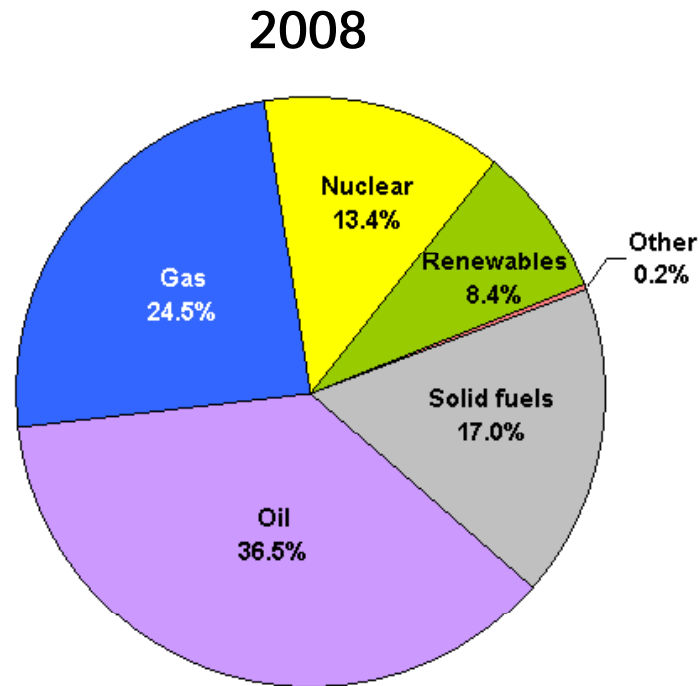




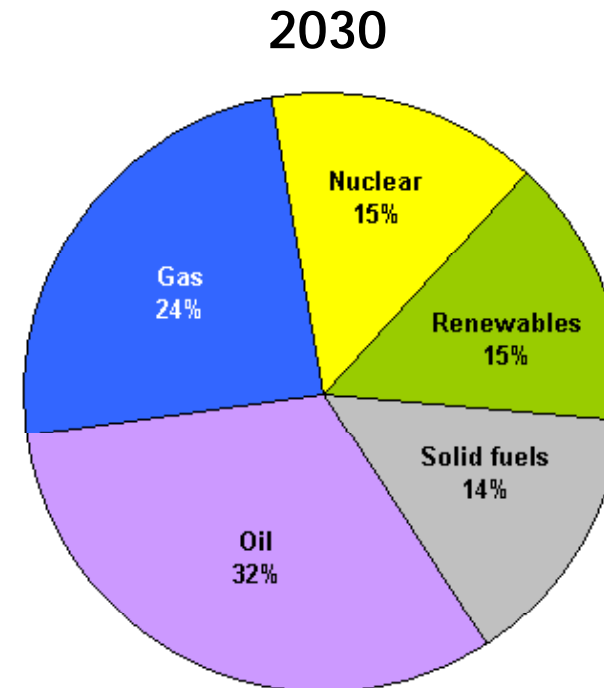
Energy governance in the European Union: Role of the market

Dr. Thijs Van de Graaf

A snapshot of the energy sector



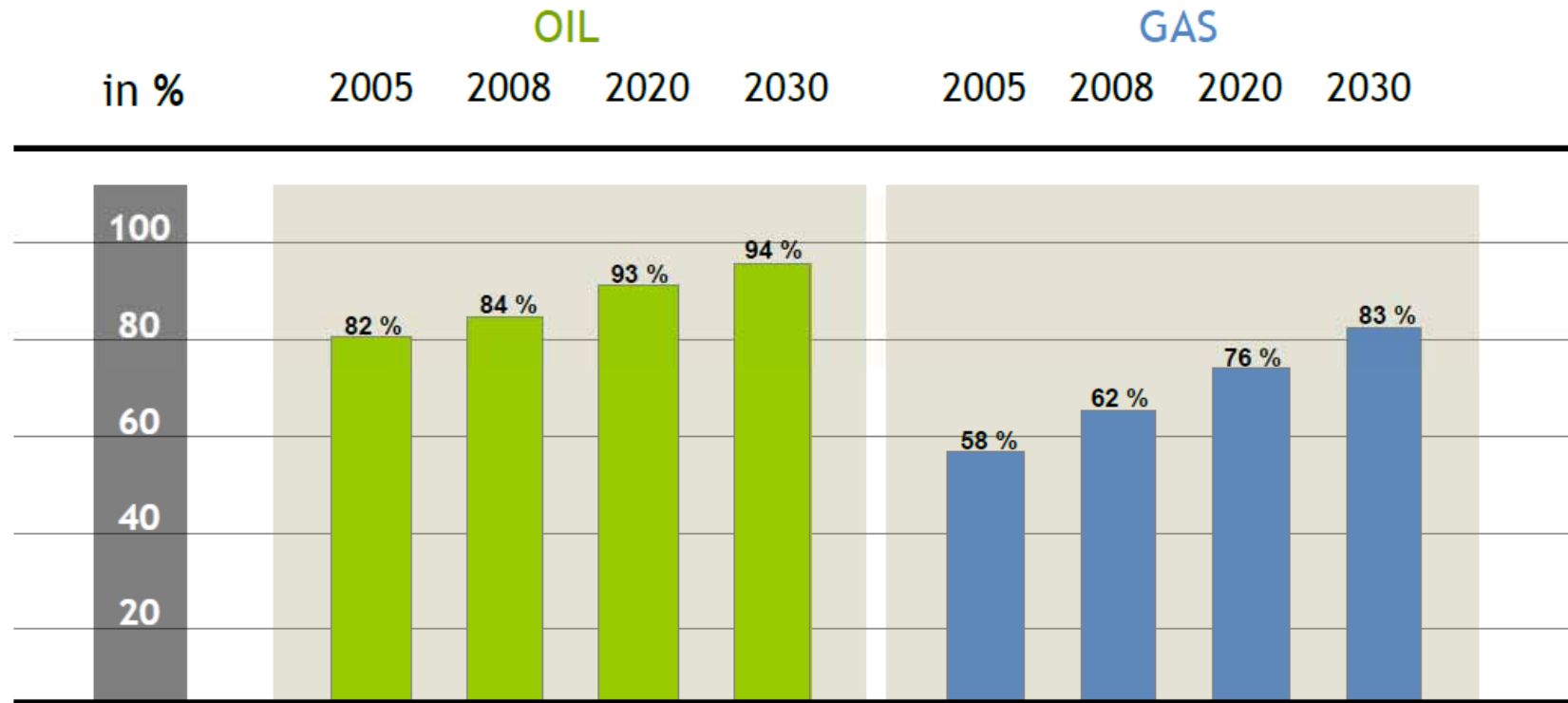
in % (1799 Mtoe; 2008)



in % (1807 Mtoe; 2030 « business as usual »)

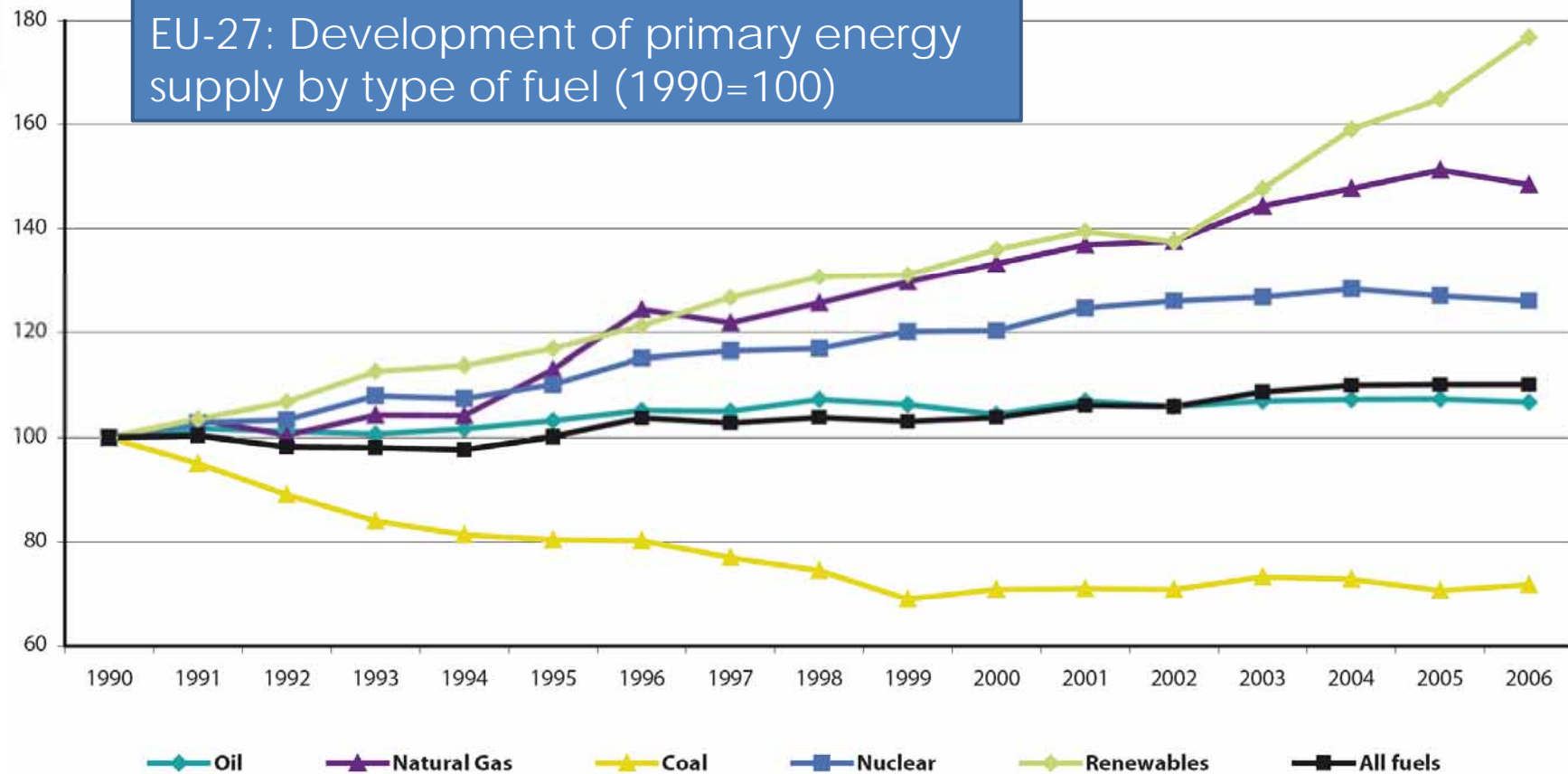
Fossil fuels represent up to 80% of the EU's energy mix today, but renewable sources are expected to account for an increasing proportion.

A snapshot of the energy sector



Import dependence is high and growing (business as usual scenario)

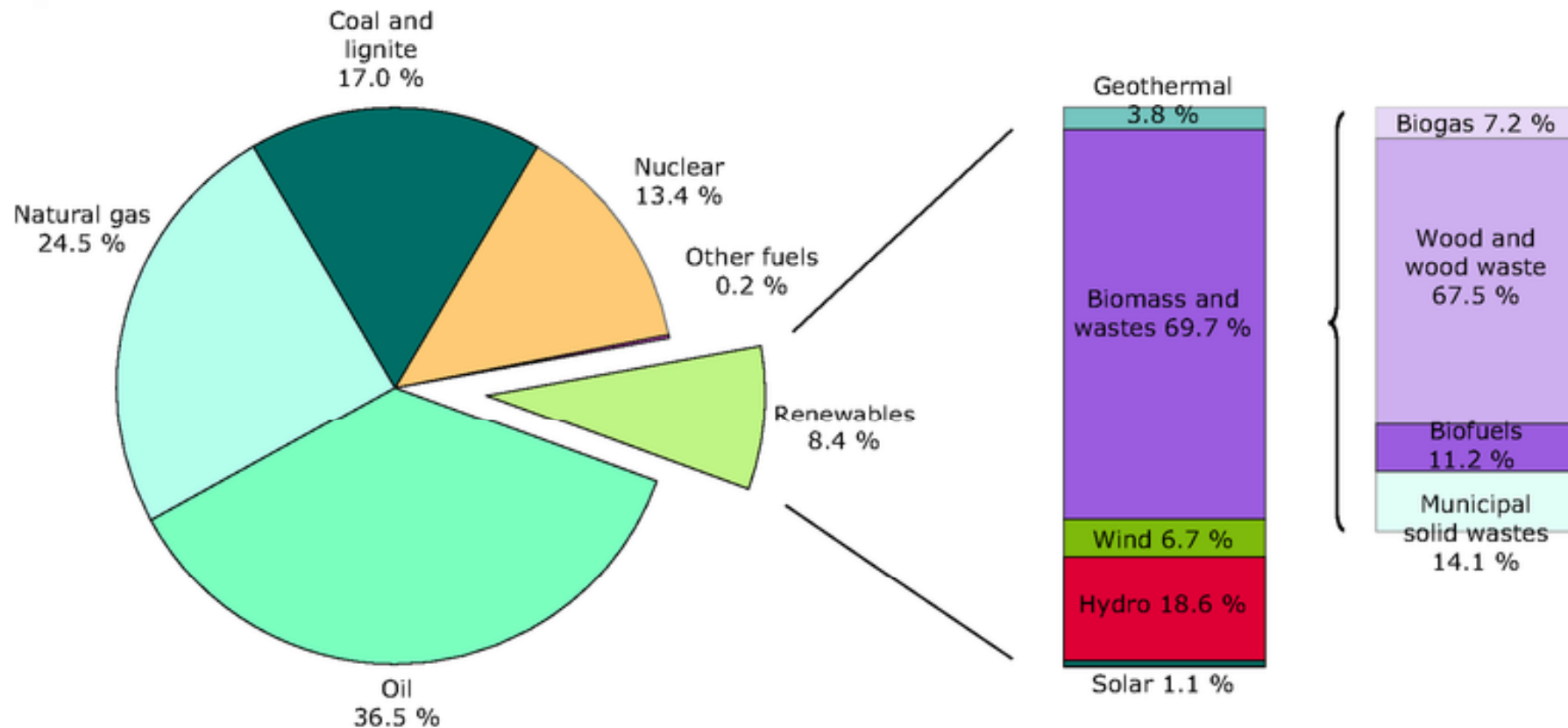
A snapshot of the energy sector



Source: Eurostat

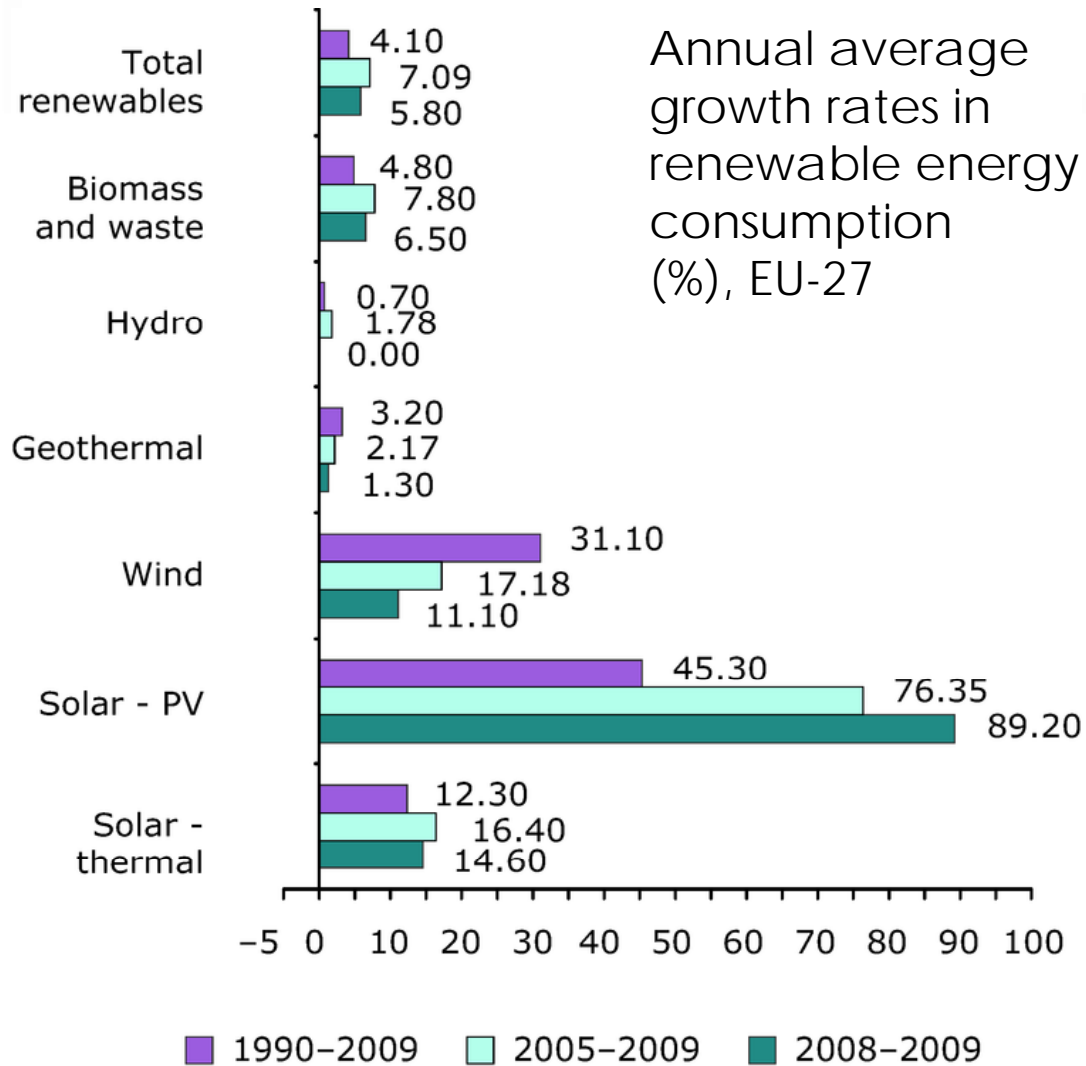
Coal demand has fallen in 1990s (substituted by gas); renewables are fastest-growing energy sector

A snapshot of the energy sector



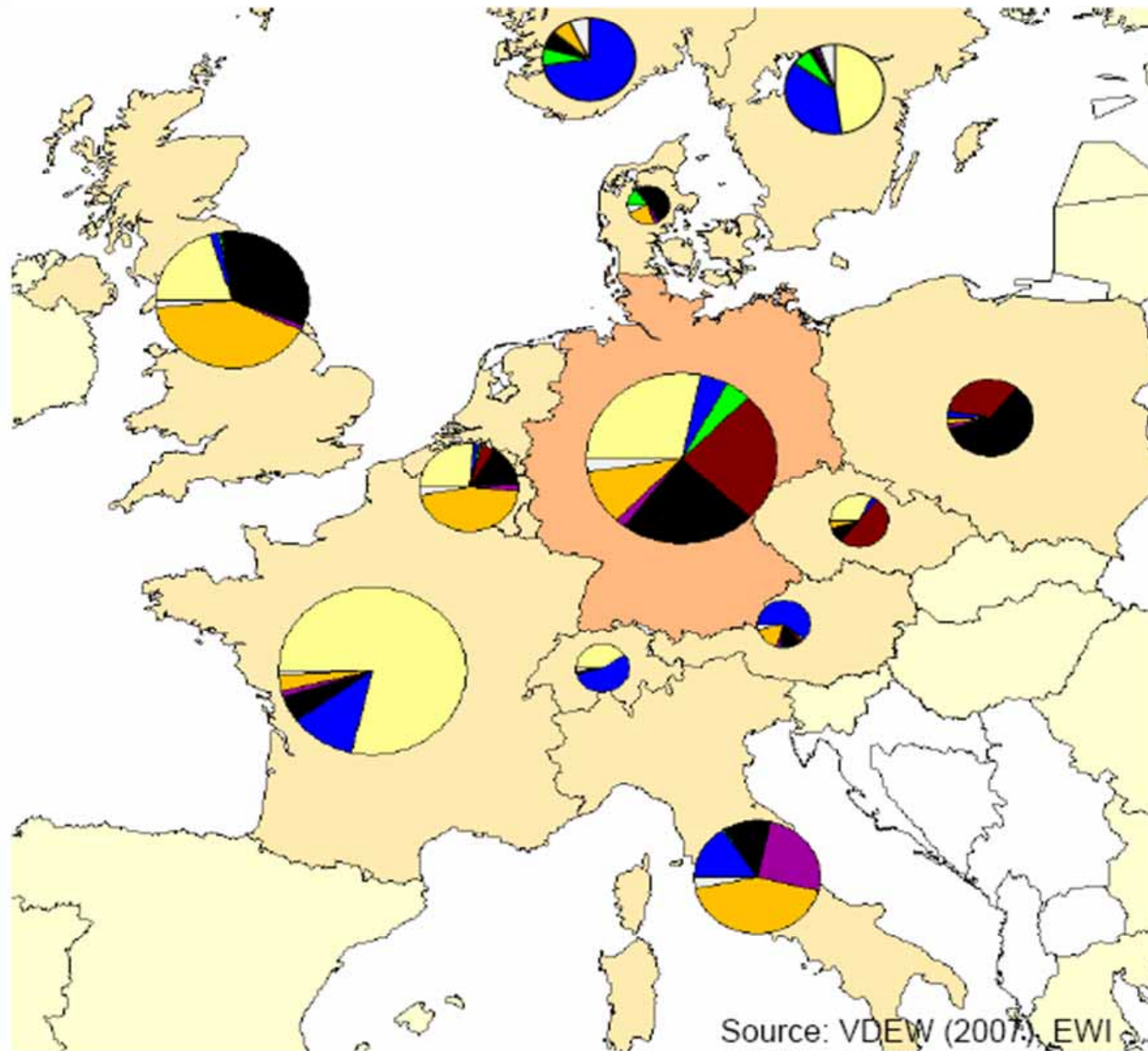
Largest share of renewable energy comes from biomass and hydro

A snapshot of the energy sector



Solar PV and wind are fastest-growing RE sectors

A snapshot of the energy sector



→ Huge disparities in national electricity mixes !



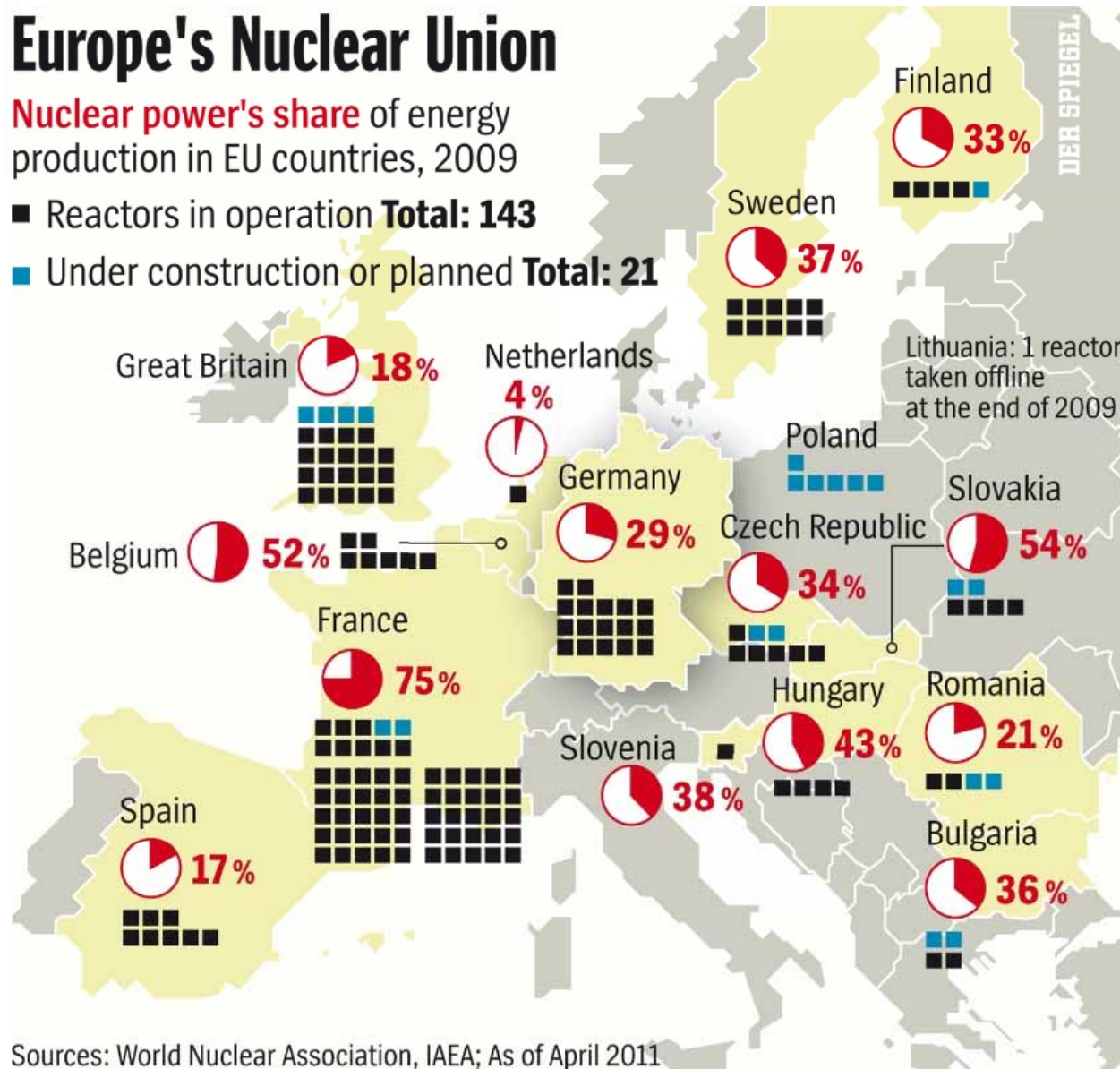
Source: VDEW (2007), EWI

A snapshot of the energy sector

Europe's Nuclear Union

Nuclear power's share of energy production in EU countries, 2009

- Reactors in operation **Total: 143**
- Under construction or planned **Total: 21**



Sources: World Nuclear Association, IAEA; As of April 2011

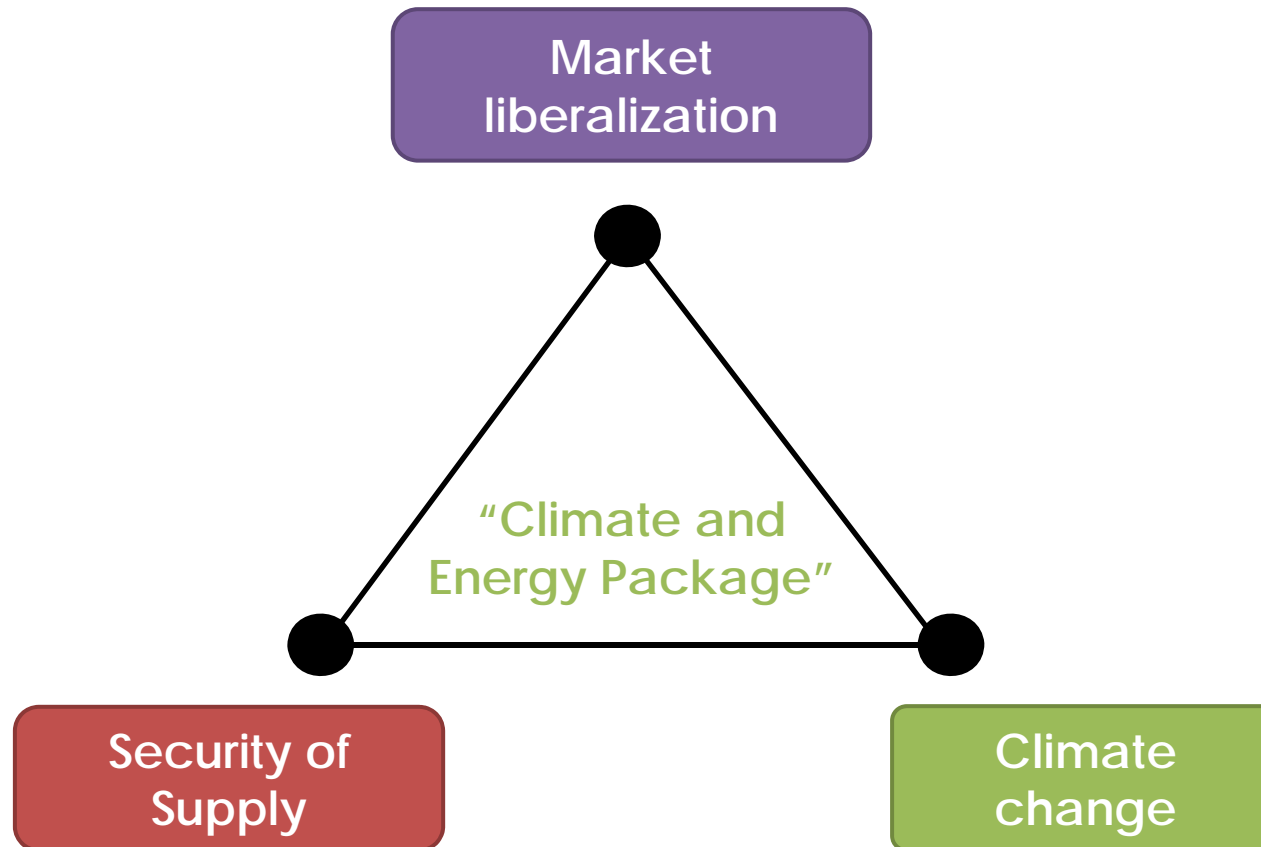
14 out of 27 countries have nuclear reactors

Some plan to phase-out nuclear (Germany by 2022, Belgium by 2025, ...)

Others are building new reactors (France, Finland, ...)

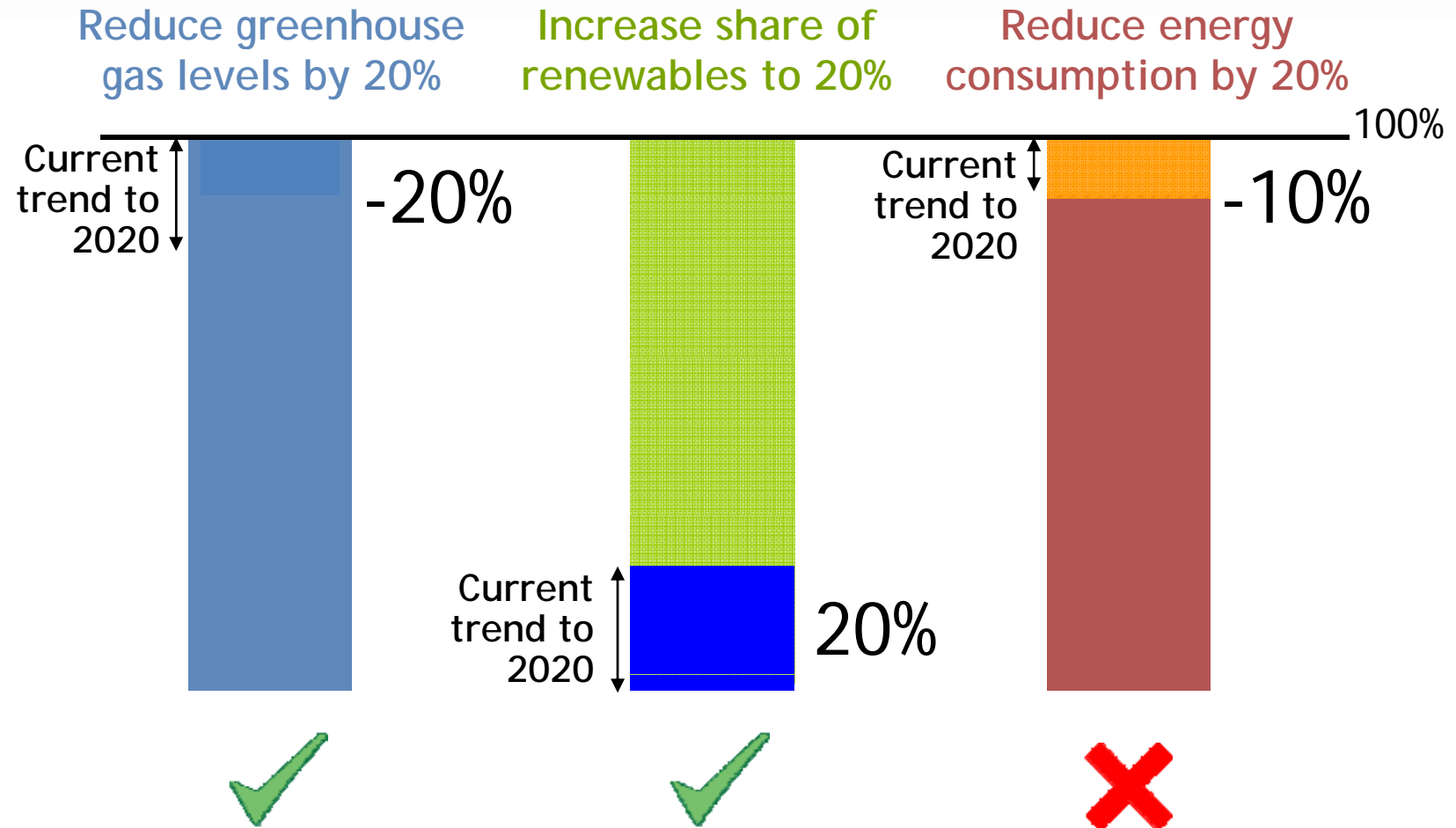
The policy framework

EU energy policy goals

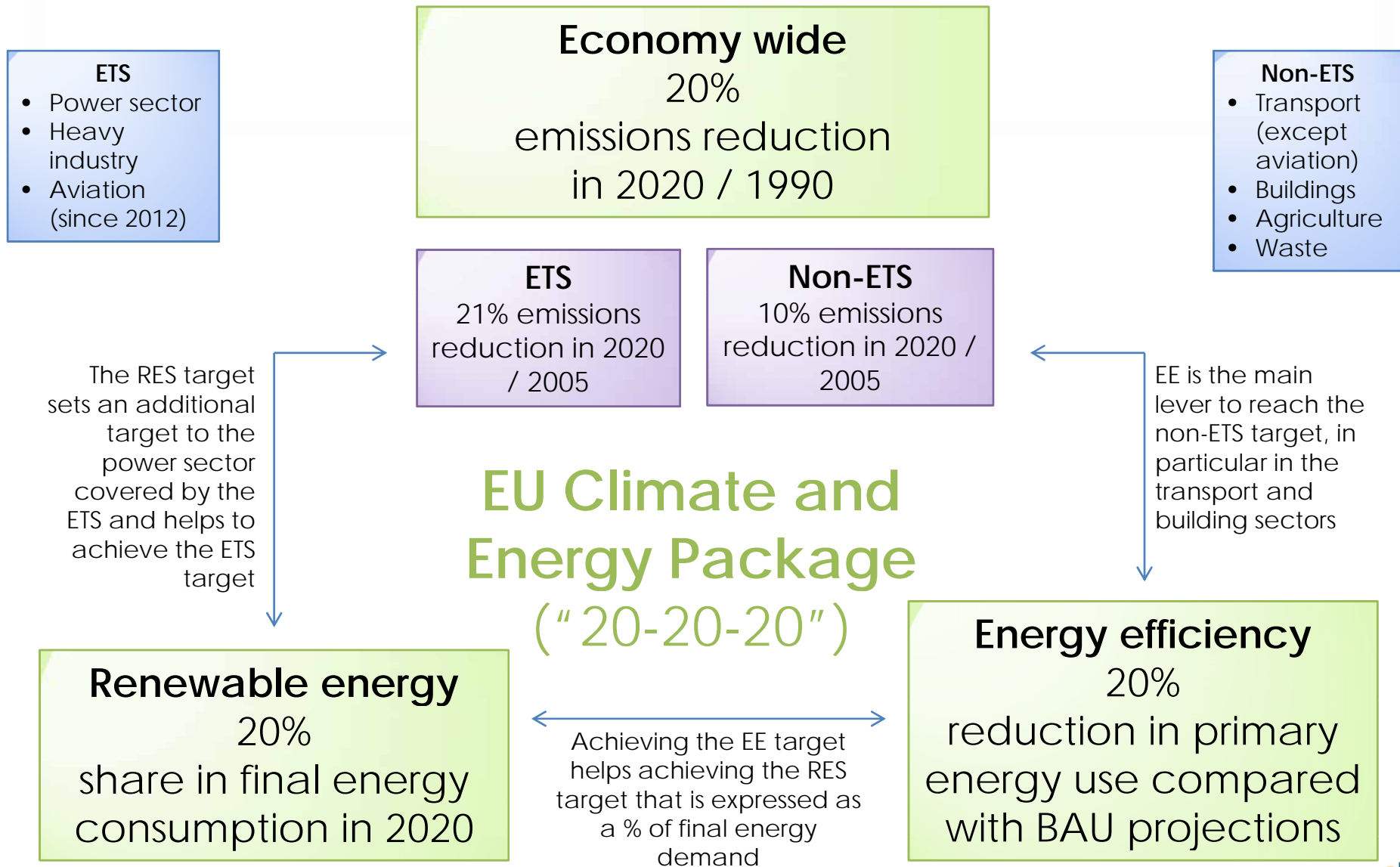


The policy framework

"20-20-20" goals



The policy framework



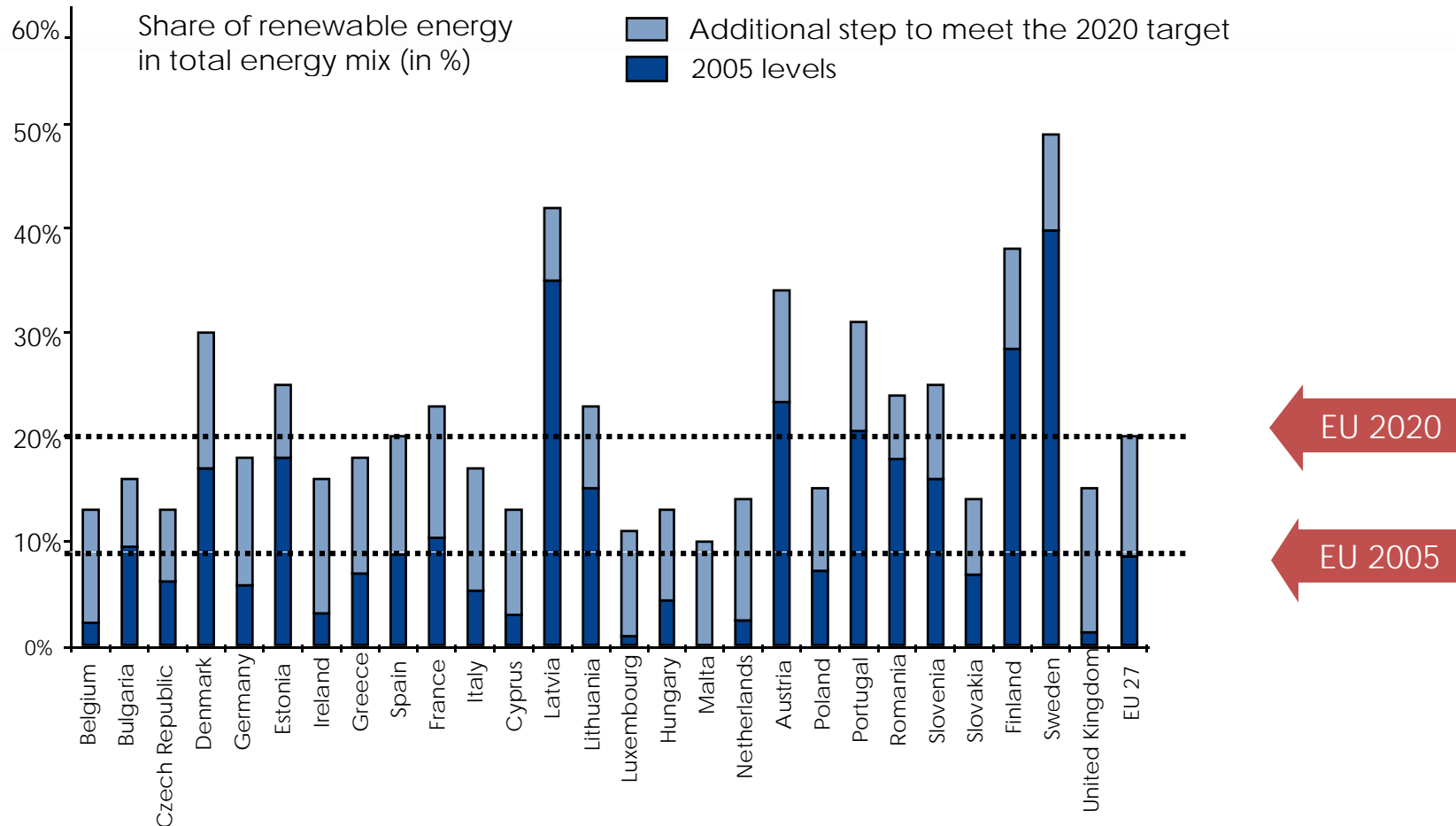
The policy framework

The EU's Emission Trading System (ETS)

- **First and largest cap-and-trade mechanism** in the world
 - Launched in 2005
 - Includes around 11,000 installations (~45% of EU CO₂ emissions)
 - Sets CO₂ emissions cap (ceiling) and puts a price on CO₂ emissions
- **Third phase** will start in 2013 (2013-2020)
 - Allocation of permits:
 - Centralized rather than national
 - Auctioned on the market rather than being given for free
 - Gradual decrease in number of permits

The policy framework

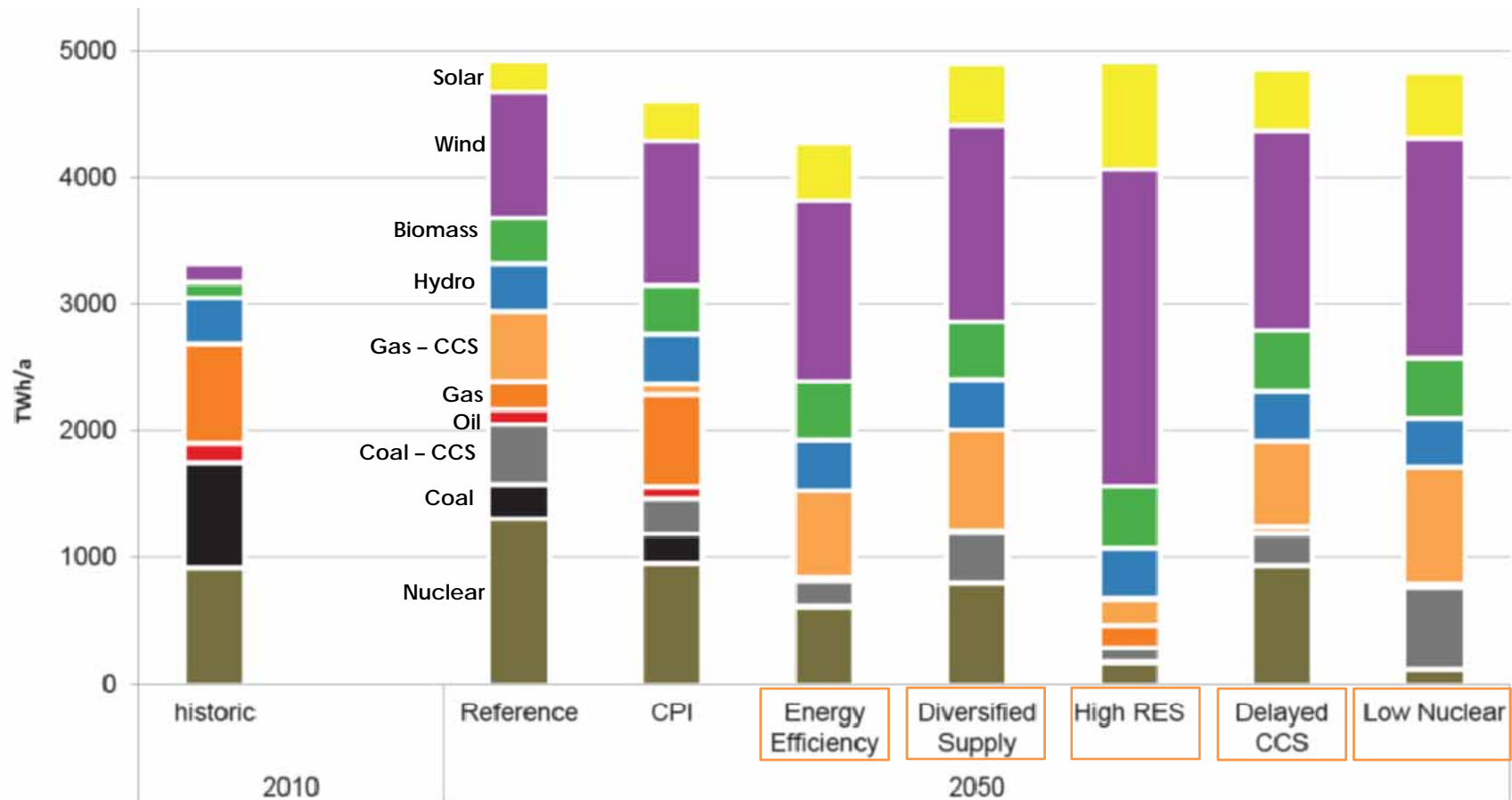
What the EU's renewable target means



Each member state has a binding target to increase its share of RES-E by 2020; and each member state is free to choose its own incentives to stimulate deployment of RES-E

Energy Roadmap 2050

- “**Planning instrument**”—neither a forecast nor a prescription
- 2 current trend scenarios and **5 electricity decarbonisation scenarios** (85% reduction in energy-related CO₂ emissions by 2050)



Concluding remarks

Strengths and weaknesses of the EU's experience

- “Regional energy governance—not global environmental governance—is what we need for climate change” (Patt 2010; Lilliestam et al. 2012)
- Even in the EU, energy policy stands out as an area where states have vigilantly guarded their **sovereign prerogatives**
- Challenge of **vertical and horizontal coherence**
- Multi-level and multi-actor governance structure in EU help explain its **international climate leadership** because there is nearly always an influential group willing and able to promote change (Schreurs and Tiberghien 2007)
- Strategic shift taking place, from seeing **renewables** as a costly climate protection add-on, to a goal in and of itself

Thank you for your attention!

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