#### EU ETS - Costs for the Swedish industry

Report published by the Swedish Energy Agency in February 2007

This limited study was part of the process to produce a Swedish proposal for how the EU ETS should be developed after 2012

Mr. Ola Hansén, The Swedish Energy Agency, <u>ola.hansen@stem.se</u>



### Index and sources of info

#### Index

- Direct costs
- Indirect costs
- Investments
- Competitiveness
- Analysis of different measures to decrease the risk of carbon leakage

#### Sources of info

- Papers, reports, studies (international & Swedish)
- Statistics (Financial, energy, emissions, etc)
- Market info
- Interviews with industry (companies and trade organisations)



#### The (short-term) impact on competitiveness



Modified from: Oberndorfer U., Rennings K. &, Sahin B. (2006)

#### **Direct effect**



# Indirect effect through electricity prices



## Some conclusions (I)

Costs 2005-2007 for Swedish industry:

- Direct effect small for most sectors
- Indirect costs (through power prices) dominating effect
  - Even though Nordic power sector has a low carbon intensity, the pass through of EU ETS cost on (almost) all sold electricity is a logical result of:
    - The deregulated Nordic Power Market and the power price setting mechanism of this market
    - That the opportunity cost principle is applied by the power producers
- Total operating expenses (power price) can increase with several %

Costs after 2012 for Swedish industry:

- Direct effect dominates in emission intensive sectors
  - e.g. Cement, Lime, Iron & steel (Ore based), Refineries
- Indirect effect dominates in power intensive sectors
  - e.g. Paper, Pulp (Mechanical), Chemistry, Iron & steel (Scrap based), Aluminium, etc
- Total operating expenses will increase with several %



## Some conclusions (II)

- The ability for Swedish industry to pass increased costs through to prices is difficult to assess:
  - References give no clear answer, but shows that Swedish energy intensive industry is dependent on non-EU export
  - According to Swedish industry and trade organisations pass through possibilities are very limited
- Investments are influenced in several ways Difference between:
  - minor  $CO_2$ -abetement investments and
  - major new (green field or brown field) investments



#### Thank you

PM (in Swedish):

http://www.swedishenergyagency.se/web/biblshop.nsf/frameset .main?ReadForm&Doc=1886

