

## Executive Summary

The EU Emissions Trading System (EU ETS) is the most important European instrument for climate protection and in Germany covers about half of CO<sub>2</sub> emissions. Since 2009 the KfW/ZEW CO<sub>2</sub> Barometer has been surveying all German companies covered by the EU Emissions Trading Scheme on their activities and strategies in emissions trading.

The decline in certificate prices by at times 50 % in 2011 resulting from the heavy over-allocation of emission rights to companies across the EU led again to increasing discussions on the weak incentive effects of the EU ETS. At the same time, the industry has argued and continues to argue that the cost burden through the EU ETS places European companies at a disadvantage in international competition, forcing them to increasingly invest outside of Europe and move production sites abroad ("investment leakage"). The result would be an undesirable transfer of CO<sub>2</sub> emissions beyond the regulatory reach of the EU ETS to less strongly regulated countries and regions ("carbon leakage").

In addition to the incentive effect of the EU ETS and the abatement activities of regulated companies, the current CO<sub>2</sub> Barometer mainly focuses on how strongly the costs of climate policy regulations actually impact the production and investment decisions of companies. The results of this year's company and expert surveys reveal a much more differentiated picture of the climate protection efforts of regulated companies and their global capacity expansion efforts than is currently widely discussed in the public realm.

### **Prices drop sharply for emission rights: Many companies apparently reducing EUA holdings**

The experts surveyed primarily blame macro-economic influences (such as the financial and economic crisis in 2008 and 2009 and the continuing sovereign debt crisis) and regulatory announcements (such as the publication of the EU Commission draft for a new energy efficiency directive) for the massive price correction in the second half of 2011. Enterprises and experts adjusted their short, middle and long-term price expectations considerably downwards. They do not expect EUA prices to go above the EUR 20 mark again until the end of the third trading period in 2020.

As a result, many of the surveyed companies reduced their inventories of emission rights by selling them. The purchasers were primarily companies who expect a smaller allocation of free emission rights for the third trading period or those – such as energy suppliers – who no longer receive a free allocation.

### **The start of the third trading period brings important innovations for companies: Nevertheless only moderate cost burden for preparing the allocation application**

The surveyed companies were able to prepare and submit the allocation application for the third trading period in a streamlined manner despite the strong need for advisory services. In the framework of the application procedure the surveyed companies faced a one-time median cost of about EUR 25,000. A comparison to the average annual turnover of a firm in the manufacturing sector (which accounts for considerably more than half of the surveyed enterprises) in Germany in 2011 – about EUR 74 million – shows: The cost burden for companies to prepare an allocation application is small.

### **EU EHS currently produces little incentive for CO<sub>2</sub> abatement**

Thus far 71 % of surveyed companies have made investments or changes in the production process that have led to a reduction of their CO<sub>2</sub> emissions. However, these measures were actually aimed at reducing energy and resource costs and tapping into general efficiency potentials, while only 9 % of the companies had the explicit aim of reducing CO<sub>2</sub> emissions.

About 16 % of surveyed enterprises conducted their own R & D to develop technologies for reducing CO<sub>2</sub> emissions, while 40 % of enterprises purchased new abatement technologies on the market. However, these activities were carried out less for reasons of CO<sub>2</sub> avoidance and more to reduce the energy intensity of production, for example.

Accordingly, markets for abatement technologies are of major relevance for the decarbonisation of the German economy required by climate policy. Particularly, mechanical engineering and plant construction serve an important function in the development and spread of "green innovations".

### **Currently only low risk that investments and emissions will be diverted because of emissions trading**

About 53 % of companies plan to implement measures in the next five years to expand capacity, of these nearly one third (31 %) are planned for outside of the EU. These would lead to an increase in non-European CO<sub>2</sub> emissions. However, this development can hardly be called carbon leakage caused by emissions trading: On the one hand, a simultaneous notable slowdown in inner-European capacity expansion is not expected; on the other hand, for most surveyed companies energy costs and the situation of the sales markets are the determinant factors when selecting a location. In this regard the costs of climate protection regulations play only a secondary role. Therefore, the increasing importance of sales markets outside of Europe seems to influence planned capacity expansions more than the burden of emissions trading on companies.

In contrast, the central importance of energy costs for both the selection of location and the economic efficiency of production indicates that electricity price increases due to emissions trading could indeed pose a possible risk of investments and CO<sub>2</sub> emissions being diverted (indirect carbon leakage). However, the actual risk potential depends on the electricity intensity of the production process in the affected sectors and the prices for emission rights.

### **Rising energy prices speed up CO<sub>2</sub> prevention**

Despite the collapse in CO<sub>2</sub> price expectations for the third trading period, 66 % of companies still plan on implementing reduction measures starting 2013, with one sixth (17 %) of these having the explicit aim of CO<sub>2</sub> reduction. At the same time, about 30 % of the companies planning capacity expansions in the next five years also want to reduce their CO<sub>2</sub> emissions - despite the currently low price level of emission rights. The survey results indicate that it is primarily rising energy prices and not the costs of climate protection regulation that are responsible for these decarbonisation efforts.

### **Hope for a new dynamic through non-European emission trading initiatives**

The main goal of the Durban Platform for Enhanced Action adopted 2011 at the Climate Change Summit is the development by 2015 of a globally applicable climate change treaty starting 2020. The surveyed experts expressed caution regarding the timely development of such a treaty and are sceptical about reaching agreement on binding reduction targets for the large emitting countries.

In spite of the low price level in the EU ETS, efforts to develop national CO<sub>2</sub> emission trading systems are increasing globally. The list of active countries includes South Korea, Mexico and Australia as well as China, the world's largest CO<sub>2</sub> emitter. The majority of experts assess this development to be positive and expect that China may introduce a national cap-and-trade system by 2020.

### **EU Emissions Trading: Currently in troubled situation but desperately needed as an international model**

While countries and regions worldwide, including China, are experimenting with the introduction of emissions trading systems, the European emission trading system at present can hardly fulfil its exemplary role as European motor for necessary decarbonisation. Even if its structure still fulfils the objective – the capping of European-wide CO<sub>2</sub> emissions to the level prescribed by policy – it currently provides scarcely any incentives to regulated companies to make investments in low-carbon technologies.

In view of the upcoming international climate negotiations, it would surely be helpful if the EU ETS soon again generated noticeable incentives for climate protection investments and innovations. The wish of European companies for international CO<sub>2</sub> regulations that are as harmonised as possible will be all the easier to realise in the negotiations with other emitter countries the more convincing the EU can point to the advantages and successes of the EU ETS as a central climate protection instrument.