

ANNEX 4:

IDENTIFYING ENERGY-INTENSIVE ACTIVITIES EXPOSED TO INTERNATIONAL COMPETITION - A CROSS-SECTORAL COMPARISON FOR 2006

Chapter 3 of this study provides a comprehensive analysis of the energy and carbon intensity of different sectors, branches and production processes, and it has tried to quantify the implications of imposing a carbon constraint leading to a carbon price of €20/tCO₂. However, as the focus is on detailed analysis of individual products and production processes, more effort was devoted to get up-to-date, detailed price and energy-cost information than to cross-sectoral comparison. Thus, while the analysis is based on publicly available statistics and market prices, different sources have been used for different products and sectors. This approach should be considered as being sufficient to allow a reliable quantification of the problems and issues at stake for the individual sectors and products analysed.

To allow a reliable cross-sectoral comparison, a harmonised statistical basis should be used, and cost and price information should refer to identical observation periods. Information coming close to these requirements is provided in the two tables of this annex. Table A1 tries to quantify the issues at stake based on a carbon price of €20/tCO₂, that is, the approximate marginal cost of ETS allowances to comply with the Kyoto obligation in 2008-12, and table A2 provides the same information assuming an allowance price of €40/tCO₂. This is the marginal abatement cost assumed to result from a unilateral mitigation effort by the EU, aiming to reduce emissions to 20% below the 1990 level, without access to the Joint Implementation (JI) and Clean Development (CDM) mechanisms of the Kyoto Protocol. In case the latter were allowed on a significant scale, the marginal abatement cost in 2020 should be much closer to €20 to €25/tCO₂.

The product prices are derived from Eurostat's Prodcom database, by dividing the declared production value by the declared production volume, for EU27. The trade data also come from the Prodcom database, built on the Foreign Trade Statistics. Import and export data are those of EU27 with non-member countries. The first four digits of the product codes correspond to the NACE nomenclature.

Average energy prices, 2006

Natural Gas Russian border	Coal ARA	Gas Oil ICE	Elect EEC 1M	Coke
6.00 €/GJ	1.73 €/GJ	10.99 €/GJ	14.34 €/GJ	4.55 €/GJ
233.90 €/t	50.76 €/t	461.69 €/t	51.64 €/MWh	122.82 €/t

Source: Reuters EcoWin, Euracoal's Market Report 1-2007 (for coke)¹

The tables follow the structure of chapter 3. That is, they start with the iron and steel sector and end with different chemical products and production processes.

Products and production processes shaded in grey are those activities that would require a profit-neutral price increase of more than 5 percentage points while at the same time being exposed to an openness to non-EU trade in excess of 20% of its turnover. As can be seen from table A1, showing about 100 production processes of energy-intensive industries, this would only be the case for some steel products produced in integrated steelworks, primary

¹ EURACOAL Market Report 1/2007, available at: <http://euracoal.be/vorlagen/Market1-07.pdf>

aluminium production, clinker production and a small number of products from the chemical industry. As can be seen from table A2, at a higher allowance price, some ceramics, products of the paper and pulp industry and some more products of the chemical industry would have to be added to this list.