

Ifri Energy Program
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Assessment of CO₂ Regulations in Europe

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1. Brief comments on the current CO2 ETS market design and how to improve its incentive properties

- **Free allocation to new projects and periodic renegotiations on short term periods constitute incentives to develop CO2 high emitting technologies**
 - ↳ Current trend in Europe to develop coal plants, given gas prices and no long term CO2 price
- **Short term CO2 signals are costly and give poor results**
 - partly derive from the high cost of substituting electricity from existing CCGTs for electricity from existing coal plants
 - ↳ Very costly because of high gas prices (compared to coal prices)
 - ↳ Limited amount of CO2 actually saved
 - Within the next 25 years, major opportunities exist in Europe with the natural renewal of more than half of existing plants
- **Key factors of success to provide right incentives to invest**
 - See the design of the US SO2 market
- **Terms need to be used with rigor and precision**
 - "new projects" (\neq entrants) ; "grand-fathering", "windfall profits"...

2. Sharing knowledge on the opportunities provided by technologies and their impact on CO2 targets

- **The energy context has changed since the 1990's**

 - ↳ Gas is no longer the "miracle" technology

- **For European security of supply and climate change policy, all technologies are needed**

 - ↳ Based mainly on gas and renewables, the reference scenario of the European Green paper is not sustainable

 - ↳ Need to include energy efficiency, nuclear power, preparation of future technologies (coal with carbon capture and storage,...)

 - Based on a precise assessment of the different technologies (demand and supply), long term (2050) alternative scenarios developed by the IEA show that a global "factor 2" scenario might be possible

- **Impact on what might be a long term CO2 price**

 - ↳ Long term marginal cost of CO2 avoided based on coal with CCS technology (25-30 \$/tCO2 ?)

 - ↳ A lower price for the next decade, based on the best available technologies, and consistent with "Hotelling rule" reasoning ?

2.2 Safety valve / cap and floor; competitiveness issue for electricity-intensive industrial customers

- **The theoretical interest of "cap and floor" for CO2 prices**
(Weitzmann, 1974, "Prices vs Quantities")
 - Long-term quantitative targets by 2050 in terms of CO2 cumulated emissions
 - Short and medium-term price caps and floors to deal with abatement costs uncertainties, and to facilitate convergence of anticipations for the investment decision-makers
- **Competitiveness issue**
 - The potential interest of a safety valve, waiting for the engagement of the US, China... (see the 7 \$US safety valve proposed by the US National Energy Commission)
 - Cross-border tax:
 - From an economic point of view, an interesting proposal
 - Necessary to share ideas regarding the electricity mix using the Best Available Technologies to implement it
 - Could be acceptable taking into account the WTO jurisprudence regarding environment and trade

3. Implementing the right range of public policy tools to achieve in an efficient way the set of energy objectives

- **Assessment of ambitious CO2 targets and public policy tools for the electricity sector should be based on a shared discussion on low CO2 emitting technologies, their timetable and the decisions needed to make them economically viable**
- **Key point on CO2 instruments: give the players the right incentives to invest**
 - Instruments are complementary and depend on the economic and technological maturity of technologies
 - When designing framework conditions, the devil is in the details: rule design inconsistencies & counter-incentives are easily created
- **Questions**
 - Multiplicity of public objectives may require multiple instruments:
 - ↳ ETS not appropriate to favor access to coal to avoid gas dependence, or to give the incentives to invest in peaking units
 - "Subsidiarity" for allocation rules is not appropriate
 - "bad rules drive good rules out of circulation"