





tor. Thus, from the textiles finishing sector, Germany would lose 0.0003 percent of its added value (0.02 percent times 1.6 percent). We sum up these losses for the 20 most-affected sectors for each country. This gives a loss of 0.15 percent of added value for Germany and 0.25 percent for Spain. Then we divide the individual country's loss by the mean loss of added value to see which countries are more and which are less affected due to their industrial structure. This constitutes our *vulnerability* indicator.

Result: Due to their industrial structures, Hungary, Poland and Spain could lose a higher share of their added value than France, Italy or the UK. In Poland and Spain, this is in part due to a high share of cement production in the added value. This may in part be a consequence of our 2007 data coinciding with a construction boom in both countries. However, even when ignoring the cement

5. As electricity is responsible for about half of ETS emissions.

ture' economies – France, Ger-



and turnover in carbon-leakage industries. Consequently, other countries with disproportionately high shares in these industries will receive higher shares of free allowances. At the same time, the total number of allowances to be auctioned shrinks and Spain will obtain lower allowance auction revenues.

3. POLICY IMPLICATIONS

The cost of pricing carbon differs substantially throughout Europe. Some countries, such as France, have significantly below-average costs; others such as Poland seem

sion have been influenced by redistribution (and possibly transfer) motives. Thus, the ETS, which can distribute allowances worth €30-35 billion per year, is now one of the largest redistribution machines in the EU, and could become an even bigger redistribution machine if a decision is made to tighten the cap in order to reduce emissions by 30 percent by 2020¹⁰. The big policy challenge will be to speed up the shift from the allocation of free allowances towards the allocation of auction revenues¹¹. The latter is essential to ensure the transparency of transfers and to increase the efficiency of the ETS¹² in the decades to come.

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10. In this case, several analysts predict a doubling of the carbon price which might bring the value of the annual allocation to about €60 billion, the same level as current CAP spending.

11. For example, the requirement to re-evaluate in 2014 the vulnerability of sectors deemed to be at risk of carbon leakage should be taken seriously.

12. Auctioning allowances is typically more efficient and transparent than allocating free allowances. First, double dividends might arise (see section 1.5).