Germany is likely to auction up to 10% of allowances in its revised national allocation plan for Phase II of the EU Emissions Trading Scheme. JÜRGEN HACKER explains the reasons and proposes how it could be organised

Auctioning is coming

In August 2005, the German Emissions Trading Association called for improvements to the EU Emissions Trading Scheme (ETS) that included making full use of the 10% auctioning of allowances (EUAs) allowed in Phase II (2008–12). Most experts and lobbyists in Germany smiled at them as political dreamers without the remotest chance of reaching their goal.

Yet, half a year later we had discussions with members of the newly elected German parliament and, during a subsequent Association symposium, parliamentary representatives from all three opposition parties strongly supported the call for auctioning.

However, representatives from the governing parties remained vague, arguing cautiously that there were still some aspects to clarify. Auctioning seemed even less likely when the German Environmental Minister, Sigmar Gabriel, rejected it in his proposal for the country's Phase II national allocation plan (NAP).

However, when Gabriel formulated the NAP as a draft law in October, he was confronted with demands for auctioning from the two vice-chairs responsible for environmental affairs for the parliamentary groups of the governing parties. In the Bundestag budget debate in late November, Gabriel signalled a change in his stance by saying that nobody in the German government had anything against auctioning providing it did not lead to a further increase in power prices. At that time, MPs of his own party had already confirmed that parliament would be likely to introduce auctioning into the allocation law if the government did not do so itself.

In January this year, even the German Minister of Economics and Technology, Michael Glos – previously the strongest opponent of auctioning in the government – declared his readiness to review his position. And so it seems about 95% certain that auctioning of allowances will be included in the German allocation law for Phase II.

How were German MPs convinced that the government should give up its resistance to auctioning? The secret is that the politicians accepted that we were not arguing in the interests of a few companies or a single sector of industry but in the interests of the German economy as a whole. And that we had a detailed and sound proposal about how to organise the auctioning without arousing fears of higher power prices.

Objective of an auction

First, we made it clear that the goal of auctioning allowances is not to generate as much income as possible for the government. On the contrary, the goal is to keep government revenue as low as possible. Auctioning of EUAs has to be seen primarily as an instrument to improve the efficiency of the system of tradable allowances. Generating state income is only a secondary effect.

When is a system of tradable EUAs efficient? The goal is to comply with the given emissions cap at the lowest possible cost to the national economy, and thus to keep the unavoidable loss to general prosperity as low as possible. The macroeconomic costs are lowest if the measures adopted to comply with the emission limitations have the lowest specific carbon dioxide (CO_2) abatement costs, and all the more expensive abatement measures are not implemented. The boundary between the measures which are and are not implemented is defined by the specific marginal abatement costs. The problems are that:

- the marginal abatement costs (MAC) are not known and are not constant, but depend on other price factors which can constantly change; and
- even the individual abatement costs are often not known.

Theoretically, the problem is solved by a system of tradable EUAs, generating a market price which is identical with the MAC. But the problem with the EU ETS was that the market price was actually higher than the MAC most of the time in the first compliance period. And this happened despite the fact that too many EUAs were issued. The measures adopted by companies, if any, were oriented to this inflated market price, leading to higher macroeconomic costs than were necessary. This danger could be even greater in the second compliance period, when there will hopefully be a real scarcity of EUAs.

The statement 'auctioning helps to improve the efficiency of a system of tradable EUAs' therefore means an 'alteration of the formation of market prices so that prices are oriented more to the marginal abatement costs'.

The auctioning of the EUAs must therefore serve to find the macroeconomic MAC. Because the MAC and the loss of general prosperity should be kept as low as possible, it follows that the auctioning price, and thus also the state earnings, should be kept as low as possible – for the benefit of the economy as a whole.

Organising an auction

The auctioning of EUAs is simplified in two ways: one, there is only a single seller, the government, and, two, there is a fixed supply of allowances which is independent of the auction price. For such an auction the following general rules are appropriate:

- uniform pricing;
- ascending-bid auction;
- modified ascending-clock auction;
- bids only from EU ETS plant operators; and
- several auctions for each year, beginning in the previous year

Uniform pricing means that the final auction price applies to all successful bidders. All bidders pay the same price for each auctioned EUA. The costs of using an EUA should therefore be

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identical with the MAC. The sum of costs are therefore minimised – the best case macroeconomically.

During an ascending bid auction, if buyers act rationally they will demand fewer EUAs as the price rises in accordance with their individual abatement cost curve. This price-dependent demand behaviour means that previously unknown individual abatement cost curves will be disclosed and will be relevant for the auction. It is essential that the individual cost curves remain strictly confidential. An important side-effect is that buyers must have determined their own abatement cost curve before taking part, which is not yet the case for most EU ETS plant operators.

To minimise costs, we propose a modified ascending-clock auction with a one- or two-level procedure. To avoid the costs of a multi-step auction, bidders would not only give their demand for a specific price, but all demand volumes for all possible prices (volume of demand as function of price). The intersection of the sum of demand functions of all bidders with the fixed supply amount would deliver the auction price. The drawback would be relatively high preparation costs for bidders, who would have to determine their entire abatement cost curve, even for very unlikely prices. Therefore we propose for the first round of auctioning a defined price range in which the auction price is anticipated – for example, €15–25 per EUA). Demand functions would therefore only have to be given for this range. A second round would only be needed if the demand for this price range was too high or too low. Knowing the extent of over- or under demand, the price range for the second round should then cover the auction price.

Further, we are convinced that participation should be limited only to installations covered by the EU ETS. Only the operators of plants falling under the EU ETS have relevant CO_2 abatement costs which are to be determined. Allowing other bidders would distort the procedure, either with speculation on price differences against secondary markets or in pursuit of other strategic interests. Their participation might increase the resulting auction price, which is normally in the interest of the seller but, in this case, because the government is the seller it should be interested in the lowest possible price for the macroeconomic reasons already mentioned.

Finally, several auctions should be carried out each year so that secondary market prices cannot move too far from the primary market (auction) price. Incremental amounts of the total number of EUAs to be auctioned annually should be sold at intervals through the year. On the one hand, this would help to establish price stability and, on the other hand, a series of auctions can also make things easier for smaller companies, which tend to have shorter credit lines. If price signals are to make the emitters adapt, then the price signal (auction) must take place before the actual emissions. Therefore, we propose that the first auction should take place three months before the start of the year, followed by two other auctions two and seven months after the start of the year.

Possible problems

In comparison with auctioning all EUAs, the auction of only 10% has three special aspects:

- ☐ no general solution of the problem of so-called 'windfall profits';
- ☐ problems of the market influence of a few big bidders;
- ☐ auction of 10% at whose cost?

Windfall profits may not arise because of opportunity costs and their possible pricing in. The value transfer is due to cost-free allocation of EUAs, which represents nothing other than an EU-approved subsidy. The auction of only 10% of the allowances can only directly reduce this value transfer by 10% but, if the auction tends to reduce the market price towards the MAC then this also reduces the possible pricing-in levels for the remaining 90%.

But this advantage is at the same time a problem, because of the undue market influence of a few bidders.

A small number of major emitters may account for the majority of EUAs – in Germany, for example, four utilities account for around 53% of the national allocation. They also have a virtual monopoly in the electricity market and so they can already factor in opportunity costs for much more than the 10% of EUAs. As a result, there will be a tendency for them to be not interested in the lowest possible auction prices, but the highest.

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There is therefore a risk that major emitters will orient their demand in the 10% auction not in terms of their emission abatement costs, but to the maximisation of their revenues by including opportunity costs in their pricing. They could bid for the entire 10% at (almost) any price. One way to solve this risk would be to exclude these bidders from the auction. But this would falsify the MAC and could be legally problematic.

We propose limiting the demand volume at the auction for any single bidder. This allows a neutral definition of scope and therefore avoids legal problems. For example, in Germany the maximum demand volume should be 9 million EUAs per year: four utilities x 9 million = 36 million EUAs out of total supply from an auction of 45 million. The auction price could not then be driven up by a few major players. But, on the other hand, there would be a slight risk that the auction price could be lower than the MAC. It is important to weigh up which risk is greater.

Finally, if 10% is auctioned, then at whose cost would this be? The auction volumes would no longer be available for cost-free allocation, so cuts would have to be made somewhere – but where? One option which seems to be preferred by members of the Bundestag is to cut only the allocation to the energy sector, or even only to the four big power utilities – which seems to be most popular. But they overlook the severe disadvantage that there would then be no incentive for the other plant operators to take part in the auction at all.

And what would be the result of an auction where only four bidders took part and they could easily and legally determine the auction price themselves? The best option is a proportional cut to all cost-free allocations. This has the advantage of being applicable to all the member states' allocation rules, thus creating an incentive for all to take part in the auction, and therefore uses all plants, individual abatement cost curves for determining the auction price.

We hope that we can convince the Bundestag to decide the framework for the auctioning as we have outlined above. The final decision of parliament is expected to be in June this year. So, if the largest European economy takes the lead, together with the UK, which intends to auction at least 7% of its total allocated EUAs, the remaining EU countries should consider it in their interest to follow suit.

I would like to draw their attention to the fact that the EU Commission, in its communication to the European Council and the European Parliament on the assessment of national allocation plans of 29 November 2006, stated that member states are allowed to increase the share of auctioning up to 10% even after the approval of their NAPs by the Commission. It is never too late to follow a better path. **CF**

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