

Executive Summary.

The EU Emissions Trading Scheme (EU ETS) is the first large-scale multi-national greenhouse gas (GHG) trading program and a central instrument of European climate policy. The EU ETS market is still young, but growing rapidly. In the last two years, the average daily trading volume at the ECX has increased enormously, from 4 million tCO₂ (2007) to 20 million tCO₂ (March 2009). From over 11.000 installations covered by the EU ETS, 1.660 are located in Germany being responsible for almost 50 % of national green house gases. One third of the installations under the trading scheme belong to energy intensive industry sectors and two thirds to the energy sector. Compared to 499 million tCO₂ in the years 2005 - 2007 the total number of allowances to be issued within the second trading period has been reduced to 452 million tCO₂ annually. With this tighter emissions cap, the relevance of the carbon market for the covered firms can be expected to increase. Despite its high importance for both market participants and stakeholders, the data basis concerning developments and expectations in supply and demand as well as prices of emission allowances and emission reduction certificates is still lagging behind. The **KfW/ZEW CO₂ Barometer** – a survey among German firms covered by the EU ETS and international carbon experts developed in cooperation between KfW Bankengruppe and the Centre of European Economic Research (ZEW) – intends to close this gap.

The **KfW/ZEW CO₂ Barometer 2009** shows that the majority of German firms under the EU ETS is already participating actively in the European carbon market. Yet, on specific market segments, activity levels have remained low due to uncertainties and high transaction costs. This concerns on the one hand the post-2012 market and on the other hand the possibilities to use Kyoto credits (CERs/ERUs). For the market participants, a longer horizon of legislation which allows long term planning is of the highest priority with regard to market development. An early specification of the regulatory framework for the next trading phase is therefore crucial. In terms of the Kyoto mechanisms, market activity could profit from the reduction of transaction costs and risks of using CERs and ERUs, for example by increasing standardisation of project development procedures. In spite of tighter emissions caps in the second trading phase, the KfW/ZEW CO₂ Barometer 2009 results indicate that monetary incentives for abatement investments by the EU ETS still seem to be weak. Altogether, the EU ETS market in Germany has gathered considerable momentum, although it is not in full swing yet.

Main results of our survey:

Economic downturn impedes emission assessment but spurs trading activities of German firms.

- In contrast to the first trading period, German installations under the EU ETS were generally short in emissions allowances in 2008. Nevertheless only less than one third of German firms expect to be short over the entire trading period 2008-2012. Two thirds of the firms anticipating their allocation to be too low were actually long in 2008 – indicating possible **difficulties to assess actual emissions due to the unexpected strong economic downturn** as well as countercyclical effects of the EU ETS.
- Although three quarters of firms participate actively in carbon markets **only a small minority (13 %) seems to be trading on a more regular basis** - representing mainly larger companies.
- Surprisingly firms being long with respect to their initial allocation were found to be more likely to buy or sell EU allowances (EUAs) than firms being short – a further indication that firms **were actively selling surplus EUAs thus using them as an instrument in their general liquidity management**.
- While **secondary markets are the first choice** for companies' trading activities for EUAs as well as Kyoto credits in general, **intermediaries (e.g. carbon funds) seem to offer comparative advantages when it comes to providing future emission reductions from project-based mechanisms** under the Kyoto Protocol (CDM and JI projects) - especially so for smaller companies.
- Against the background of being short in the first as well as expectedly also in the second period, the **energy sector turns out to be the most active in spot and forward markets for EUA and Certified Emission Reductions (CERs)** from emission reduction projects in developing and transition countries. This does not only apply to secondary markets but also to primary CERs purchased directly from emission reduction projects.

Market development still hampered by inherent risks and uncertain economic outlook.

- The strong presence of German companies in CO₂ markets indicates that firms are adapting to the new regulatory framework under the EU ETS. However, in market segments where the legal framework is still missing (post 2012) or transaction costs and risks dominate, trading activities are still lagging. While the majority of firms are aware of the arbitrage possibilities between EUAs and project-based credits CER/ERU **almost one quarter of the firms explicitly renounce the possibility to swap due to inherent risks and high transaction costs**. Consequently arbitrage possibilities are used only if a compensating spread between 4 to 7 EUR/tCO₂ can be realised.
- Equally, trading activities are still concentrated on the spot and forward markets 2008-2012 while **17 % of German firms are or plan to be active on the post-2012 market**. Intermediaries are contacted predominantly for CER trading. Direct access to CERs via **primary spot and forward markets seems to be an option only for a small fraction of larger companies** (5 % and 14 % respectively).
- Although especially larger companies seem to integrate carbon allowances and credits into their asset and liquidity management, **price signals still seem to be too weak to**

have a significant impact on investment strategies. More than half of the companies (55 %) have already realised CO₂ reduction measures during the first trading period, but a vast majority agrees that CO₂ reduction is only a side effect of these measures (88 %). Only for 6 % of companies, emission reduction was the main reason for investing in abatement measures. With tighter caps, however, prices for emission certificates and their impact on investment decisions of installations under the EU ETS are expected to increase.

Market signals will strengthen – prices expected to increase moderately in the short term but show significant upward trend over the mid- and long term horizon.

- Most German firms and international experts expect that the (inflation adjusted) **EUA prices will not be higher than 18 EUR/tCO₂ in December 2009 and 30 EUR/tCO₂ in the period from 2013-2020.** Prices for CERs purchased at the exchange or over-the-counter (sCERs) are likely to be slightly lower: 16 EUR/tCO₂ in December 2009 and 26 EUR/tCO₂ for 2013-2020, respectively. Different risks and the limit for using Kyoto certificates for compliance determine the current spread between EUAs and sCERs.
- The highest potential for emission certificates generated with CDM projects is expected in China and India, but Africa and the rest of Asia and Pacific will also play a role. Among JI regions, Russia and Ukraine are expected to remain predominant in the future. When assessing the potential, **almost 50 % of the companies consider the type of a CDM project to be relevant**, with “Renewable energy sources”, “Supply-side energy efficiency” and “Demand-side energy efficiency” being among the top three CDM/JI project types. In the future, “Afforestation / Reforestation” is likely to play a more important role.
- Prices for gas, crude oil, coal and electricity are expected to stagnate or to decrease at least until July 2009. Between 56 and 85 % of the respondents forecast increasing prices for coal, oil, gas and electricity in the next five years.