



Energy Roadmap 2050

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● The Energy Roadmap 2050 as a basis for developing a long-term policy framework

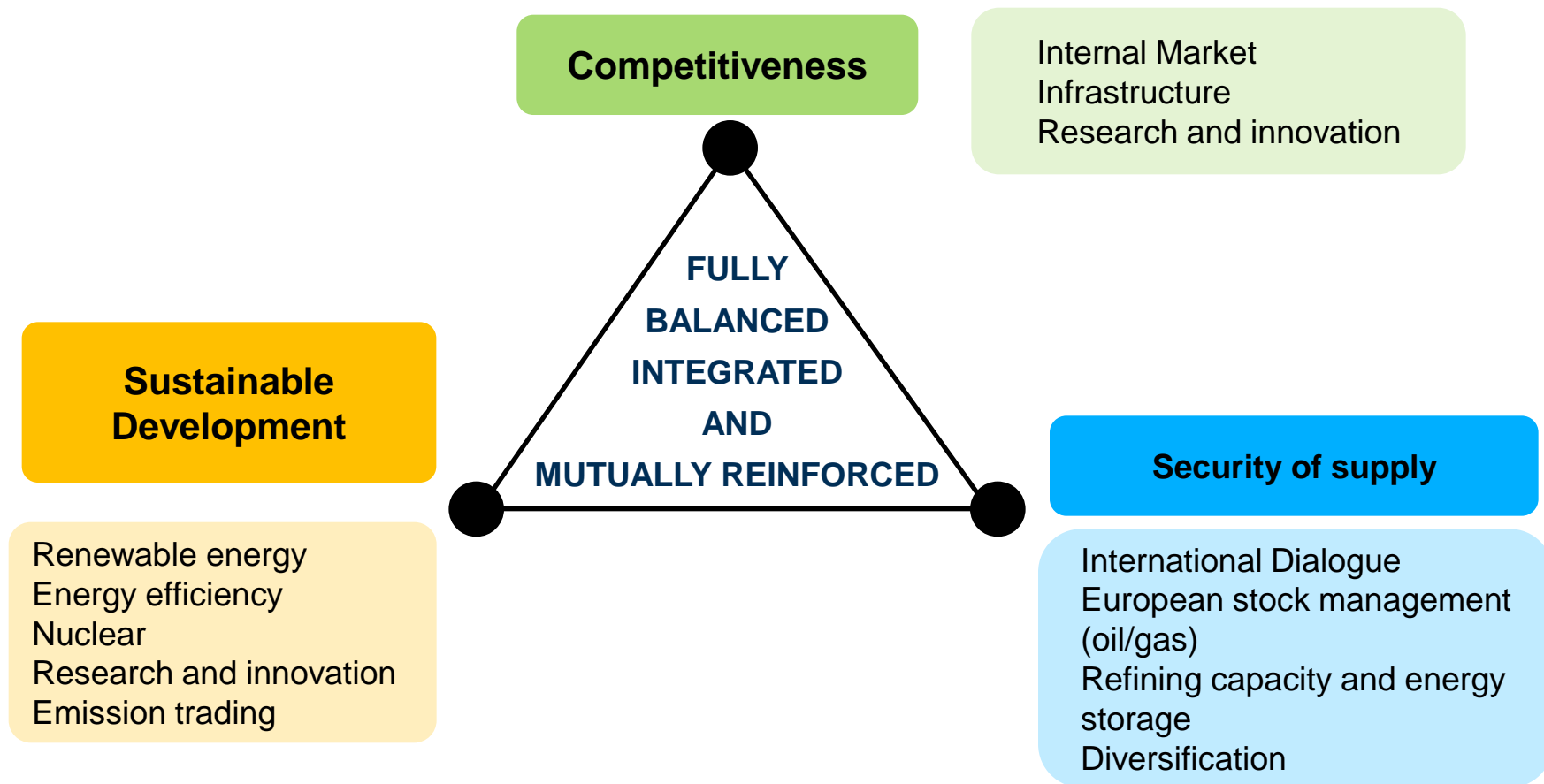
European Council

- EU objective for 2050 – GHG emissions down to 80-95% below 1990 levels
- Looks ahead to elaboration of a low-carbon 2050 strategy – a framework for longer-term action in energy and related sectors

Aim of the roadmap

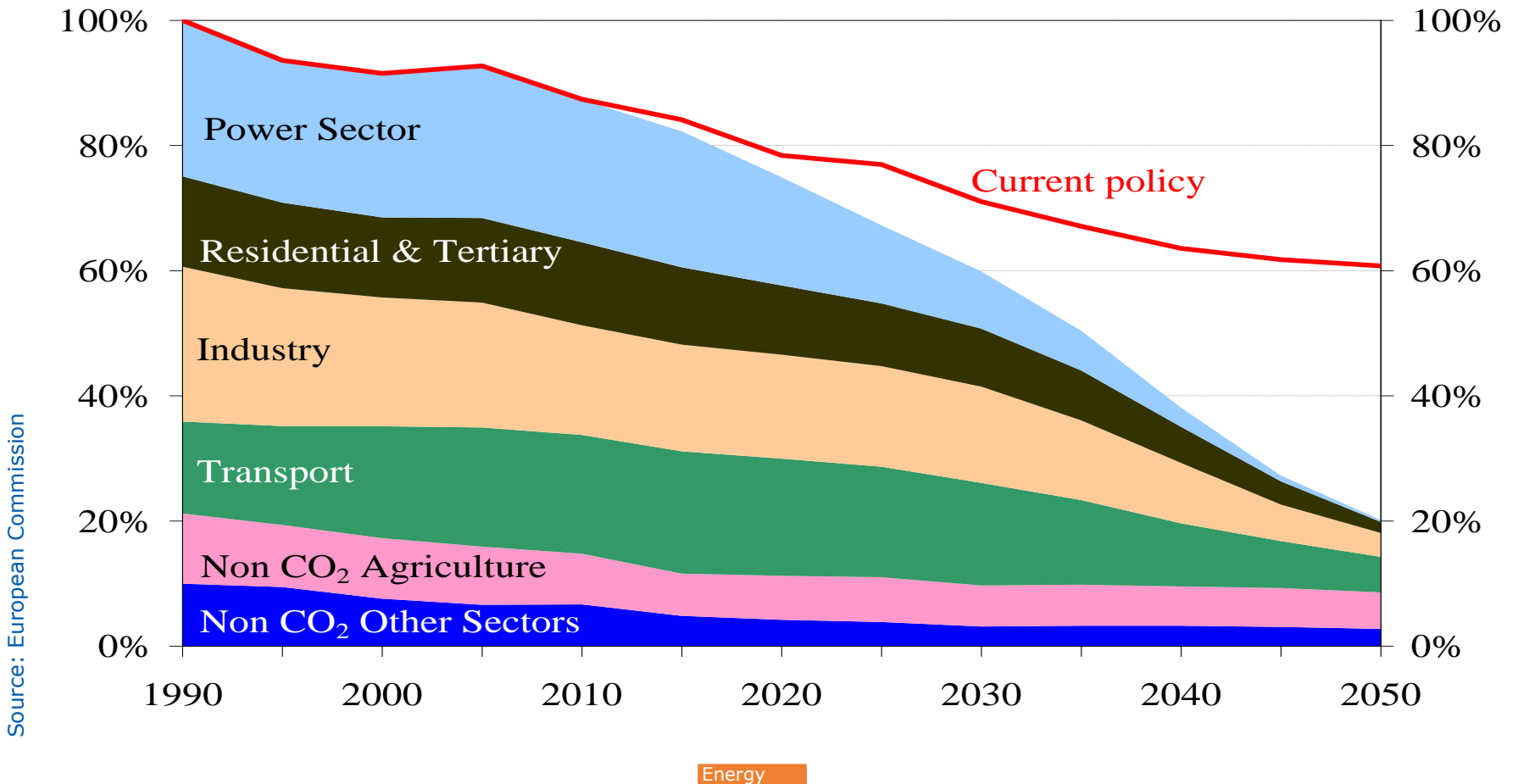
- Give more certainty to governments and investors
- Explore routes towards a low-carbon energy system by 2050 which improve competitiveness and security of supply
- Basis for developing the 2030 policy framework and concrete milestones with MS, EP and stakeholders

- **EU energy policy based on three objectives**



The Energy Roadmap 2050 considers all three objectives!

● The Low Carbon Economy Roadmap



● Scenarios explore routes to decarbonisation of energy system

Current trends scenarios

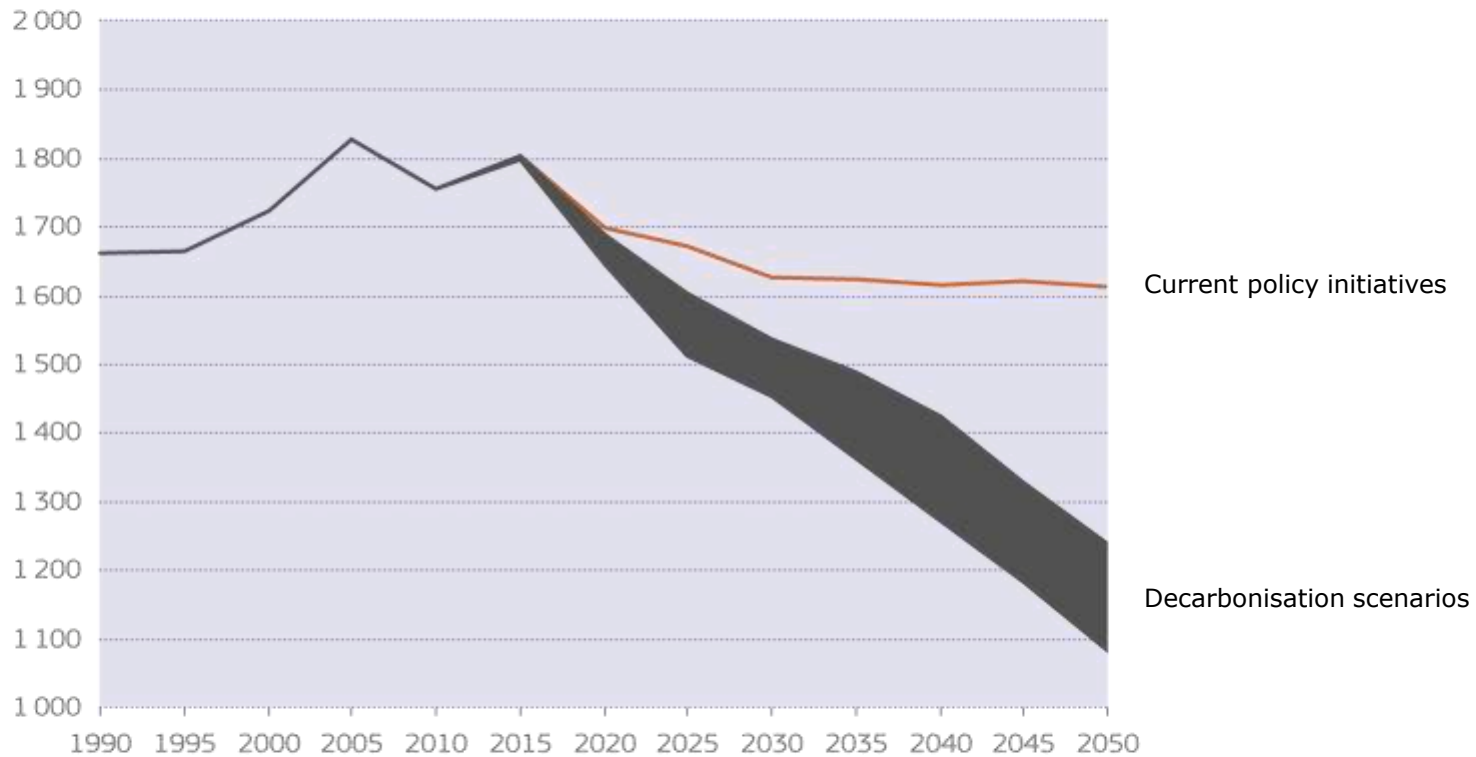
- Reference scenario (as of March 2010)
 - Current Policy Initiatives (as of April 2011)
- 40% GHG reduction by 2050

Decarbonisation scenarios

- High Energy Efficiency
 - Diversified Supply Technologies
 - High RES
 - Delayed CCS
 - Low Nuclear
- 80% GHG reduction – in line with European Council

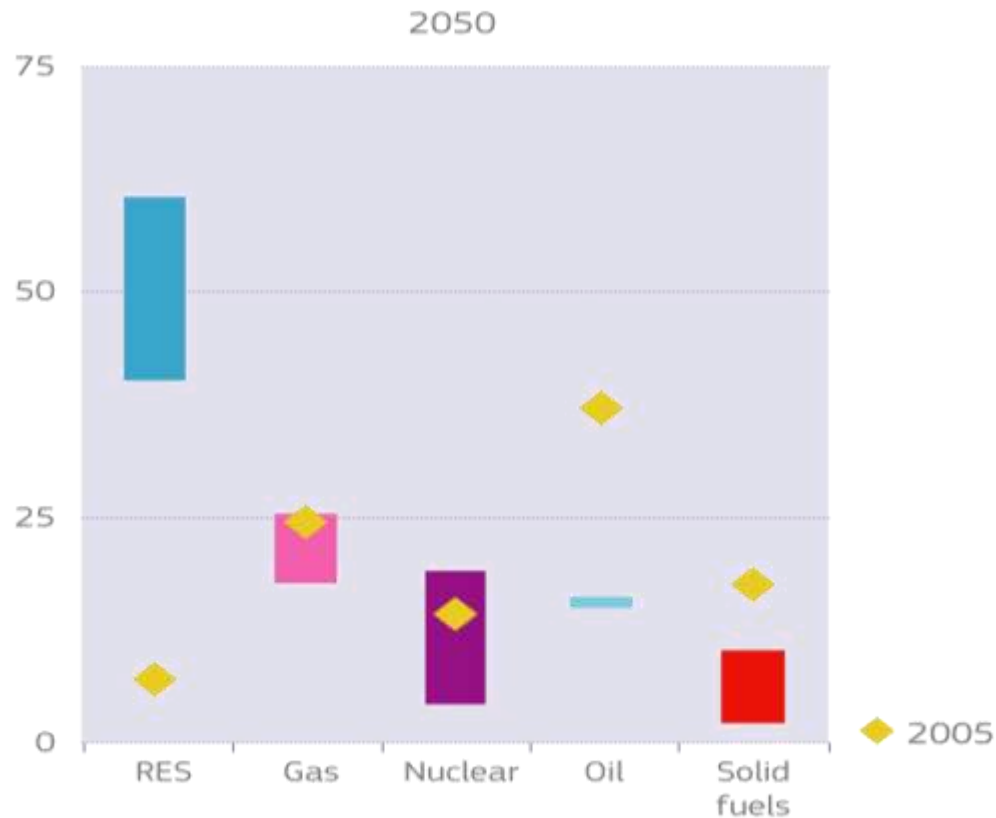
● *Energy savings throughout the system are crucial*

Gross energy consumption (in Mtoe)



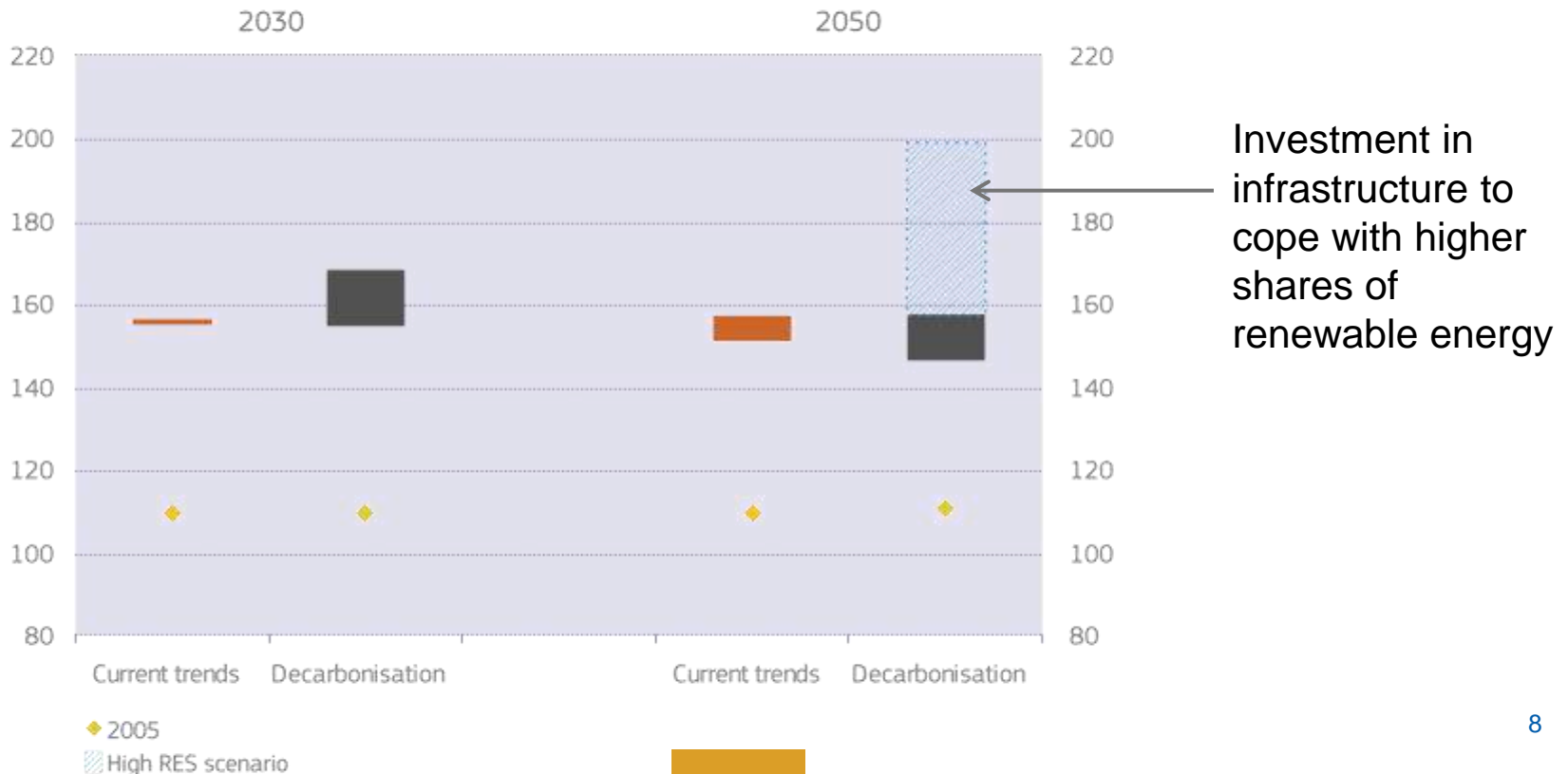
- *Renewables move centre stage – but all fuels can contribute in the long-run*

Decarbonisation scenarios - fuel ranges (primary energy consumption in %)

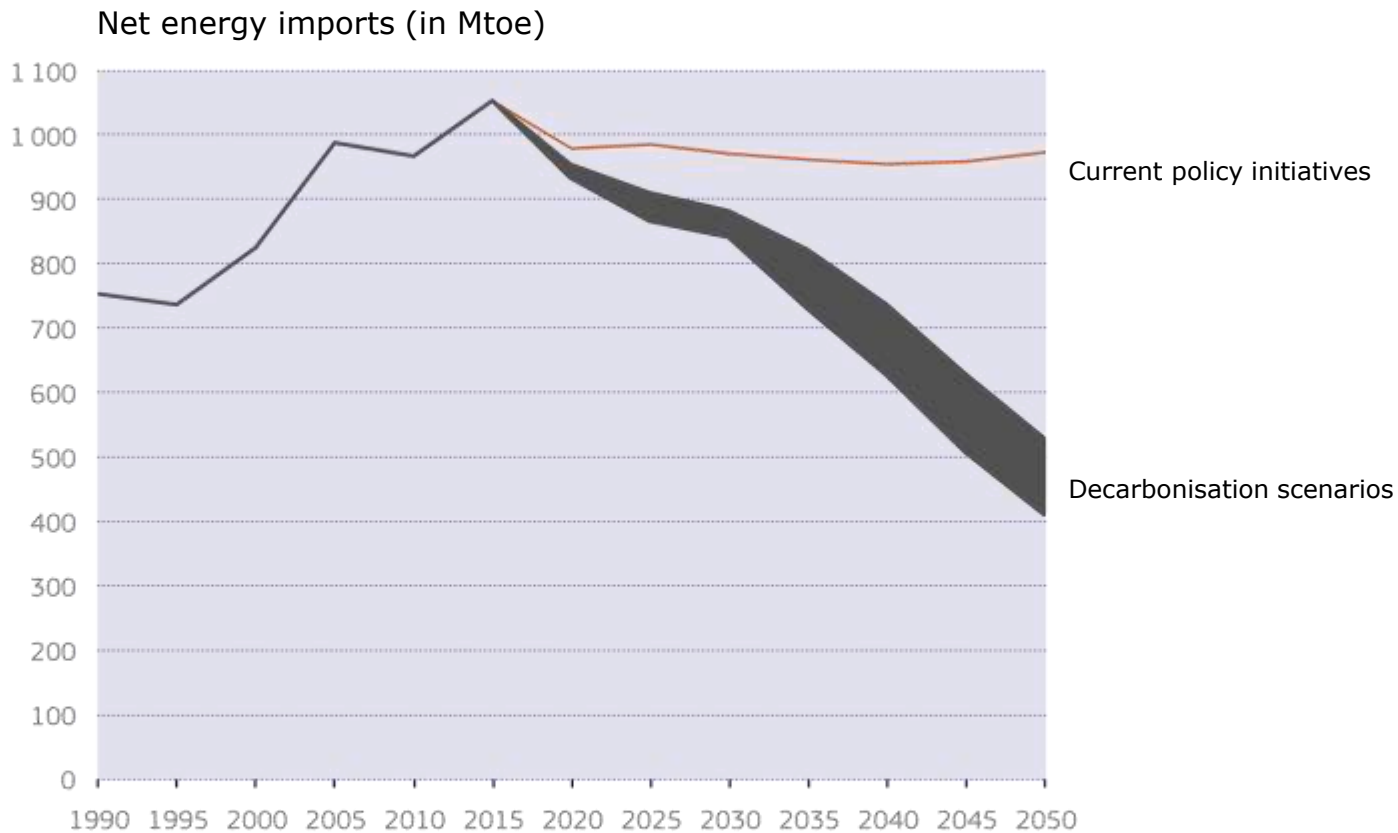


- Electricity prices may rise until 2030 and then decline
 - *Decarbonisation could mean lower prices in 2050 compared to current trends*

EU average electricity prices: price ranges under current trends and decarbonisation compared with 2005 in €(08)/MWh

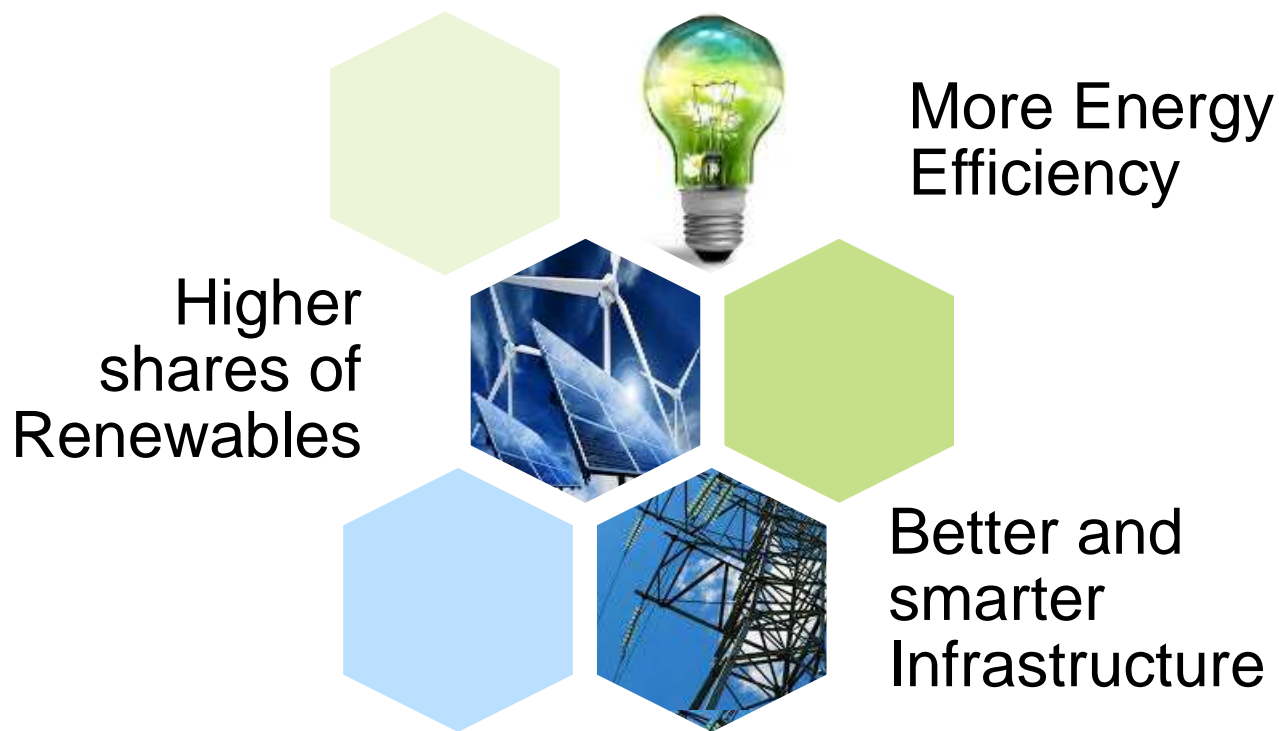


Import dependency falls as well as the EU energy imports bill



Decarbonisation is possible and can be less costly than current policies in the long-run

- *"No Regrets" options from the Energy Roadmap 2050*



- *The 2030 framework will build on the 2050 Roadmaps
- Concrete proposals by the end of 2013*



- *Early agreement on the 2030 framework is essential*



Increased certainty for Member States and reduced regulatory risks for investors

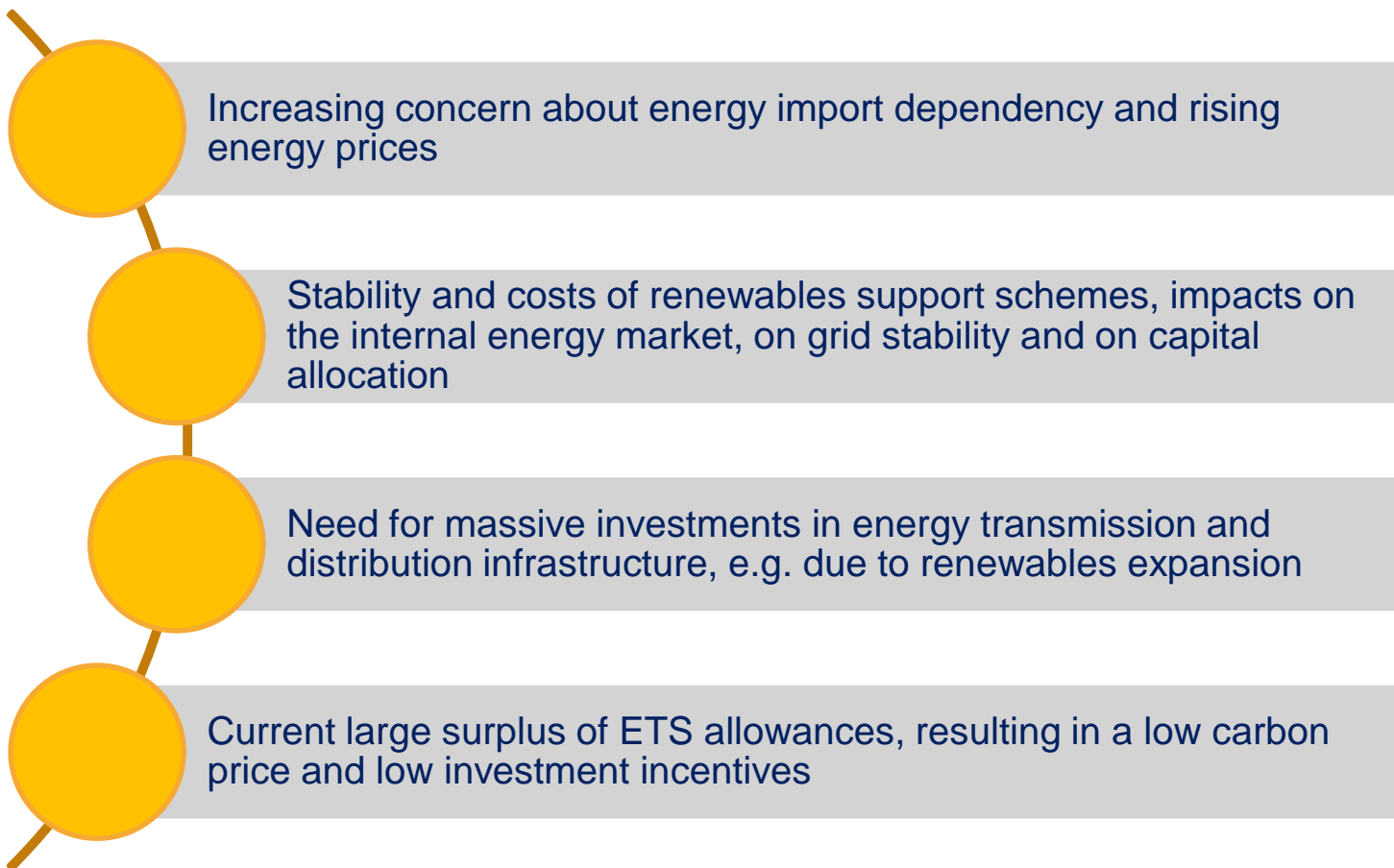


Growth and jobs through demand for efficient and low-carbon technologies



Definition of EU ambitions in view of a new international climate change agreement

- *Challenges in meeting 2020 targets - to be considered in the 2030 framework*



- *These are the main issues to be considered for the 2030 framework*

Targets

- Which targets for 2030 would be most effective?
- At what level (EU, MS, sectors?), and should they be legally binding?

Instruments

- Most appropriate policy instruments to meet potential targets?
- How can Research and Innovation best support 2030 framework?

Competitiveness & Security of Supply

- Take account of international developments, e.g. Climate negotiations
- Internationally competitive and affordable energy prices

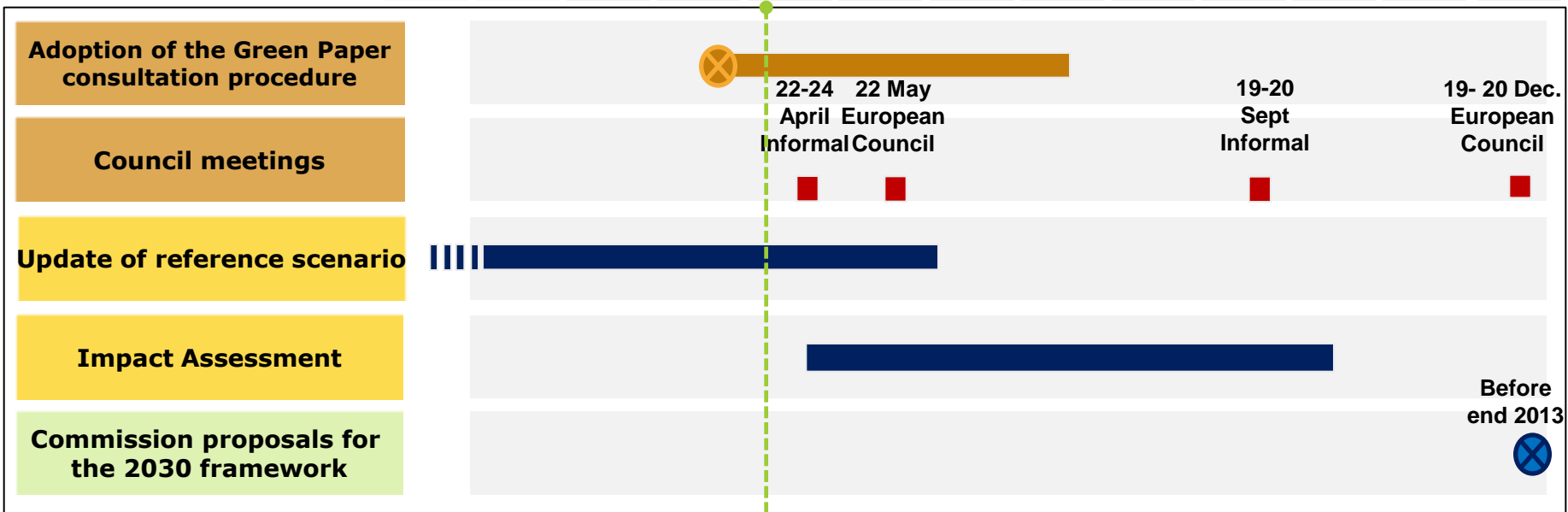
Effort Sharing

- Equitable distribution of efforts be among Member States
- Different investment capacities of industry sectors and consumer groups



● *Concrete steps towards the 2030 framework in 2013*

2012 Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sept. Oct. Nov. Dec.





Documents:

http://ec.europa.eu/energy/energy2020/roadmap/index_en.htm

http://ec.europa.eu/energy/green_paper_2030_en.htm