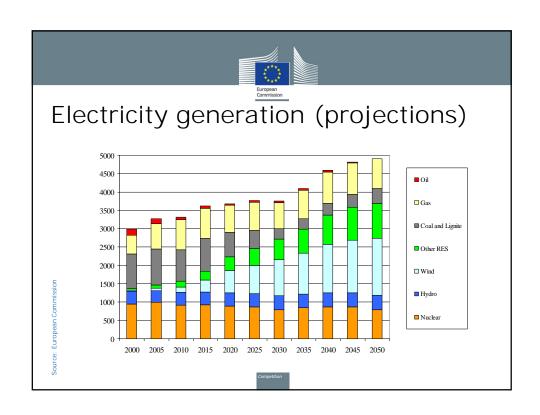


# Overview • Energy and climate change policies: interplay • Issues for EAG/GBER review



## Energy and environmental policies

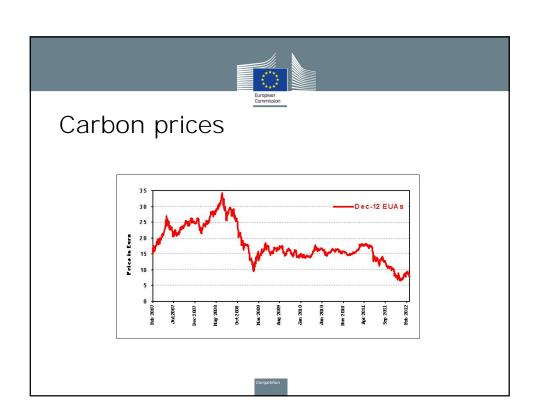
- Important adjustments needed to the energy system to meet climate and energy targets
  - o EU Climate and Energy package: "20-20-20" targets for 2020
    - 20% reduction in EU GHG from 1990 levels
    - 20% energy consumption from renewable sources (• 33% for electricity)
    - 20% improvement in the EU's energy efficiency





# Primary instrument: ETS

- ETS:
  - o Market-based mechanism (cap and trade) for large emitters
    - Price signals drive abatement effort (i.e. investment and production choices)
    - Technologically neutral
  - o Cap à 2020 target will be reached!
    - The fact that CO2 prices have dropped recently does not change this





# Primary instrument: ETS (cont'd)

- What role for other mechanisms?
  - o ETS only covers part of the economy. Other parts (i.e. smaller emitters, other sectors, users) also to be incentivised
  - o ETS will achieve the specific target set for 2020, but what then?



### A tale of two market failures

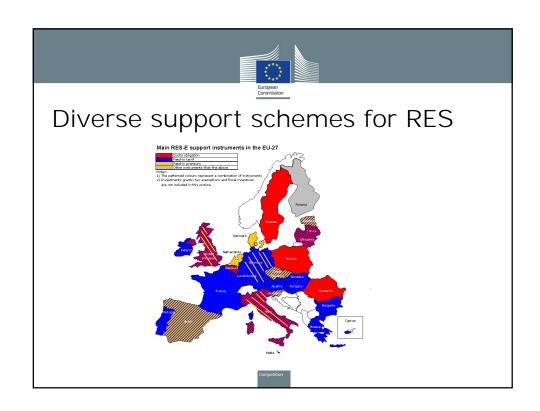
- Market failure: a direct source of inefficiency in the economy
  - Example: Externalities, driving a wedge between private returns and social returns
- If the only market failure were that (large) emitters do not internalise the climate cost of emissions, setting up e.g. ETS would be sufficient
- However, there may be additional market failures, in the (pace of) development of new forms of lowcarbon technologies





# Bringing innovation forward

- In the presence of positive spill-overs in innovation it may be optimal to complement ETS with policies fostering technological change
  - Cf. Acemoglu, Aghion, Bursztyn, Hemous (2012)
- Intertemporal perspective (weights given to present and future) matters
- Support can take the form of subsidies for R&D ('push') and deployment ('pull'), e.g. quotas or feed-in tariffs. Difficult to well target/calibrate, however (trade-off with technological neutrality)





### E(E)AG: Issues

- Support of low carbon energy sources: what role for State aid?
  - o Context: ETS has increased the competitiveness of RES.
- How to bring forward innovation, while avoiding undue distortions in technology choices (principle of technological neutrality) and ETS?
- How to promote the further integration of the internal market for energy? (avoid fragmentation of support mechanisms)



# European Commission

## E(E)AG: Issues (cont'd)

- When/how to promote the construction of energy infrastructure?
- RES and intermittency: how to best ensure system stability? (e.g. black-out risk)
- · How to best ensure security of supply?
- How to ensure a coordinated approach to energy tax exemptions? (Ch. 4 EAG)





## Conceptual framework

- State Aid Modernisation: development of common principles for the assessment of state aid. For aid to be compatible, it needs to
  - Contribute to a common EU objective
  - Correct proven market failure/address equity concern
  - Be an appropriate instrument
  - Ensure an incentive effect
  - Be proportional/limited to the minimum
  - Avoid undue distortions of competiton and trade
- Implementation of principles in GBER and Guidelines

