Side-Event of the bvek at COP 12
Nairobi, 14 November 2006

Organising the auctioning of 10 % of emission allowances - a proposal -

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Structure

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Objective of an auction of EAs

1. The goal of auctioning emission allowances (EAs) 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!

2. Auctioning of EAs is primarily an instrument to improve the efficiency of a system of tradable EAs!

   Generating state income is only a secondary side-effect!

When is a system of tradable EAs efficient?

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Objective of an auction of EAs

3. The goal of a system of tradable EAs is to comply with the given emission limitations at lowest possible cost to the national economy, and thus to keep the unavoidable loss of general prosperity as low as possible!

4. The macroeconomic costs are lowest if the measures adopted to comply with the emission limitations have the lowest specific CO_2-abatement costs and all more expensive measures are not implemented!

   The boundary between the measures which are and are not implemented is defined by the specific marginal abatement costs!

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Objective of an auction of EAs

5. The problem is,
   1. that the marginal abatement costs (MAC) are not known and they are not constant, but depend on other factor prices which can constantly change!
   2. that even the individual abatement costs are often not known!

6. Theoretically, the problem is solved by a system of tradable EAs, which generate a market price which is identical with the MAC!

7. But the problem of the current EU-ETS is that the market price is not equal to but higher than the MAC and so it leads to higher macroeconomic costs than necessary!

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Objective of an auction of EAs

8. "Auctioning helps to improve the efficiency of a system of tradable EAs" therefore means:
   Alteration of the formation of market prices so that prices are oriented more to the MAC!

9. The auctioning of the EAs must therefore serve to find the macroeconomic MAC!

10. Because the MAC, and the loss of general prosperity should be kept as low as possible, it follows that the auction price and thus also the state earnings should be kept as low as possible – for the benefit of the economy as a whole!

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Organising an auction of EAs

The auctions are simplified in the following ways:

1. Only one seller - the government!
2. Fixed supply – independent of the auction price!

The following rules are appropriate for an EA auction:

1. Uniform pricing
2. Ascending-bid auction
3. Modified ascending-clock auction
4. Bids only from EU-ETS plant operators
5. Several auctions for each year, beginning in the previous year

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Organising an auction of EAs

1. Uniform pricing

- All pay the same price for each auctioned EA
- Costs of using an EA = Marginal abatement costs
- Sum of costs are therefore minimised – the optimal case macroeconomically!
- Results meet the interest of buyer and seller!

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Organising an auction of EAs

2. Ascending-bid auction

- In accordance with their individual abatement cost curve, buyers will demand fewer EAs as prices rise
- The price-dependent demand behaviour means that previously unknown individual abatement cost curves will be disclosed and will be relevant for the auction!
- Note: Strict confidentiality for the demand curves!
- Important side-effect: Purchasers must have determined their own abatement cost curve before taking part!

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Organising an auction of EAs

3. modified ascending-clock auction (1- or 2-level procedure)

- To avoid the costs of a multi-step auction, options could include:

  One-round auction

  Bidders not only give their demand for a specific price, but all demand volumes for all possible prices!

  Volume of demand as function of price

  Intersection of sum of demand functions of all bidders with the fixed supply amount = auction price!

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Organising an auction of EAs

3. modified ascending-clock auction (1- or 2-level procedure)

- Drawback: relatively high preparation costs for bidders, because they would have to determine the entire abatement cost curve, even for very unlikely prices!
- Proposal:
  Definition of a price range for the 1st round in which the auction price is anticipated: e.g.: EUR 15 – 25 / EA, and
  demand functions only have to be given for this range!

  2nd round only needed if demand for this range is too high or low!
  Price range for 2nd round should cover the auction price!

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Organising an auction of EAs

4. Participation limited to EU-ETS plant operators

- Only the operators of plants falling under the EU-ETS have relevant CO_2-abatement costs which are to be determined!
- Other bidders would distort the procedure, either with speculation on price differences against secondary markets or in pursuit of other strategic interests!
- This would not be the case if all emitters were subject to the tradable EA system (e.g. by shifting the obligation to own EAs to those bringing fossil fuels into circulation)

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Organising an auction of EAs

5. A number of auctions each year

- So that secondary markets cannot move too far from the primary market (auction), partial amounts of the annual EAs should be auctioned at intervals through the year.
  Helps to establish price stability!
- If price signals are to make the emitters adapt, then the price signal (auction) must take place before the actual emission!
- A series of auctions can also make things easier for smaller companies, because they tend to have shorter credit lines!

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Organising an auction of EAs

5. A number of auctions each year

- Proposal: 3 auctions per annum

  1st auction: 3 months before the start of a year
  2nd auction: 2 months after the start of a year
  3rd auction: 7 months after the start of a year

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Special aspects of an auction of only 10% of EAs

3 Special aspects in comparison with auctions of 100 % of EAs

1. No general solution of the problem of so-called "Windfall Profits"

2. Problem of the market influence of a few bidders!

3. Auction of 10 % at whose cost?

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Special aspects of an auction of only 10% of EAs

1. No general solution to the problem of "Windfall Profits"

- "Windfall Profits" do not arise because of opportunity costs!
- Value transfer is due to cost-free allocation of EA!
  - This represents an EU-approved subsidy!
- Auction of only 10 % of EAs can only reduce value transfer by 10 %!
- But if the auctioning of 10 % 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!

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Special aspects of an auction of only 10% of EAs

2. Problem of market influence of a few bidders!

- As few major emitters may account for a majority of EAs (in Germany 4 for some 53 %), and have a virtual monopoly in the electricity market, so that they can already price in opportunity costs for much more that 10% of all EAs, there will be a tendency for them not to be interested in the lowest possible auction prices, but the highest!
- 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 the maximisation of their revenues by including opportunity costs in their pricing!

  Demand for the entire 10 % at (almost) any price!

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Special aspects of an auction of only 10% of EAs

2. Problem of market influence of a few bidders!

2 Possible solutions:

1. Exclusion from the auction
2. Limiting their demand volume at the auction

Re. 1.) Exclusion would falsify the MAC and could be legally problematic!

Problems of exclusion criteria, because not only major power companies can price in opportunity costs!

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Special aspects of an auction of only 10% of EAs

2. Problem of market influence of a few bidders!

2 Possible solutions:

1. Exclusion from the auction
2. Limiting their demand volume at the auction

Re. 2.) Allows a neutral definition of scope and therefore avoids legal problems!

e.g.: Germany max. demand volume 9 million EAs p.a. (4x9=36 of 48)

The auction price could not then be driven up by a few major players!

But there remains a slight risk that the auction price would then be lower than in an unrestricted auction!

It is important to weigh up which risk is greater!

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Special aspects of an auction of only 10% of EAs

3. Auction of 10 % at whose cost?

The auction volumes would no longer be available for cost-free allocation, so cuts would have to be made somewhere – but where?

Options:

1. Only in the energy sector (for political reasons)
   Disadvantage: There would be no incentive for the other plant operators to take part in the auction!

2. Proportional cuts to all cost-free allocations!
   Advantage: - Applicable for all cost-free allocation rules
   - Creates an incentive for all to take part in the auction
   + therefore disclose their abatement cost curves!

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Summary proposal for NAP II

1. Auctioning of 10 % der EAs (Germany: approx. 48 million EAs p.a.)
2. Bidding restricted to countries EU-ETS plant operators
3. Three part-auctions for each year, one before the start of the year
4. Uniform auction price
5. 1 or 2-level auction procedure with rising bids
6. Limit on demand volumes (G: to 3 million EAs/auction + operator)
7. Across-the-board proportional cuts to cost-free allocations

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Thank you for Your Attention!

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