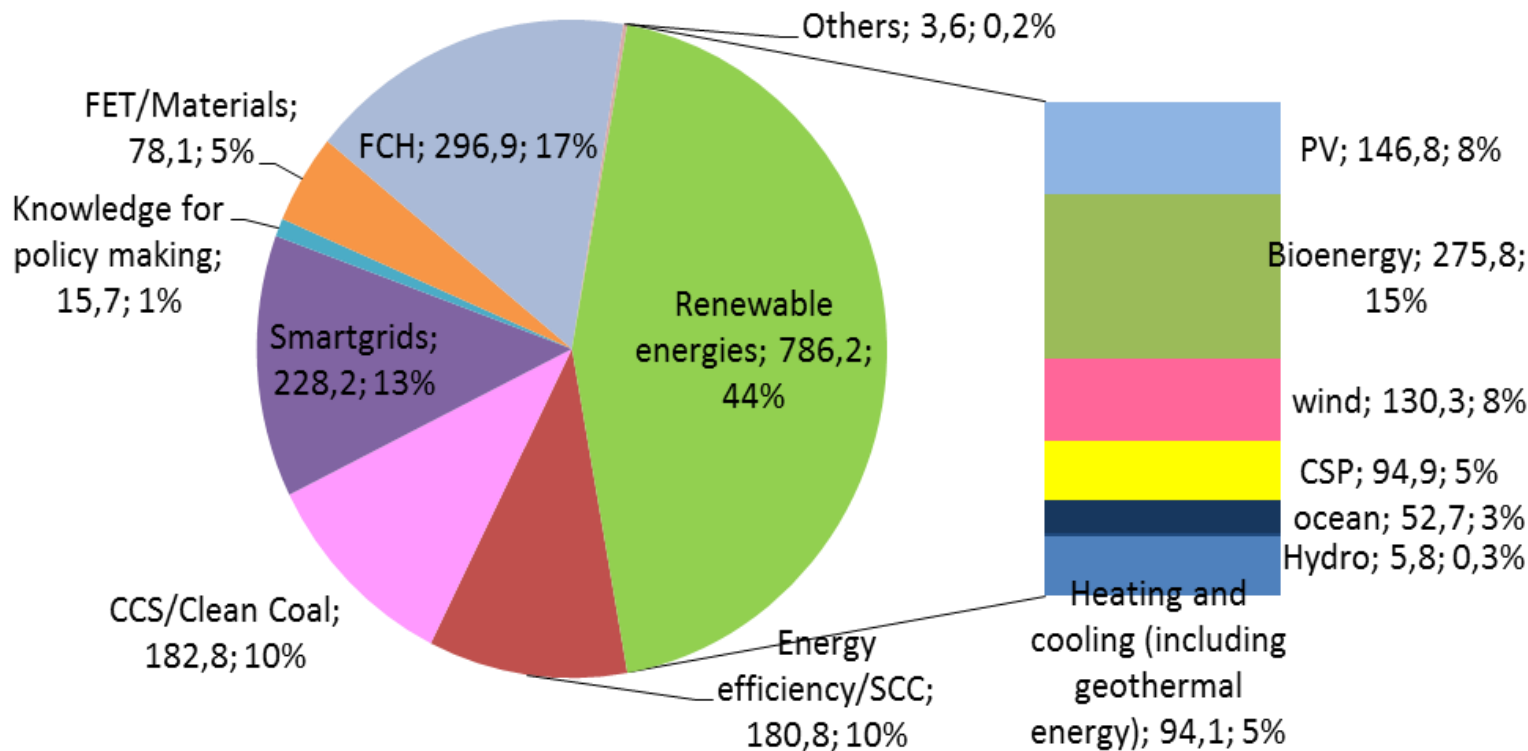
Almost a doubling compared to 2007



Public and corporate R&D by SET Plan technologies and source (2010) - EPR funding is not included - Source: JRC/SETIS (COM(2013) 253 final)

7th FP - Funding for sustainable energy (calls 2007-2012)

EU contribution per activity (FP7 Energy, 2007-2012; Mio €; share of total)



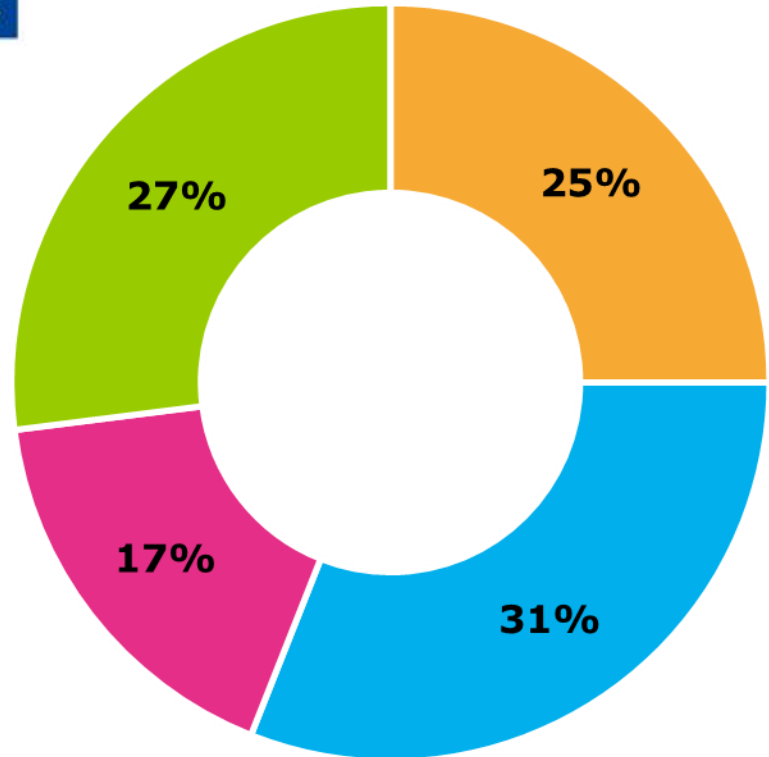
EU support to tackling non-technological barriers (IEE II)



The EU funding programme for the market uptake of sustainable energy solutions

EU contribution: 732 million € from 2007 to 2013

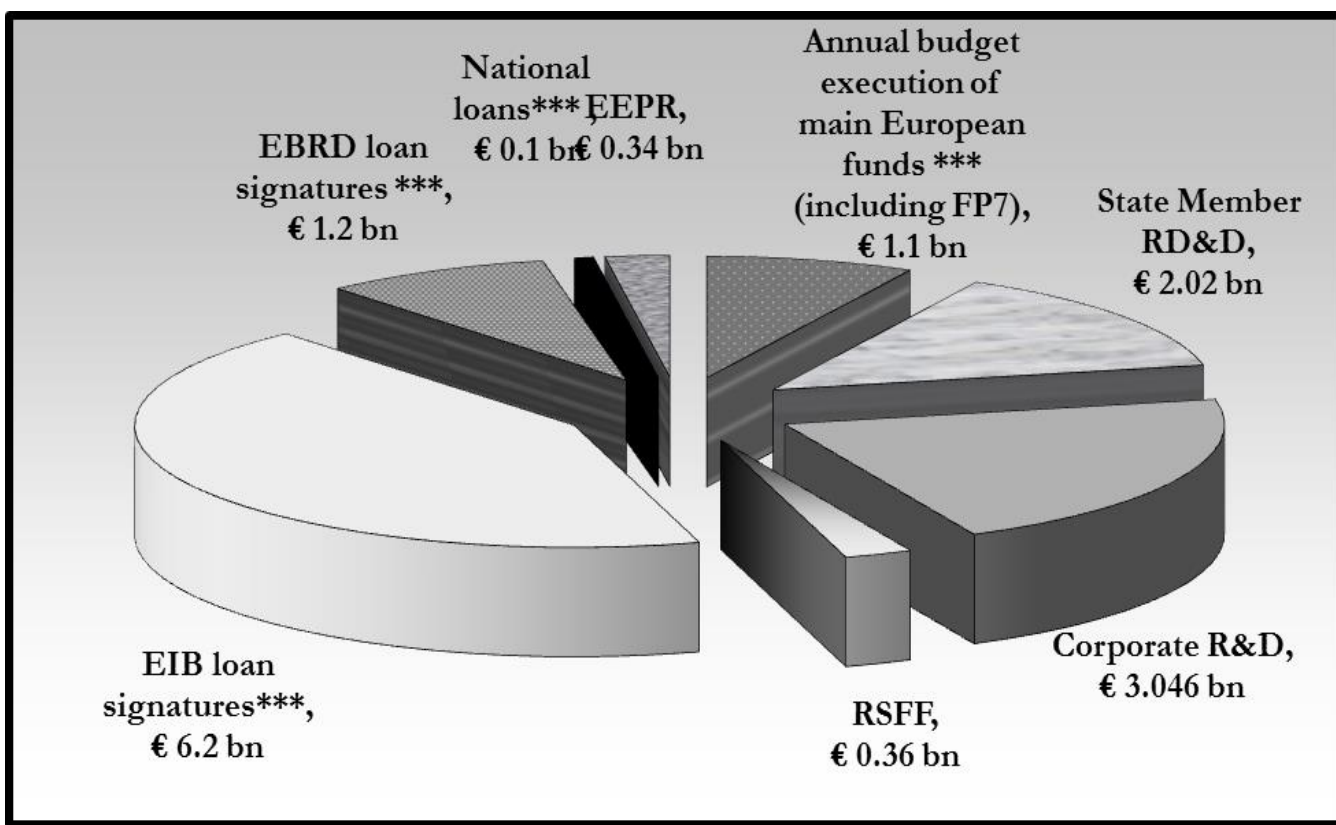
300+ EU projects (2007-2011) with more than 2,500 market actors



Budget distribution (excl. ELENA & tenders)

- **SAVE** - Energy efficiency in buildings, products and industry
- **ALTENER** - Renewable energy sources
- **STEER** - Energy use in transport
- **INTEGRATED** - Projects addressing both energy efficiency and renewables

Financing the low carbon energy technologies

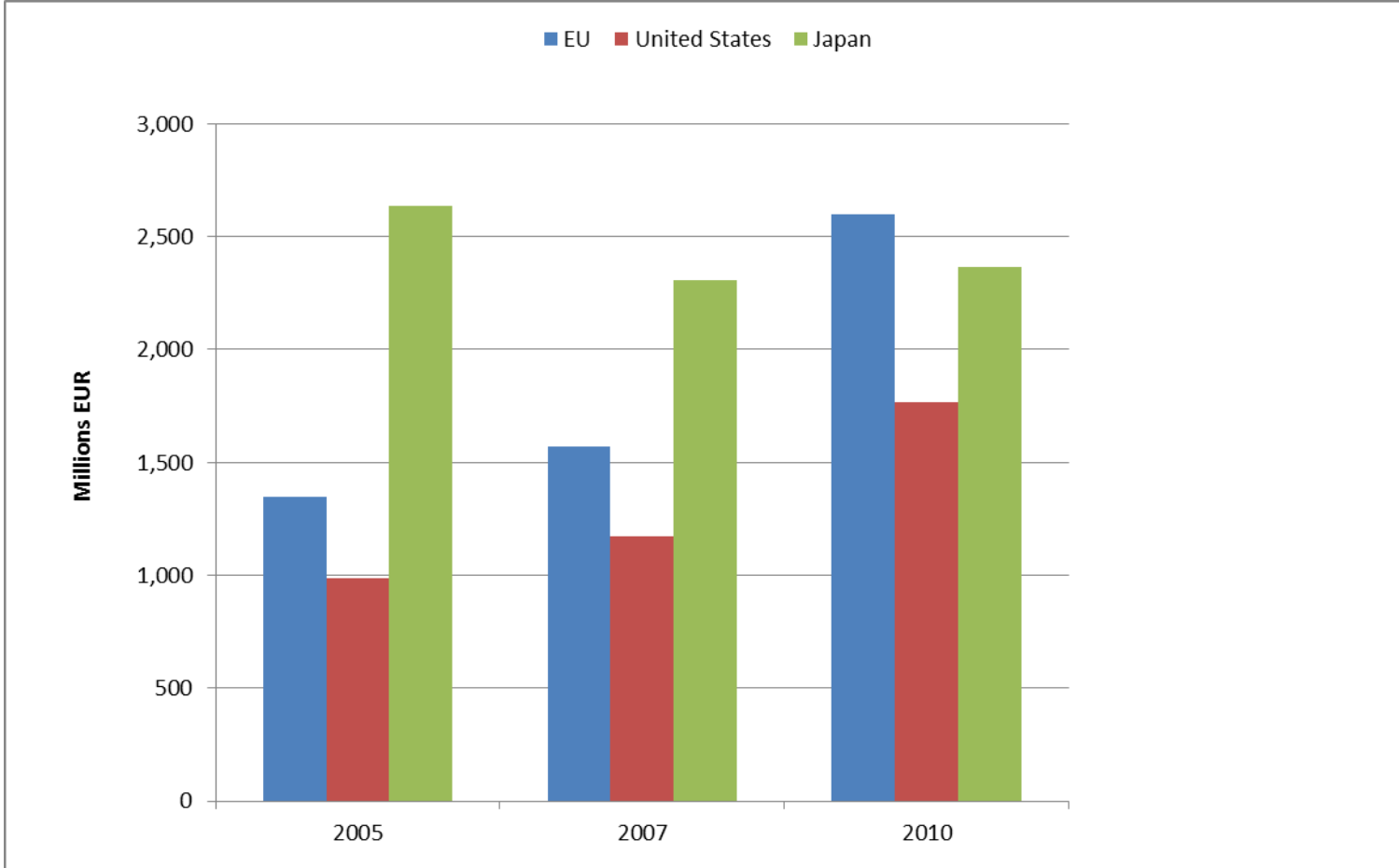


Indicative distribution of the financial support of the main bodies involved in financing energy efficiency projects, RES RD&D and deployment programs for the year 2010 – Source: JRC/SETIS (SWD(2013) 157 final)

EU public R&D spending for energy

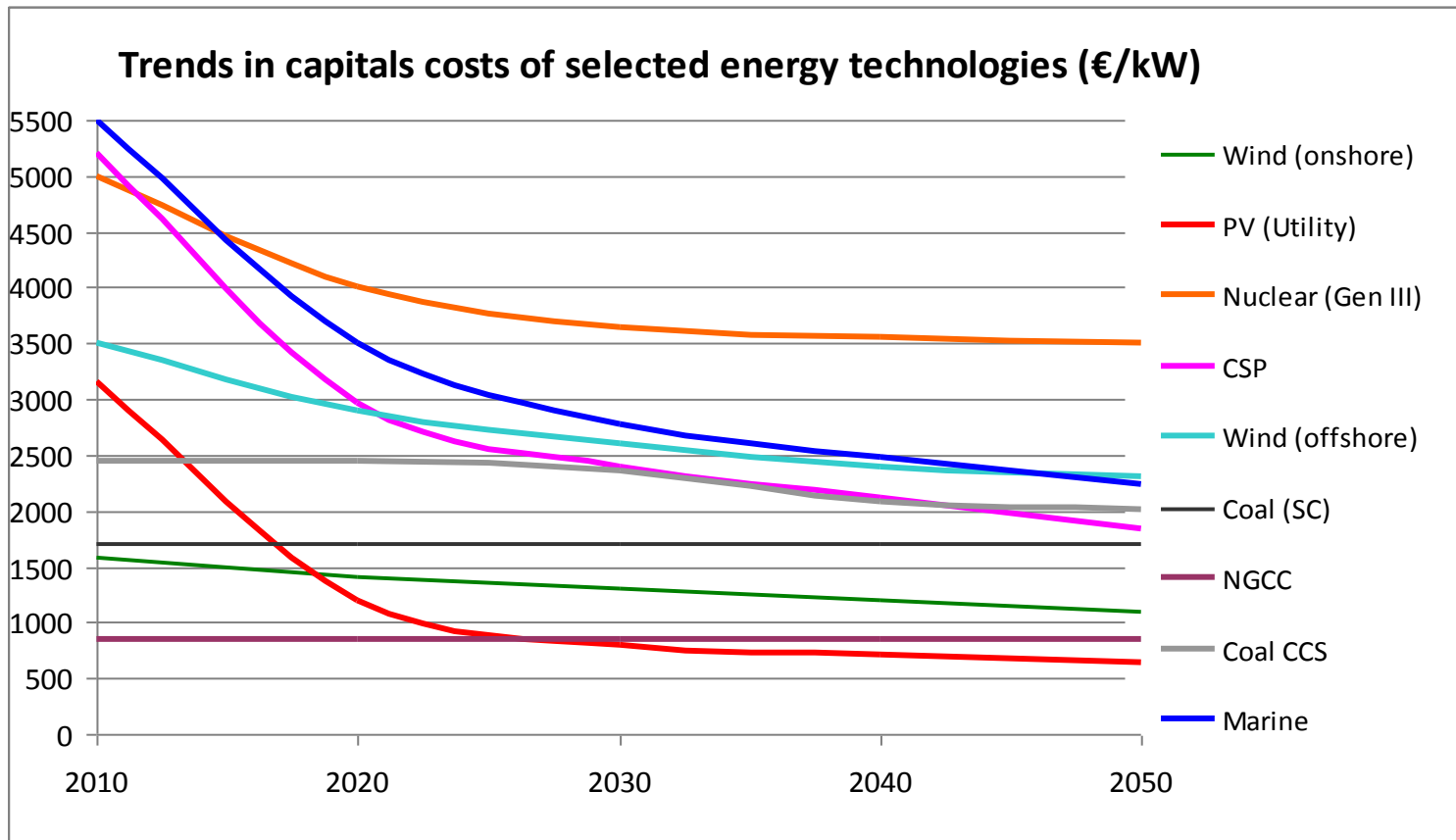


*Increased over 2007- 2010
and caught up with Japan and USA*



Source: JRC/SETIS

Remains a significant potential for innovation to be captured

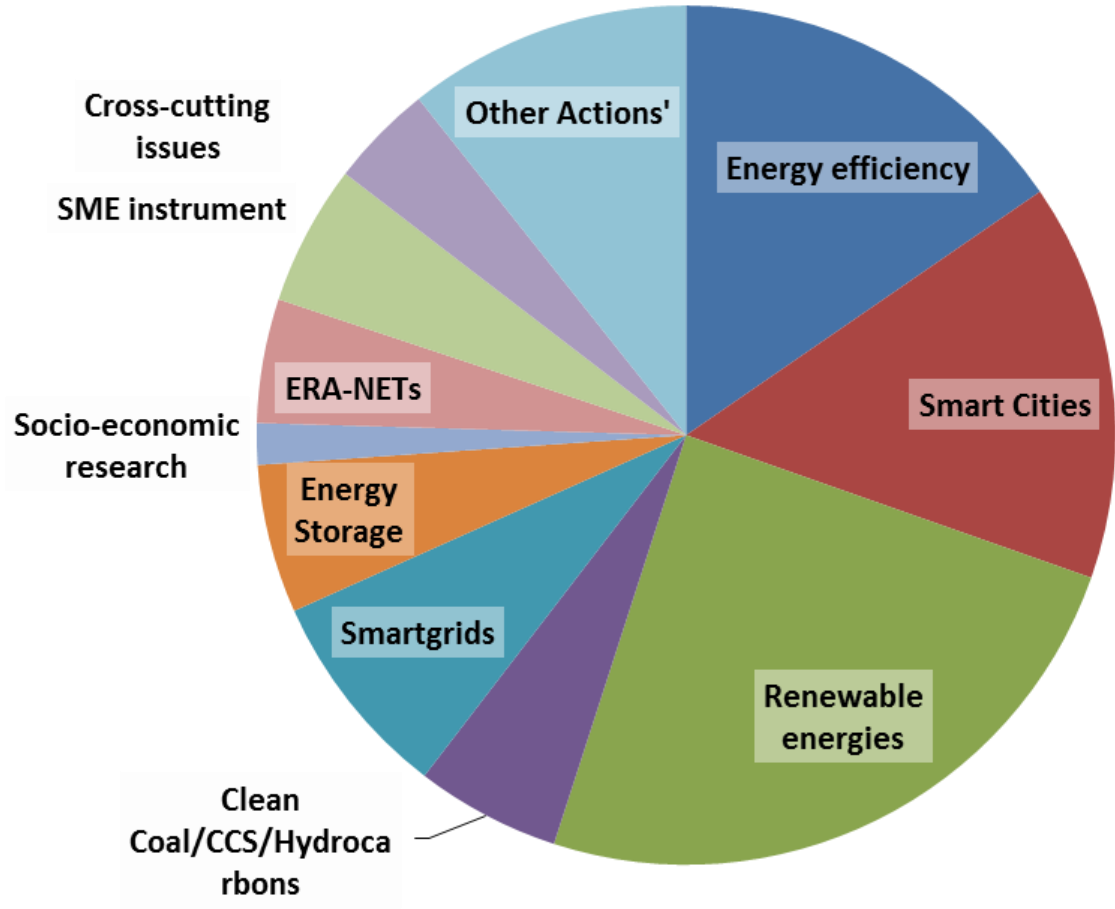


Capital cost reductions for selected energy technologies in absolute values - Source: JRC-SETIS SWD(2013)158 final

Horizon 2020 Energy challenge budget



Indicative Budget allocation of the Energy WP (2014 -2015)



TOTAL budget for 2014-15:
EUR 1.254 million

+ Contribution to JTI Fuel Cells and Hydrogen in 2014-15: **EUR 130.5 million**

For new challenges post 2020

- *Adding value at the EU level*
- *Looking at the whole energy system*
- *Bridging research and innovation with energy policy*
- *Making better use of existing and increased financial resources*
- *Keep options open*
- *Harness endogenous resources*





Thank you for your attention