

Roadmap for moving to a low carbon economy in 2050

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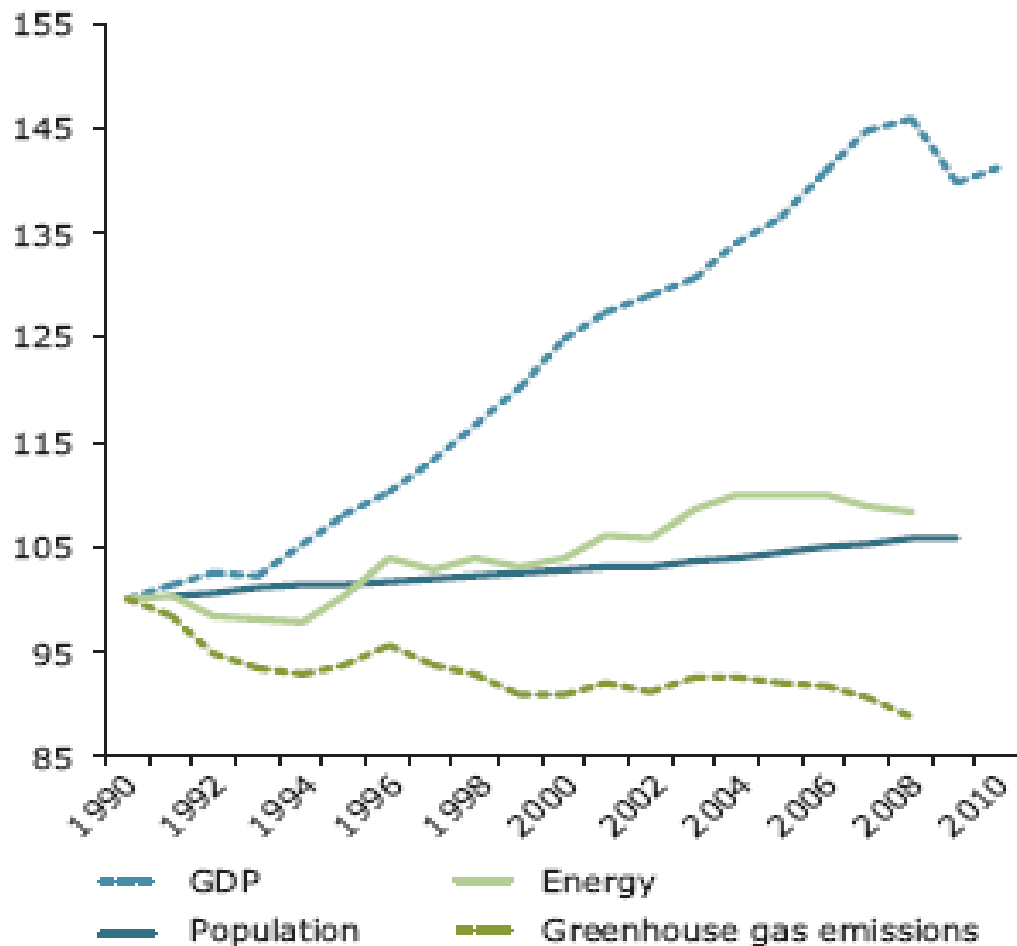


1: Climate change challenge

- ★ **Global climate objective: max. 2°C temperature increase**
- ★ ***“Reaching the EU objective, in the context of necessary reductions according to the IPCC by developed countries as a group, of reducing greenhouse gas emissions by 80-95% by 2050 compared to 1990”*** (European Council, Feb 2011)
- ★ **Key scenarios analysed:**
 - ↪ Global action – in line with 2°C
 - ↪ Fragmented action – based on Copenhagen pledges of over 80 countries, but not sufficient for 2°C (ca. 4°C in 2100)
 - ↪ Reference – over 4°C in 2100
- ★ **Synergies with competitiveness & energy security**

2: GHG emissions: Where are we now?

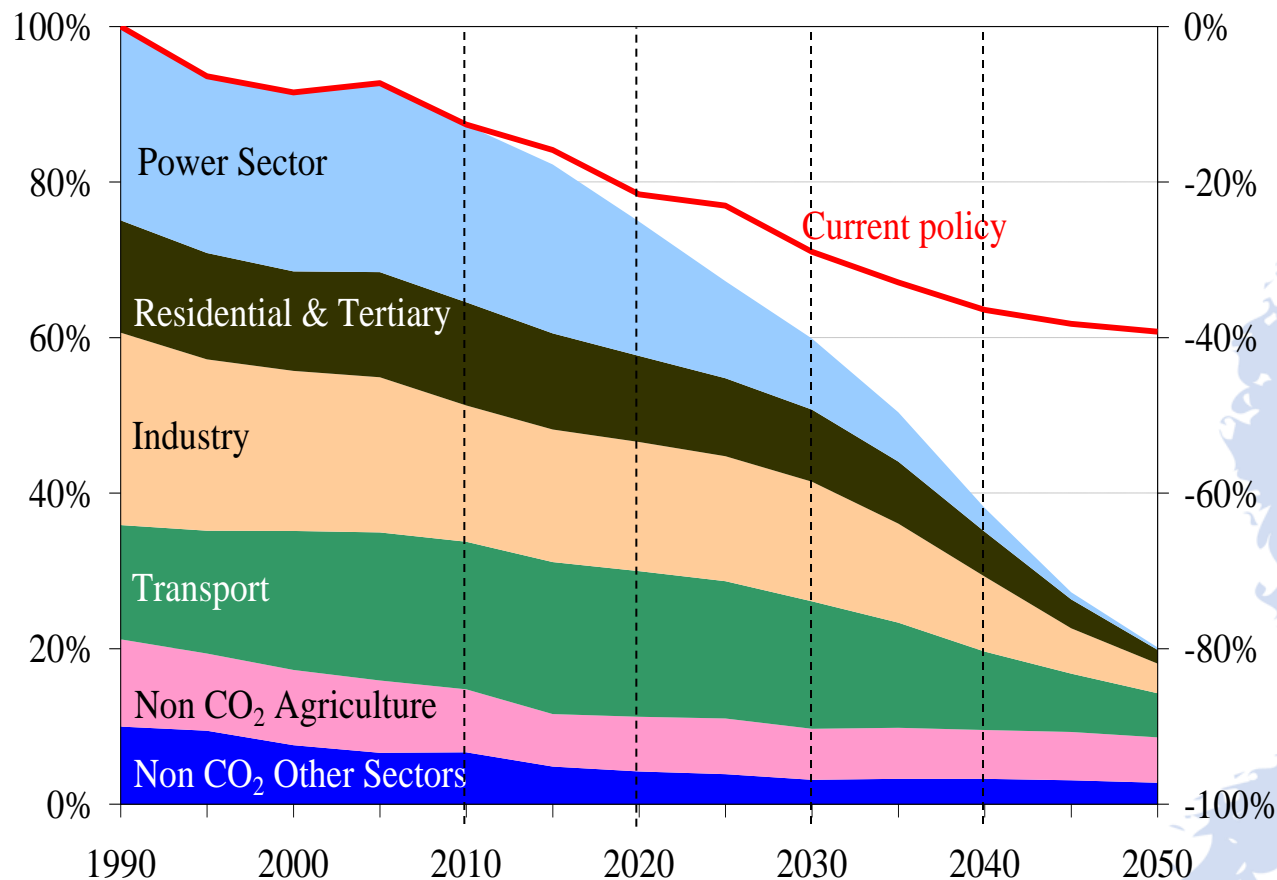
Index, 1900 = 100 (EU-27 — cumulative change)



1990-2010:

- **GDP: +40%**
- **Manufacturing: +31%** (93-)
- **Emissions: - 16%** (-09)

3: Cost-effective transition



80% domestic reduction:

- 25% (2020), 40% (2030)
- feasible with available technologies
- consistent with EU 2050 objective
- no cheap offsets

4: Costs and benefits for the EU

★ **Additional investment: € 270 billion annually 2010-2050, or 1.5% of GDP on top of current 19%**

But:

- ★ **Significant increase in domestic investments**
- ★ **Increased valued added for wide range of manufacturing industries**
- ★ **Fuel cost savings (€ 175-320 billion annually over 40 years) which would otherwise largely flow out**
- ★ **Net job creation: 1.5 million in 2020**
- ★ **Air quality and health benefits: € 27 billion in 2030 and € 88 billion in 2050**