

# **THE EU EMISSION TRADING SCHEME: FIRST EVIDENCE ON PHASE 3**

Claudia Kettner, Austrian Institute of Economic Research (WIFO), +4317982601406, claudia.kettner@wifo.at

## **Overview**

The EU Emission Trading Scheme (EU ETS) covers about 45% of the EU's total greenhouse gas emissions. Established in 2005, it represents the core instrument of European climate policy.

Phase 1 (2005 – 2007) was, however, characterized by pronounced over-allocation (see e.g. Kettner et al., 2008). For Phase 2 (2008 – 2012), the European Commission took a more active role in approving the Member States' National Allocation Plans. As a consequence verified emissions exceeded allocation for the EU total in 2008. Due to the external shock of the financial crisis and the associated decline in economic activity and emissions the cap was only stringent in 2008, whereas the next years (and Phase 2 in general) showed again a pronounced surplus of allowances (see e.g. Kettner et al., 2010).

The evaluation of the pilot phase led to essential changes in the design of the EU ETS for Phase 3 (2013 – 2020) in the context of the EU Energy and Climate Package (EC, 2008) and the new emissions trading directive (EC, 2009) respectively. For the ETS sectors a total emissions reduction of 21% until 2020 compared to 2005 is required; a linear reduction pathway starting in 2010 has been adopted (i.e. during Phase 3 the cap is reduced every year). A major change compared to the first two trading periods was the proposed EU-wide cap instead of national allocation caps. In the allocation of allowances sectoral differences were, however, taken into account: The power sector generally faces auctioning from 2013 on; sectors potentially 'exposed' to carbon leakage receive 100% free allocation based on benchmarks; and other sectors receive 80% free allocation in 2013 based on benchmarks and the share of free allocation is reduced to 30% in 2020. As of April 2014, first data ETS emissions data are available for 2013 providing the basis for a first empirical analysis of the functioning of the EU ETS in Phase 3.

## **Methods**

In this paper, changes in sectoral allocation patterns between Phase 2 and Phase 3 are analysed using allocation and emissions data from the EU Transaction Log (EUTL) that is assigned to sectors using information from National Allocation Plans. As of May 2014 the EUTL contains information on approximately 15,000 installations from emission intensive industry and power and heat supply for the period 2005 - 2013; for approximately 9,000 installations data on allocated allowances and verified emissions are available for all years. For our analysis we focus on the EU Member States (except Bulgaria and Malta).<sup>1</sup>

The analysis of allocation patterns is based on the indicators developed by Kettner et al. (2008): the short or long position of an installation as the difference between allocated and verified emissions of an installation; the gross long (short) position of a country as the sum of all long (short) positions of installations in a country; and the net long (short) position of a country as the difference of gross long positions and gross short positions of a country if this difference is positive (negative).

## **Results**

For 2013, the analysis shows that the benchmark-based allocation of allowances was significantly lower than the verified emissions. While in Phase 2 of the EU ETS allocated allowances in the 25 countries on average amounted to 2,124 Mt, free allocation in 2013 was reduced to 829 Mt (-61%). In contrast, emissions declined by only 12% from 1,982 Mt in Phase 2 to 1,743 Mt in 2013. In the first year of the third trading phase the market was hence in a pronounced net short position. As in Phase 2, the highest net short position showed for the power sector (due to the high share of auctioning), but also refineries, coke production and glass production showed a pronounced net short

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<sup>1</sup> Emissions data for Bulgaria and Malta are not yet available for 2013.

position in 2013. The other sectors, on average, still exhibit rather pronounced net long positions, i.e. for 2013 allocated allowances still exceeded verified emissions. On Member State level, in 2013 a net short position shows for 21 countries compared to 3 in Phase 2.

## Conclusions

In contrast to the previous trading phases, the analysis of allocation and emissions for 2013 finds a stringent EU-wide cap. Nevertheless, carbon prices still have not recovered and range around € 5 as of May 2014. This reflects a surplus of allowances at the beginning of Phase 3 resulting from (1); the banking of allowances between Phase 2 and Phase 3, which transferred surplus allocation in the post-Kyoto period, (2) an intensive use of international credits, (3) auctioning of remaining allowances from Phase 2 and early auctioning in Phase 3, and (4) sales of Phase 3 allowances to generate funds for innovative low-carbon energy demonstration projects (i.e. for carbon capture and storage (CCS) and innovative renewable energy (RES)) (see e.g. European Commission, 2012). At the start of Phase 3 the surplus amounted to almost two billion allowances which almost corresponds to the average annual EU-wide allocation in Phase 2.

Based on the stringency of the cap in 2013 and the prospect of a shortage of allowances in the following years, it can, however, be assumed that the European carbon market in over Phase 3 will establish incentives for investment in low carbon technologies. In order to stabilise the carbon market, the European Commission has also adopted a backloading provision: The auctioning of 900 million of allowances has been postponed from the beginning to the end of Phase 3 (European Commission, 2014). This will also contribute to creating a stable price signal.

## References

- European Commission (2008) Communication from the Commission: 20 20 by 2020 - Europe's climate change opportunity. COM(2008)30.
- European Commission (2009) Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community.
- European Commission (2012) The state of the European carbon market in 2012. COM(2012) 652 final.
- European Commission (2014) Regulation 176/2014 amending Regulation (EU) No 1031/2010 in particular to determine the volumes of greenhouse gas emission allowances to be auctioned in 2013-20.
- EUTL (2013) European Transaction Log. <http://ec.europa.eu/environment/ets/>
- Kettner, C., A. Köppl and S. Schleicher (2010) The EU Emission Trading Scheme: Insights from the first trading years with a focus on price volatility. In Dias Soares et al. (eds.) Critical Issues in Environmental Taxation VIII. Oxford: Oxford University Press. 187-225.
- Kettner, C., A. Köppl, S. Schleicher and G. Thenius (2008) Stringency and distribution in the EU Emissions Trading Scheme: First Evidence. Climate Policy 8 (1): 41-61.