



Study on carbon leakage evidence Phases 1 and 2 of EU ETS

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Name of the study

Carbon Leakage Evidence Project
Factsheets for selected sectors

Purpose of the study

*Fact-finding and data collection exercise,
using both public and industry data
aiming to examine whether there exists
factual evidence for carbon leakage
as a result of pricing carbon
to provide input to the discussions on the
2030 climate and energy framework*

Definition of carbon leakage

Recital 24 of the ETS Directive defines carbon leakage as

"an increase in greenhouse gas emissions in third countries where industry would not be subject to comparable carbon constraints"

Time horizon

- The factsheets present historical data on the structure, performance, and competitiveness of the sector in question and assess the degree to which carbon leakage may have occurred in the past (2004-2012).
- The possible impact of future ETS developments has not been investigated.

Selection of sectors

- Basic iron and steel and ferro-alloys,
- Organic and inorganic chemicals,
- Glass and glass products,
- Lime and Plaster,
- Non Ferrous Metals,
- Pulp, Paper and Paperboard,
- Cement,
- Clay building materials,
- Refined petroleum products,
- Manufacture of Motor Vehicles,
- Lighting industry

Production leakage / relocation

- No evidence for carbon leakage, as defined by the ETS Directive, has been found in the past two ETS periods
- Overall, exports/imports ratio stable or improving. For very few sectors there was increasing imports or decreasing exports.
- The main reason for that can be found in:
 - Global demand developments, and
 - Input price differences

Production leakage / relocation

- ***Direct carbon costs:*** very limited due to:
 - Abundance of allowances allocated for free to avoid carbon leakage (even higher than required),
 - Oversupply of allowances (lower production than expected, use of international credits, etc.),
 - Carbon reducing actions by industry (not to be underestimated),

Which resulted in a low carbon price.

→ Free allocation was successful in addressing the potential risk of carbon leakage

Production leakage / relocation

- ***Direct carbon costs:***

Many of the analysed sectors received sufficient or even surplus free allocation to cover the direct carbon costs.

Examples: steel, glass, lime and plaster, pulp and paper, clay, refinery products.

Production leakage / relocation

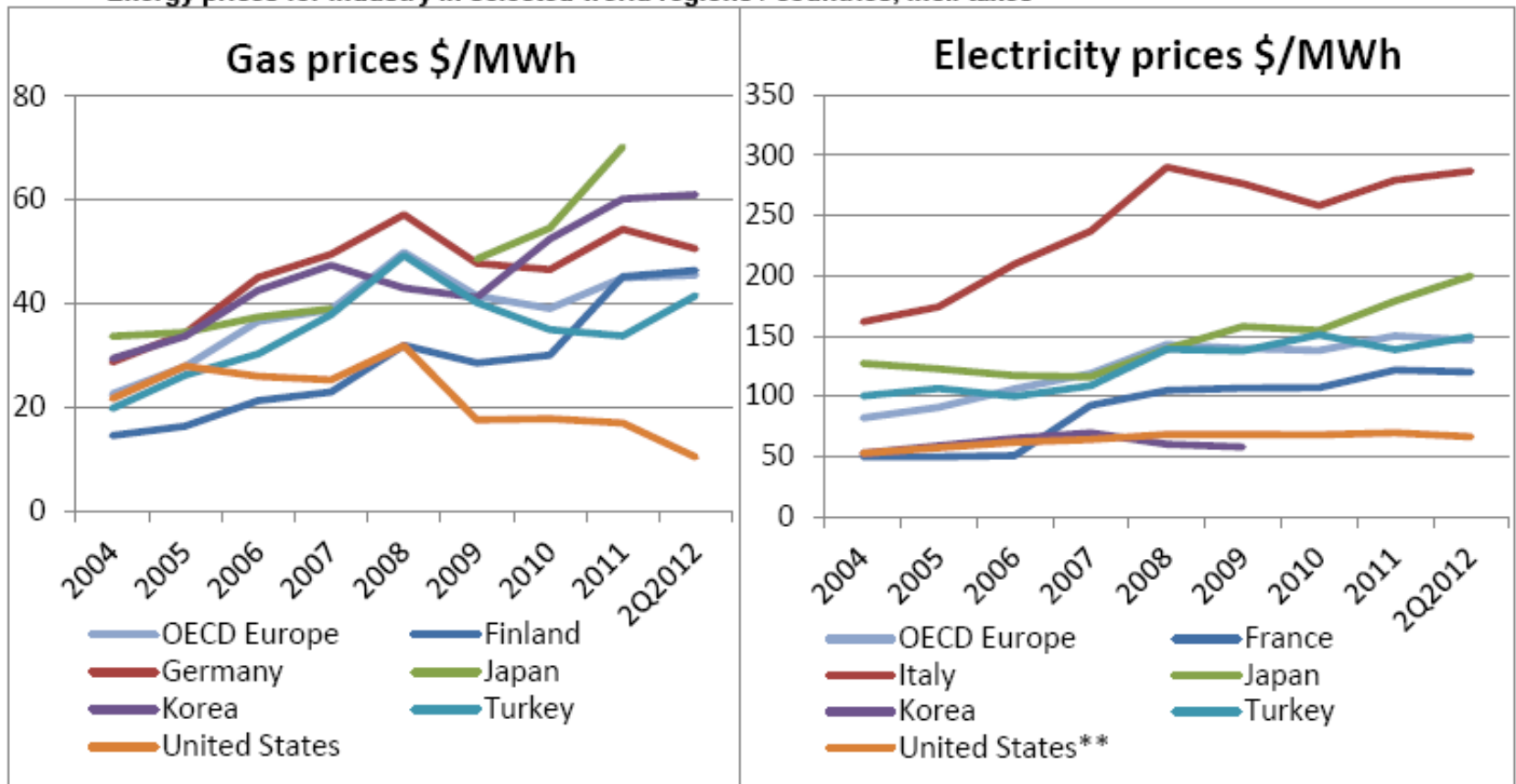
- ***Indirect carbon costs:***
 - Power sector passed through a large part of their opportunity costs,
 - Significant electricity cost for certain industries: e.g. EAF and ferro-alloys, non-ferrous metals,
 - Limited immediate impact of ETS due to long-term electricity contracts

Energy costs

- Significant impact of the energy prices,
- The cost of energy has increased significantly in the recent years
- The energy prices within Europe vary considerably
- Industry mentions costs for the support of renewable energy as an issue

Energy costs

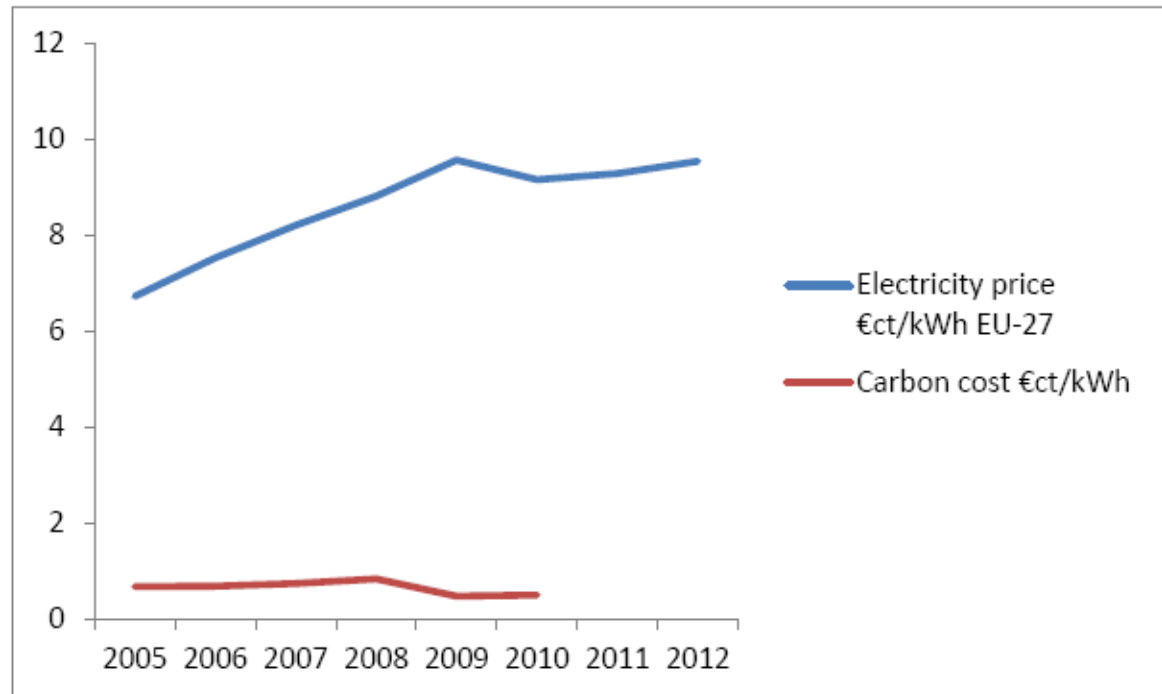
Energy prices for industry in selected world regions / countries, incl. taxes



Source: IEA Energy Prices & Taxes, 4th quarter 2012. ¹

Electricity prices for industrial consumers in the EU-27, excluding taxes; compared to carbon cost for electricity production

The link of carbon price and electricity price is not straightforward



Source: Eurostat Energy Statistics, EEX, EEA, IEA.²

Investment relocation

Stakeholders raised the issue of investment relocation – "investment leakage". The term in itself is quite vague and may have different meanings to different persons.

The study did not measure investment patterns, since such a wide topic would merit an exhaustive separate study, but difficult due to commercial sensitivities.

Investment relocation

- Increased production capacity outside Europe
- Driven mainly by growing demand in many emerging markets (closeness to markets)
- Europe's market is mature and the growth is small. Thus Europe's relative share decreasing in the global market
- Lower energy prices and lower regulatory costs outside EU (including not only environment /climate but more importantly a wide spectrum of other aspects)
- European (global) companies are participating / investing in the growth outside Europe

Transport costs and transportability

- Closeness to markets
 - A driver to build new production capacity elsewhere (for emerging markets), but also
 - A driver to stay in Europe (for the European market)
- Plays a higher role for heavy products of low value (e.g. cement, lime, clay)
- Transport costs are decreasing due shipping overcapacity
- Certain products are difficult to transport (e.g. chemicals).

Conclusions

- Free allocation covered fully or even exceeded the emissions of most of the analysed sectors
- No carbon leakage, as defined by the ETS Directive, has been identified
- However, the production capacities are growing outside Europe – main identified reasons:
 - Growing demand in emerging markets, while European markets mature
 - Competitive price for energy/raw material/labour
 - Regulatory costs often lower outside Europe
 - But EU has large internal market, stable political situation



Webpage

http://ec.europa.eu/clima/policies/ets/cap/leakage/docs/cl_evidence_factsheets_en.pdf