Roadmap for moving to a competitive low carbon economy in 2050

Stakeholder Conference

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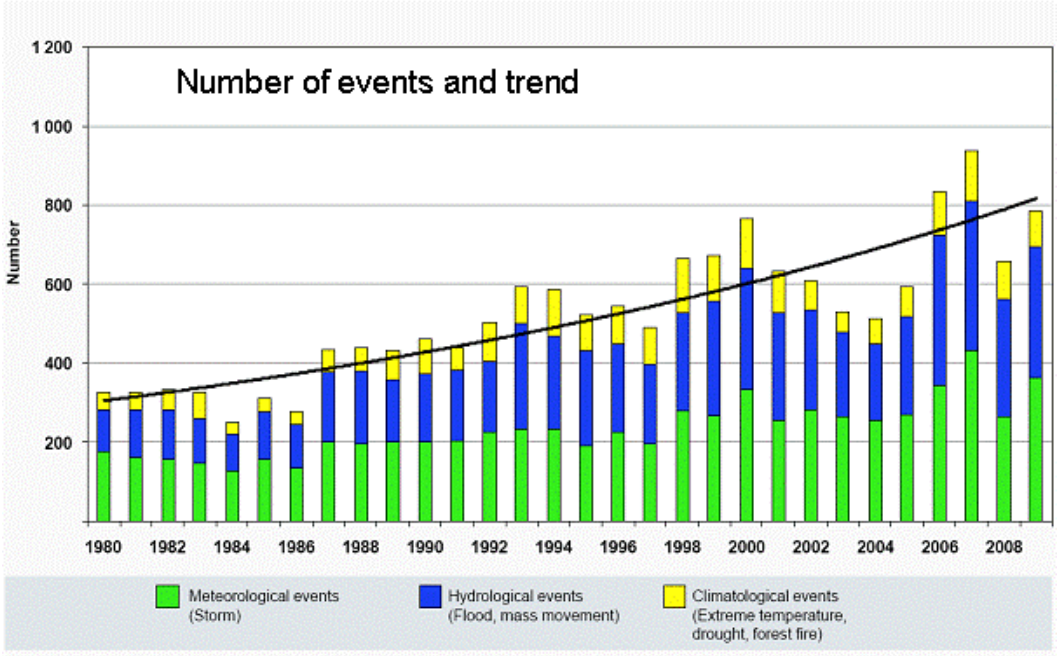
Connie Hedegaard
Commissioner for Climate Action
European Commission

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)
  - Baseline –4°C or more in 2100
- **Strong synergies with competitiveness and energy security. More climate action leads to lower fossil fuel prices and a more sustainable energy system.**

2: Climate and economy

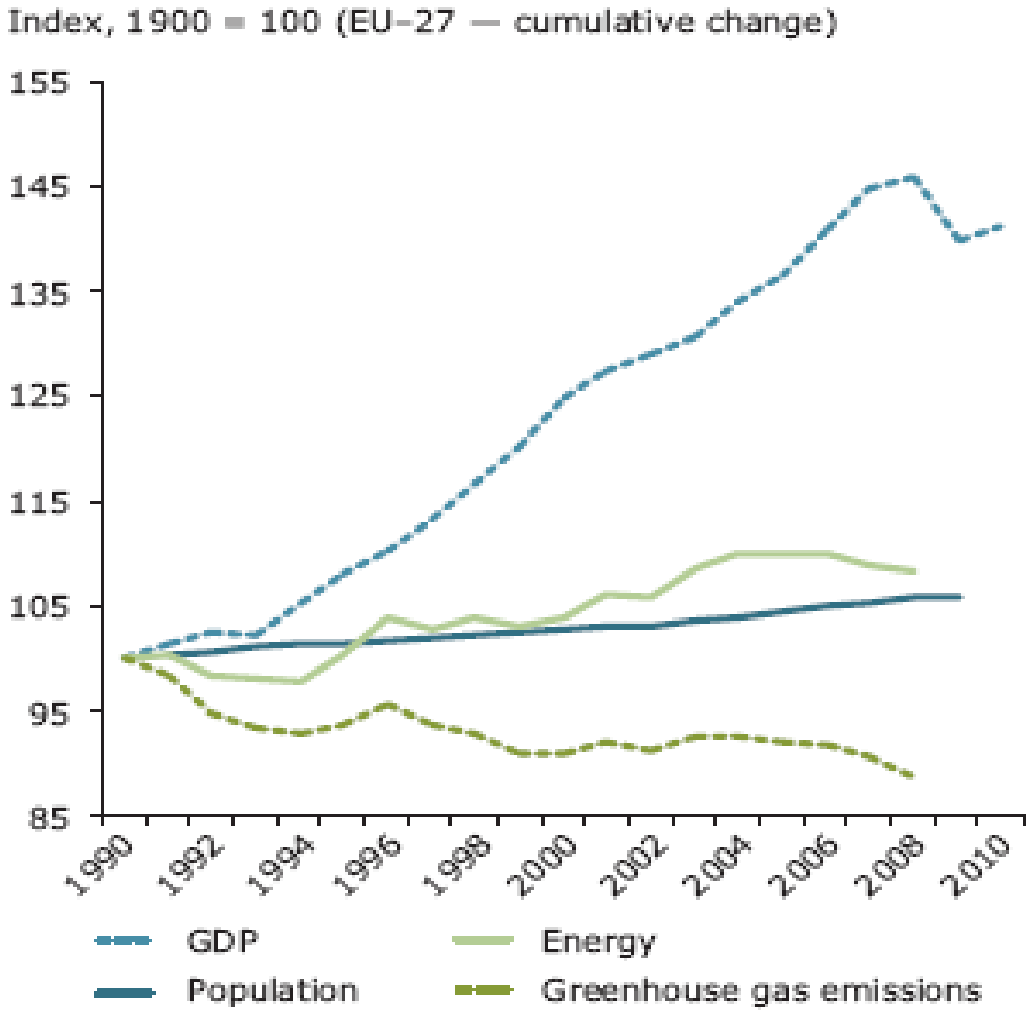
Global weather-related events:



Economic impact (2005):

- **USD 228 billion**

3: GHG emissions: Where are we now?



1990-2010:

- **GDP: +40%**
- **Manufacturing: +34%**
- **Emissions: - 16%**

(in 2009, includes aviation)

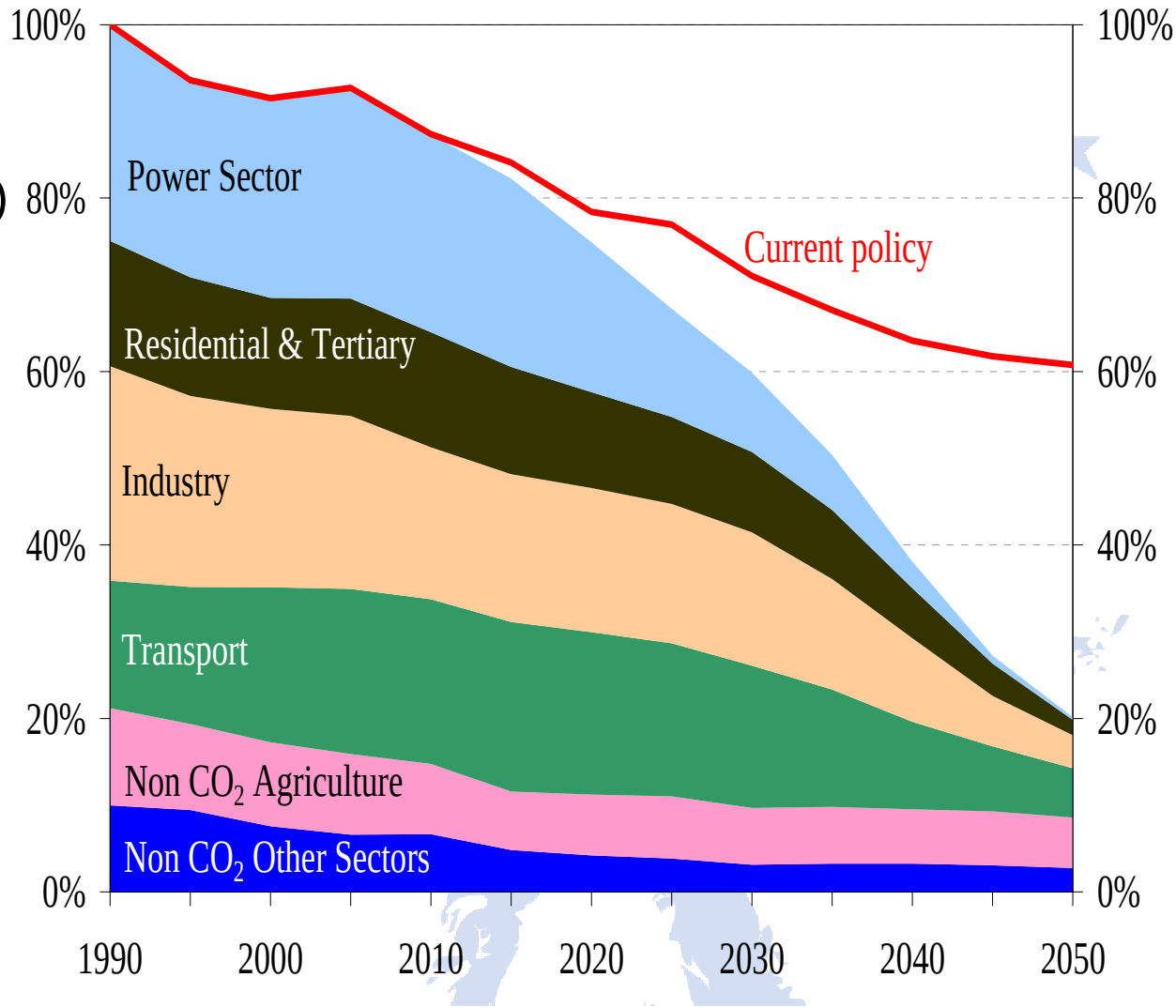
4: Cost-effective transition

80% domestic reduction:

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

Efficient pathway:

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



5: Energy efficiency will be key

- **Energy efficiency is the single most important contribution, especially until 2020**
  - Current policies only result in 10% energy efficiency improvement
  - roadmap confirms key role of efficiency up to 2020 and beyond
  - **efforts towards 20% efficiency target would deliver 25% GHG reduction**
  - ETS is one instrument to deliver additional efficiency

6: Costs and benefits for the EU

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

But:

- ★ **Increase domestic investments and value added for a wide range of EU manufacturing industries**
- ★ **Fuel cost savings (€ 175-320 billion annually over 40 years)**
- ★ **Halves imports by 2050 compared to today and reduces bill in 2050 with € 400 billion or more (>3% GDP today)**
- ★ **Net job creation: 1.5 million in 2020**
- ★ **Air quality and health benefits: € 27 billion in 2030 and € 88 billion in 2050**

7: Competitiveness: international context

- **Competitors (e.g. Korea, China, Brasil, India) developing low carbon strategies**
- **China's action on energy & climate:**
  - 2005-2010: energy consumption per unit of GDP fell by 19.1%
  - Two-year investment plan: +0.8% GDP of goverment spending on innovation, restructuring, energy conservation, emissions reductions and ecological improvement
  - 12th 5-year plan: priority on green technology/clean energy:
    - CO2 emissions per unit of GDP to be reduced by 17%; 11.4% non-fossil fuel target
    - Pilot cap and trade systems for selected provinces / sectors and development of low carbon pilot cities
    - Forest stock to increase by 600 million m3 and forest cover to 21.7%
    - Better statistical and monitoring systems for GHG, energy conservation and emissions reduction
    - Increase R&D spending to 2.2% GDP, with focus on green technology, energy efficiency and low carbon technologies

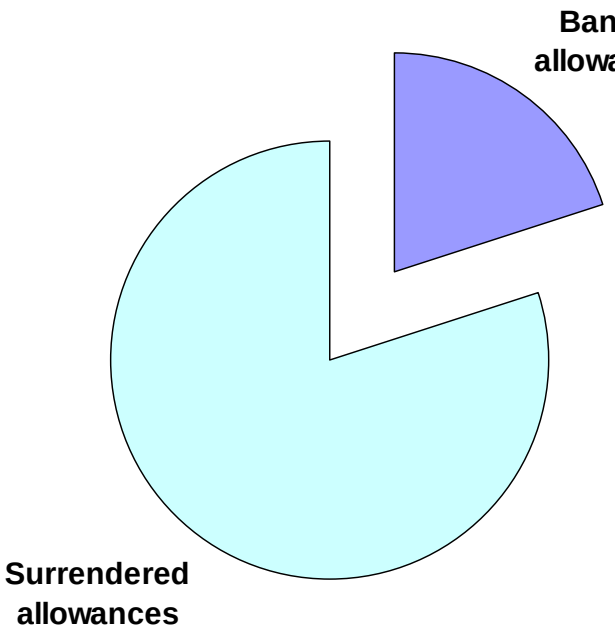
8: Policy challenges (i)

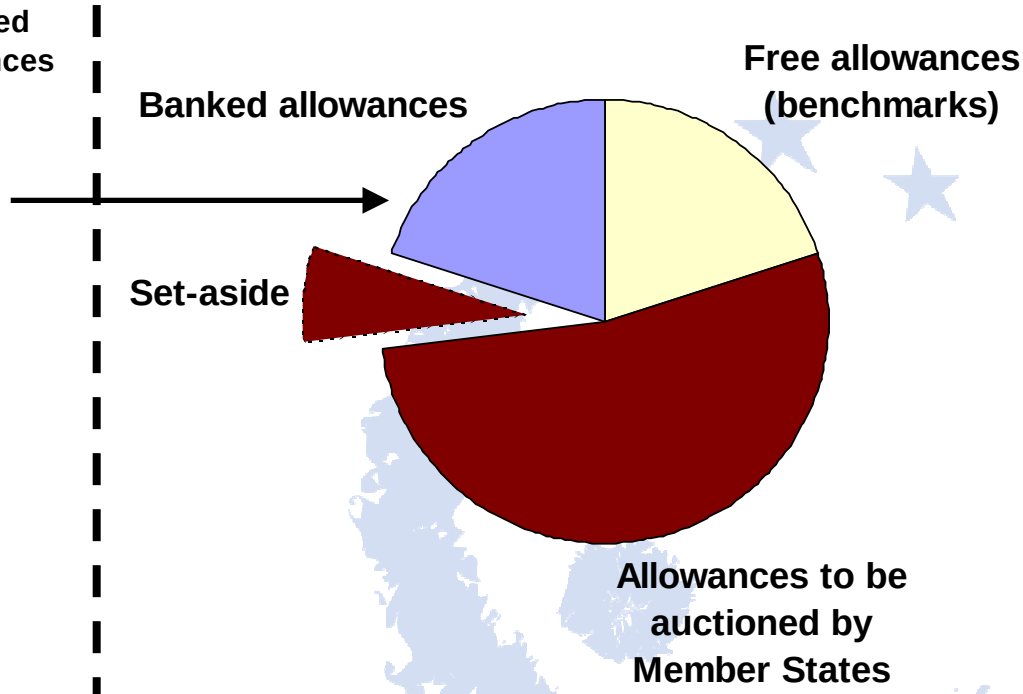
- **Roadmap gives direction for:**
  - sectoral policies
  - national and regional low carbon strategies
  - long-term investments
- **SET-Plan implementation essential (€ 50 billion 2014-2020)**
- **Innovative financing instruments key to leverage and steer private sector investments.**
- **How to use limited public finance to leverage private sector investments, including in the next EU budget**
- **How to ensure that the Common Agricultural Policy contributes to further emission reductions and increased absorption**

9: Policy challenges (ii)

- **Ensure the achievement of 20% energy efficiency target by 2020, and in this context examine the need for an allowance set aside in the ETS**
- **How to improve clarity for long term investments, especially in ETS sectors**
  - define 2020 - 2030 policy framework
  - upward review of 1.74% linear reduction to be considered to achieve -80% GHG emissions by 2050
  - measures to protect vulnerable industries against carbon leakage in the case of fragmented action

9: Set-aside





Phase II (2012)

Free allocation

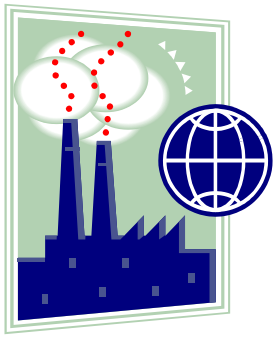
Phase III (2013-2020)

New system: auctioning

* Proportions of pie-charts are not to scale

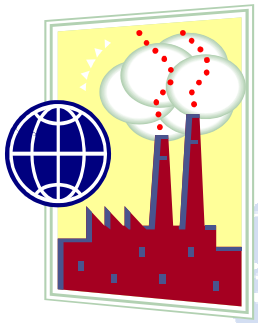
10: Effect of set-aside

Company A



+ cost for energy savings
- Energy consumption
- emissions
- Need for allowances

Company B



no cost for energy savings
+ energy consumption
+ emissions
+ need for allowances

CO^2 price relatively lower