



EU Energy Roadmap 2050

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● Outline of presentation

- Low carbon economy objective
- Contribution of the energy sector
- The Energy Roadmap 2050
- Implications for the EU



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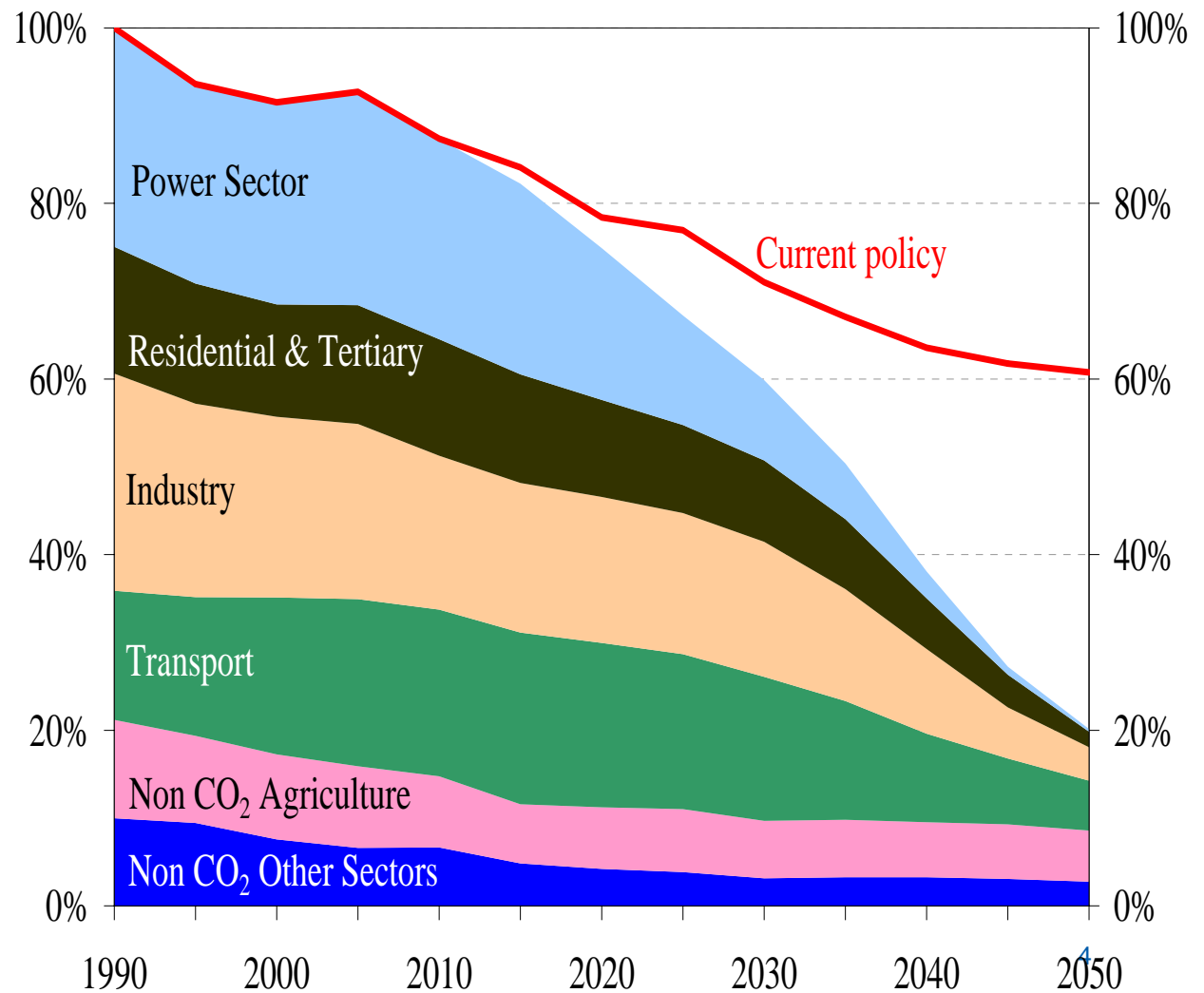
- **EU objective for 2050** – GHG emissions down to 80-95% below 1990 levels
- Looks forward to elaboration of a **low-carbon 2050 strategy** – a framework for longer-term action in energy and related sectors
- Will require a revolution in energy systems which must start now

● Low-Carbon Economy Roadmap (Mar 2011)

Basis of scenarios
80% domestic
reduction in 2050

Efficient pathway:

-25% in 2020
-40% in 2030
-60% in 2040



● Sectoral milestones towards a low-carbon economy

GHG reductions compared to 1990	2005	2030	2050
Power (CO₂)	-7%	-54 to -68%	-93 to -99%
Industry (CO₂)	-20%	-34 to -40%	-83 to -87%
Transport (incl. CO₂ aviation, excl. maritime)	+30%	+20 to -9%	-54 to -67%
Residential and services (CO₂)	-12%	-37 to -53%	-88 to -91%
Agriculture (non-CO₂)	-20%	-36 to -37%	-42 to -49%
Other non-CO₂ emissions	-30%	-72 to -73%	-70 to -78%

Energy Roadmap 2050

- To help in seeing policy action needed in the next few years for an energy system transformation delivering energy security, competitiveness and decarbonisation
- The post 2020 agenda, focused mainly on 2030, consistent with 2050
- To facilitate coherence of action by EU, MS and stakeholders
- An exploration of possible futures for the EU energy system
- Not a forecast, a beauty contest of scenarios, or a prescription

● Energy Roadmap 2050 – scenarios analysed

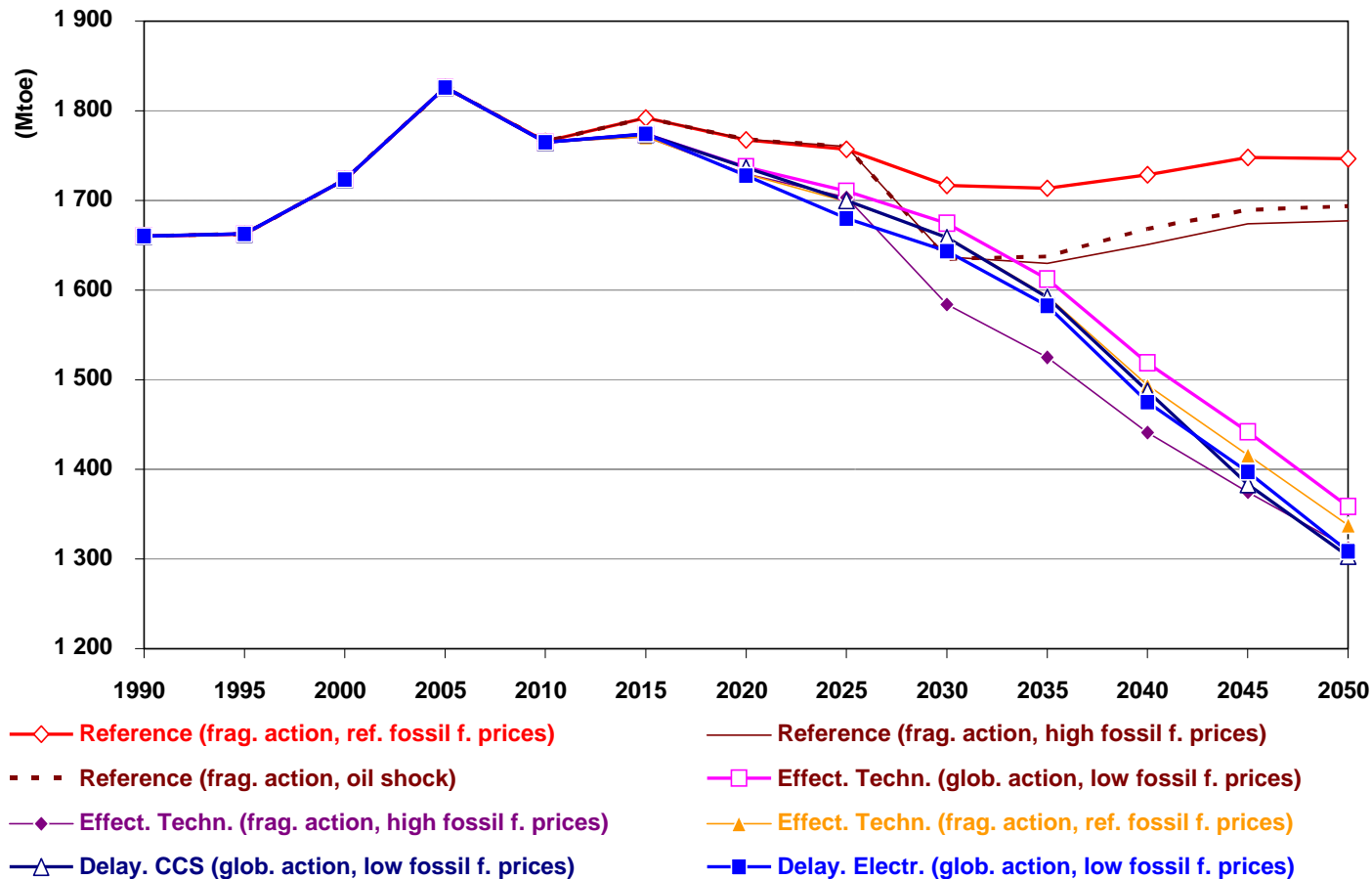
- Business as usual (reference scenario)
- Current Policy Initiatives (established commitments)
- High Energy Efficiency
- Diversified Supply Technologies
- High RES
- Delayed CCS
- Low Nuclear

● Implications for the EU

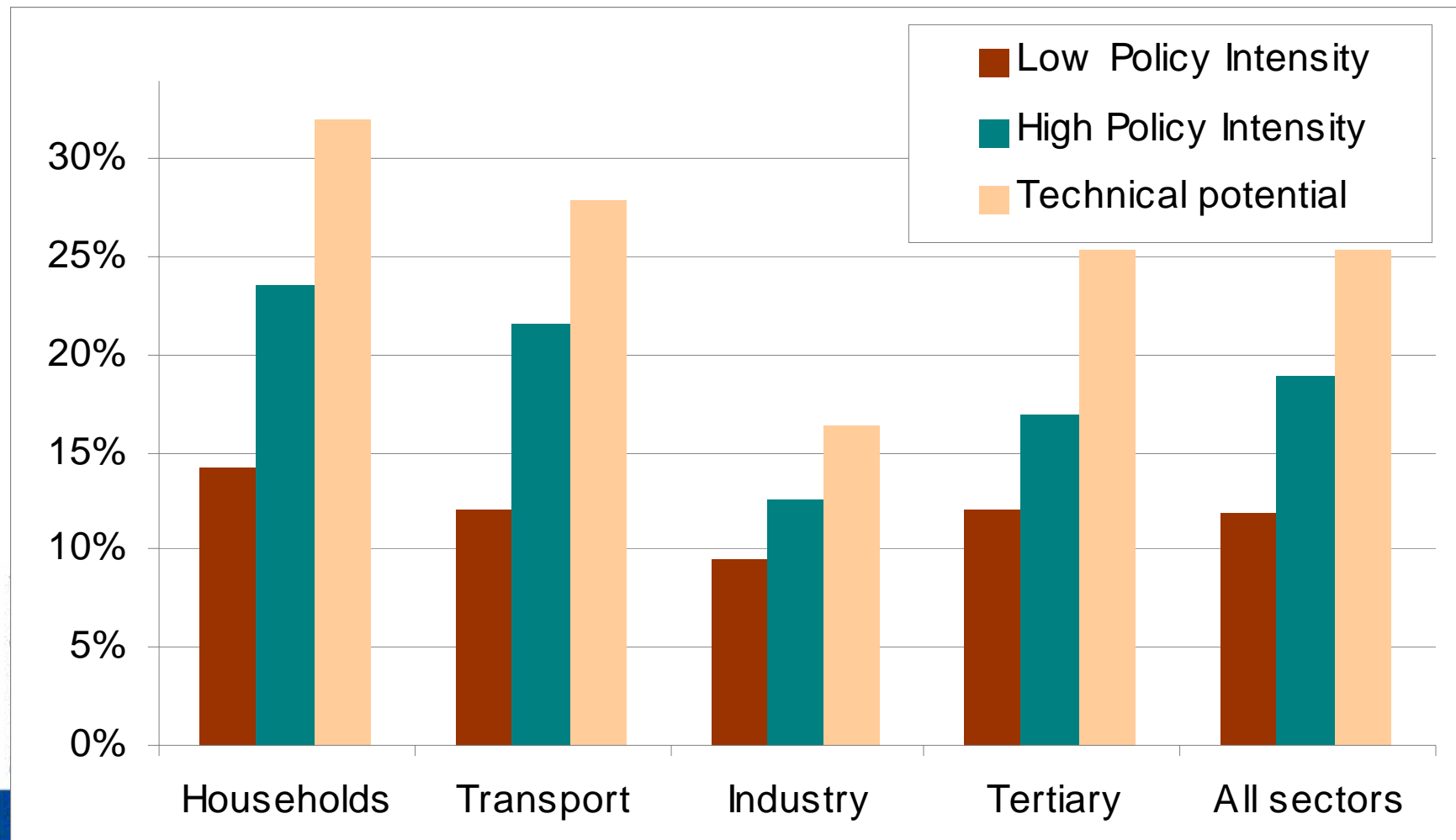
Towards “no regrets” actions – conclusions supported by all decarbonisation scenarios (1)

- Need energy efficiency gains throughout energy system
- Growing reliance on electricity – reliability must be assured
- Renewables – at least half of gross final energy consumption in 2050, at least 60% in electricity

Energy demand – needs to be reduced

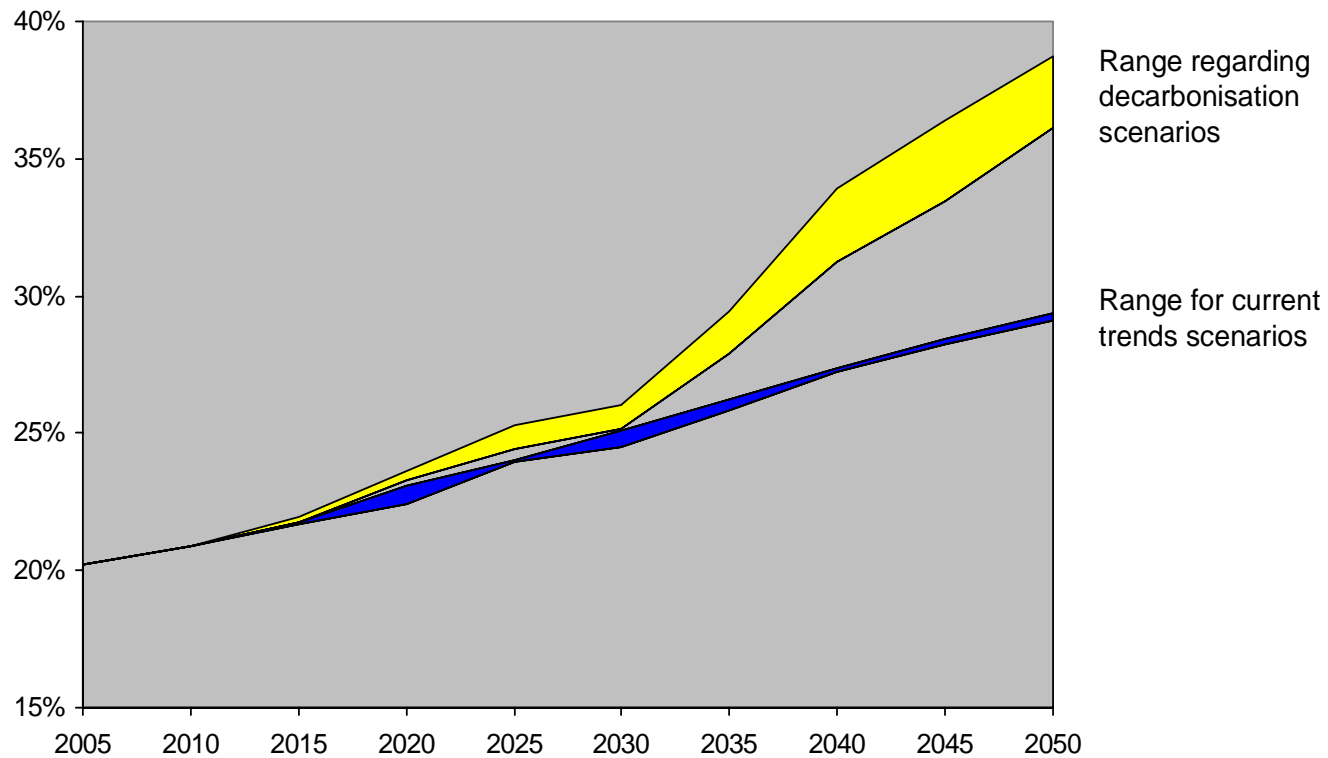


● Cost-effective energy saving potentials remain across all sectors



● Electricity – growing importance

**Graph 1: Share of electricity in current trend and decarbonisation scenarios
(in % of final energy demand)**



● Towards “no regrets” actions (2)

- Need modernised intelligent infrastructure – proactive development
- Need efficient internal market
- A major long-term investment challenge throughout energy system
- Infrastructure and market arrangements must be fit for purpose

● Costs

- Decarbonisation means greater investment needs, especially in transport and residential /tertiary
- Largely compensated by fuel and electricity savings
- Investments and jobs in Europe

● Energy Roadmap 2050 – what now?

- Adoption 13 December 2011
- Should consolidate long-term investment concerns in EU energy agenda and diminish policy uncertainty for 2020-2030
- Should encourage deeper cooperation among MS, stakeholders now needed
- Will be discussed in a range of fora
- Danish Presidency - Council conclusions in May
- European Parliament – rapporteur not yet decided