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**COMMISSION STAFF WORKING DOCUMENT**

**IMPACT ASSESSMENT**

**Accompanying document to the**

**Commission Regulation on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Article 10(4) of Directive 2003/87/EC**

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## 1. INTRODUCTION

Article 10(1) of the revised ETS Directive establishes auctioning as the basic principle for allocation. From the third **trading period** starting in 2013 onwards, all **EU allowances (EUAs)** not allocated free of charge must be auctioned. The Commission has to determine and publish the estimated amount of allowances to be auctioned by 31 December 2010.

Article 10(4) of the revised ETS Directive requires the Commission to adopt, by 30 June 2010,

*"... a regulation on timing, administration and other aspects of auctioning to ensure that it is conducted in an open, transparent, harmonised and non-discriminatory manner. To this end, the process should be predictable, particularly regarding the timing and sequencing of auctions and the estimated volumes of allowances to be made available.*

*Auctions shall be designed to ensure that:*

- operators, and in particular any small and medium size enterprises covered by the Community scheme, have full, fair and equitable access,*
- all participants have access to the same information at the same time and that participants do not undermine the operation of the auction,*
- the organisation and participation in auctions is cost-efficient and undue administrative costs are avoided, and*
- access to allowances is granted for small emitters."*

The Commission must adopt the regulation through the 'comitology' regulatory procedure with scrutiny.

Article 3d(3) contains a similar provision with respect to the auctioning of **EU aviation allowances (EUAAAs)**. The quantity of EUAAAs to be auctioned is much smaller. Aviation will be included in the EU ETS as from 2012 and the Regulation will apply to EUAAAs auctioned as of this year.

Technical terms or carbon market 'jargon' are highlighted in bold the first time they appear in this document. Their meaning is given in the glossary attached as Annex 1.

## 2. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

A consultation was undertaken from 3 June to 3 August 2009 by consultants contracted by the Commission. The detailed consultation document was discussed on 24 June 2009 in a public session in Green Week and, in more detail, in a stakeholders meeting on 30 June 2009. The group of invited stakeholders was enlarged so as to include representatives of carbon **exchanges, clearing houses, central counterparties** and central security depositories and participants in the European carbon market such as banks and energy traders.

136 full responses to the consultation were received and a number of stakeholders submitted additional documents. The summary of the responses can be found in Annex 3. It was discussed with Stakeholders on 28 and 29 September 2009. An outline for the Regulation was discussed with stakeholders on 28 October 2009. All information on the consultation process, the detailed consultation document, the presentations used in the stakeholder meetings and the minutes of these meetings have been made available on the Commission's EU ETS auctioning website, [http://ec.europa.eu/environment/climat/emission/auctioning\\_en.htm](http://ec.europa.eu/environment/climat/emission/auctioning_en.htm).<sup>1</sup>

The consultation document, the summary of responses and the outline have also been discussed with experts from the Member States on 1 July, 29 and 30 September and 29 October 2009. All stakeholder comments have been assessed in detail. Moreover, throughout the period, the Commission had a large number of meetings with experts from throughout the EU on auctioning. The Commission's requirements for stakeholder consultation have been fully met.

To reflect on the relevant issues from all relevant perspectives, a Commission inter-service group<sup>2</sup> met on 21 January, 9 October and 4 November 2009. The services cooperated particularly closely in the preparation of the draft consultation document. The minutes of the last meeting, where the inter-service group acted as the Impact Assessment Steering Committee, is attached in Annex 3.

The present Impact Assessment takes into account the recommendations formulated by the Commission's Impact Assessment Board.<sup>3</sup>

### **3. PROBLEM DEFINITION AND OBJECTIVES**

#### **3.1. Problem definition**

In the first and second trading periods of the EU ETS, the share of allowances auctioned as a percentage of the total cap amounted to about 1 and 4% respectively. The revision of the EU ETS legislation will lead to a very important change: as from the third trading period (2013-2020), the share of allowances to be auctioned in 2013 will be at least 50% of the quantity to be issued that year, i.e. at least 1 billion EUAs and some 30 million EUAAs.<sup>4</sup> Auctioning emission allowances on this scale is unprecedented. The scale underlines the importance of efficiency and effectiveness of auctions. The experience with auctioning that now exists in the EU particularly in the UK, Germany, the Netherlands and Austria, and also the experience in the US (RGGI), is useful but of limited value given the much larger scale of the planned auctions. See Annex 4 for an overview of existing experience. Moreover, the auctions will be governed by the Regulation to be adopted, which has to ensure that the principles laid down in the Directive are respected.

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<sup>1</sup> A separate survey was carried out to assess how SMEs covered by the EU ETS source the EUAs they need in addition to allowances they receive for free. Unfortunately, the response to the survey was extremely low.

<sup>2</sup> Participants in this group came from DG COMP, DG ECFIN, DG ENTR, DG MARKT, DG REGIO, DG RELEX, DG TAXUD, DG TRADE, DG TREN, the Legal Service and the Secretariat General.

<sup>3</sup> Opinion of 30.11.2009, [http://ec.europa.eu/governance/impact/ia\\_carried\\_out/ia\\_carried\\_out\\_en.htm](http://ec.europa.eu/governance/impact/ia_carried_out/ia_carried_out_en.htm).

<sup>4</sup> The precise volume will depend in particular on the adjustment of the cap on emissions with respect to new sectors included in the EU ETS and on the benchmarks that will determine the level of allocation free of charge. The Commission's proposal for the latter will be accompanied by a proportional Impact Assessment.

Article 10(2) of the revised ETS Directive determines the share of the total quantity of allowances to be auctioned attributed to each Member State. See Annex 5 for an estimate of these shares. Auction revenues will accrue to the Member States. The EU budget is not affected in any way other than the Commission's own administrative cost.<sup>5</sup>

The issues analysed in this Impact Assessment are related to the implementation of an agreed policy, and not to the formulation of the policy itself. The environmental and social and implications are determined by the framework established by the basic legislation, i.e. the revised ETS Directive, not by the provisions assessed in this impact assessment. In the following, options are therefore assessed with respect to the effective implementation of the basic legal text.

### 3.2. Principles set out in the revised ETS Directive

The principles laid down in Article 10(4) of the revised ETS Directive can be summarised as follows: openness, harmonisation, transparency, and non-discrimination, simplicity, fairness, cost effectiveness (including avoidance of undue administrative costs), predictability and efficiency. Fairness and efficiency also imply mitigation of risks of **market abuse** (i.e. **insider dealing** and **market manipulation**) through the auctions.<sup>6</sup>

The Regulation must also respect the general Community law principles of **subsidiarity**, **equal treatment**, **proportionality** and **legal certainty**.

### 3.3. Efficiency: strengthen the efficiency of the EU ETS

The EU ETS is a cap and trade system aimed at cost effective and economically efficient reductions of greenhouse gas emissions by creating a market in EUAs and a price signal that reflects the abatement costs, as well as the scarcity, of allowances and guides decisions on abatement measures. Auctioning, as the reference allocation method, is intended to strengthen the efficiency of the system. This is reflected in Recital 15 of the revised ETS Directive which states:

*"The additional effort to be made by the Community economy requires, inter alia, that the revised Community scheme operate with the highest possible degree of economic efficiency and on the basis of fully harmonised conditions of allocation within the Community. Auctioning should therefore be the basic principle for allocation, as it is the simplest, and generally considered to be the most economically efficient, system. This should also eliminate windfall profits and put new entrants and economies growing faster than average on the same competitive footing as existing installations."*

An efficient allocation implies that allowances go to those participants that have a marginal cost of reducing emissions above the market price. Participants with lower marginal cost would choose instead to abate their emissions, e.g. by production optimisation or investment in low carbon technology.

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<sup>5</sup> Given the expected size of these costs, there is no need for an ex-ante evaluation of the impacts on the EU budget.

<sup>6</sup> The risk of market abuse in the carbon market at large is a separate issue, which the Commission will examine pursuant to Article 12 of the revised ETS Directive. Any appropriate proposals the Commission may make in this context will be accompanied by an Impact Assessment.

The increase in the volume of allowances to be auctioned adds a **primary market** segment, but does not reduce the importance of a liquid **secondary market**. The most important place for **price discovery** is the secondary market, where trading takes place between many parties throughout the day. Liquidity of the secondary market is crucial for the reliability of the price signal. Therefore, auctions should strengthen the secondary market, not distort it. This also implies that the clearing price of an auction should closely reflect the secondary market price, the main difference stemming from differences in transaction costs.

Whether the cost of auctions is financed directly by the Member States or by the bidders through fees is largely irrelevant. For bidders, the cost of buying allowances in the secondary market is the comparator. If fees are charged, they will adjust their bids accordingly and the revenues for the Member States will be reduced by a corresponding amount.

The revised EU ETS makes auctioning the main route for allocating allowances for several reasons. First, it increases the efficiency of the system as it avoids the distortions of the carbon signal that derive from free allocation, in particular the rule to allocate to new entrants and to stop the allocation to closed installations. Auctioning also strengthens the incentives for innovation and hence dynamic efficiency. Second, allowances have a price and hence ETS participants would normally seek to pass the cost on in the prices they charge their customers. Where the allowances are given free of charge, the resulting profits are difficult to justify from a distributional point of view. This is the situation in particular for the electricity sector. Third, despite the complexity involved in designing the auction system, auctioning is simpler and more transparent than allocating allowances free of charge. Finally, the revenues can be used for all kinds of purposes, ranging from fighting climate change to lowering taxes. As taxes create in general their own distortions, reducing them (or reducing the need to increase them) increases the overall efficiency of the economy.

#### 4. POLICY OPTIONS AND DESIGN CHOICES

This impact assessment addresses the key questions for determining the architecture and organisation of the auctioning system, namely the question of whether to auction spot or futures, the question of auction model and the question of whether to have a centralised, coordinated or hybrid approach. In addition, it addresses the question of the optimal frequency and size of auctions, the issue of timing for the first auctions and the cross-cutting issues of payment and collateral, the role of SMEs covered by the ETS and small emitters and rules to mitigate risk of market abuse. Finally, specificities for the auctioning of EUAAs are assessed.

The Regulation will address several other technical issues. The approach taken to these other technical issues will depend on the approach decided on for the key issues set out above and will flow, firstly, from the objectives and principles already laid down in the Directive and, secondly, the need to follow existing practice in the secondary market as closely as possible so as to avoid the auctions disturbing the secondary market. For these technical issues, the reader is referred to the consultation document, in particular sections 2.2 on auction dates and times, 3.1 on **auction design**, 3.3 on the option of a **reserve price**, 4.1 on pre-registration requirements, 4.4 on transaction rules, 4.7 on information disclosure, 4.8 on monitoring and reporting, 4.10 on enforcement, 5.2 on requirements for the **auction process**, 5.3 on administrative fees and 5.4 on appropriate and timely preparation of auctions, and to the summary of the responses to the consultation.



#### 4.1. Auctioning spot and/or futures?

The first key question is whether or not to auction **futures** in addition to **spot**. Spot auctions refer to auctions resulting in (near) immediate payment and delivery. Futures auctions refer to auctions of allowances with deferred payment and delivery e.g. several months or years after the auction date. Auctioning futures requires a clearing house to act as counterparty between the seller (appointed on by the Member States) and the bidder. In order to mitigate the risk of **default** by the buyer ("credit risk") and the risk of post-auction market price fluctuations should the bidder default ("market risk"), the clearing house will require **initial** and **variation margin calls**, either in cash or **collateral**. The initial margin typically amounts to some 10-20% of the price. Depending on which way the post-auction price fluctuates, variation margin calls can also be quite substantial. The risk of default of delivery by the auctioneer could conceivably be mitigated by pre-delivering the auctioned EUAs into a blocked registry account owned by the clearing house at the outset.

Spot auctions may auction 'strictly spot' or '**spot futures**'. The latter is a future with a maturity date of only a few days after the contract date. Such a product already exists in the market today. The distinction is relevant in the context of mitigating risk of market abuse and is discussed in section 5.9.

#### 4.2. Auctioning through (an) exchange(s), primary participants or (a) third party service provider(s)?

The auction process encompasses i.a. the pre-registration of potential bidders, providing a platform and IT-infrastructure, collecting bids, managing collateral, running the auction and ensuring payment and delivery. The question is which existing or new institutions are best placed to fulfil these functions in the best way and draft the corresponding detailed auction rules that will be required to complement the Regulation. There are three options.

##### *Option 1: primary participants' model*

The first option is a primary participants' model, where a limited number of 'primary participants', i.e. financial institutions, are exclusively mandated to participate directly in the auctions and which assume the administrative and operational burden of carrying out the pre-registration checks and credit risk management vis-à-vis indirect bidders. Such an infrastructure is typically used for auctioning government bonds by a Member State Debt Management Office (DMO, often an agency of the Ministry of Finance). The DMO disposes of software, auctioning expertise and established trading relations with the primary participants and this makes it relatively easy for Member States to develop at the national level.

The UK has developed this model for auctioning EUAs under its National Allocation Plan for the second trading period (2008-2012). Primary participants are pre-qualified in an open process and they may bid both on behalf of their clients and on their own account. Currently, the UK incentivises primary participants to gather bids from indirect bidders by paying them five euro cents per winning indirect bid. The Netherlands, which intends to use the same model for some of its second trading period auctions, will pay primary participants 10 euro cents for each winning indirect bid. Bidders in the auction process are not charged a fee to take part be they direct or indirect.

Appointing a DMO as an auctioneer normally would not require a selection procedure.

### *Option 2: trading place-based model*

The second approach is a trading place-based model, which relies on existing trading infrastructure operated e.g. by exchanges, banks and some other intermediaries. There are currently several carbon exchanges in the EU. Some specialise in futures whilst others do spot only. For some, the management of a carbon trading platform is the core business, whilst for others this is only a complementary service in addition to the management of markets in energy products. For some, the management of trading places is the core business, whereas for others it is a complementary service offered in addition to other services, such as intermediation in financial or commodity markets. However, whatever the existing technical and organisational infrastructure, there would always be a need for adaptation in order to incorporate auctioning functionalities and comply with requirements laid down in the Auctioning Regulation in view of the objectives set out in Article 10(4) of the ETS Directive.

The 'trading place-based model' also relies on the organisations that ensure the clearing and settlement of the trades. Today, carbon exchanges typically collaborate with a single clearing house or settlement system, though auctions could be carried out by new combinations of trading places, clearing houses and settlement systems. Indeed, accessibility and openness of the auctions might be best ensured by consortia that encompass several clearing houses / settlement systems liaising with a single trading place.

When auctioning futures, the involvement of existing trading platforms and their associated clearing houses is quasi inevitable, as setting up such infrastructure exclusively for the need of EUA auctions is not a realistic option. The current members of existing exchanges encompass those emitters and traders which can be expected to be the largest participants in auctions. For attracting a wider range of bidders, an exchange might develop an 'auction-only' membership.

The selection of (a) trading place(s) and one or more clearing houses / settlement systems to organize EUA auctions requires an open and competitive procedure based on objective and transparent criteria to ensure value for money.

### *Option 3: third party service provider model*

The third approach is a *third party service provider model*, which consists in engaging the services of a third party service provider to organise the auction process, including the pre-registration of bidders. This is the route taken by RGGI Inc, a private company mandated by the states participating in the Regional Greenhouse Gas Initiative<sup>7</sup> (RGGI) in the United States to organise the auctioning of allowances on their behalf.

A third party service provider needs to be selected following an open and competitive selection procedure.

#### **4.3. What number of auction processes?**

Three different approaches have been identified.<sup>8</sup>

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<sup>7</sup> For more information on RGGI auctions, see <http://www.rggi.org/co2-auctions>.

<sup>8</sup> A fourth approach, full decentralisation, has been discarded as it is clearly sub-optimal in all respects and no Member State or other stakeholder has brought any argument in favour of this approach.

The first consists in *centralisation*, where auctions are conducted on behalf of all Member State through a single EU-wide auction process along a predetermined calendar and set of rules. This is the approach adopted by RGGI. Under this approach, a single auction platform would be selected on the basis of an open and competitive procedure undertaken by the Commission with close involvement of the Member States. The selection and appointment procedure would be determined in the Regulation and the terms of reference would be adopted in parallel or shortly after adoption of the Regulation. The appointment would be for a limited period, e.g. 5 year, and the procedure would be repeated each time. Many of the detailed auction rules would be determined in the decision appointing the selected auction platform. The auction platform would pass the revenues from the auctions directly to the Member States. The revenues would not, at any stage, be held by the Commission.

The second is a *coordinated approach* consisting of a limited number of auction processes set up by Member States either individually or jointly. Under this approach, each Member State can auction the allowances attributed to it through one or more auction processes.

The third is a *hybrid approach*, which divides the auction process in two. Auctions would be held at common time slots. A number of individual trading places or DMOs would be responsible for pre-registering participants, collecting bids and submitting all the bids received to a single, common platform. On the basis of aggregated demand (all orders collected by the trading places or DMOs) and aggregated supply (all allowances auctioned by all Member States), the common platform determines the clearing price and announces the results. Managing collateral, payment and delivery would be done by the individual trading places/DMOs. The revenues would automatically flow from the clearing and settlement systems involved to the Member States.

The following table presents key data on the size of the carbon market, to help put the implications of the different options described here into context.

**Table 1: Carbon Market at a Glance, Volumes & Values in 2007-08**

	2007		2008	
	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)	Volume (MtCO <sub>2</sub> e)	Value (MUS\$)
<b>Project-based Transactions</b>				
<b>Primary CDM</b>	552	7,433	389	6,519
<b>JI</b>	41	499	20	294
<b>Other</b>	43	263	54	397
<b>Sub total</b>	<b>636</b>	<b>8,195</b>	<b>463</b>	<b>7,210</b>
<b>Secondary CDM</b>				
<b>Sub total</b>	<b>240</b>	<b>5,451</b>	<b>1,072</b>	<b>26,277</b>
<b>Allowances Markets</b>				
<b>EU ETS</b>	2,060	49,065	3,093	91,910
<b>RGGI</b>	na	na	65	246
<b>Other</b>	na	na	118	703
<b>Sub total</b>	<b>2,108</b>	<b>49,361</b>	<b>3,276</b>	<b>92,859</b>
<b>TOTAL</b>	<b>2,984</b>	<b>63,007</b>	<b>4,811</b>	<b>126,345</b>

Source: State and Trends in the World Carbon Market 2009, World Bank

#### 4.4. What is the optimal frequency and size of auctions?

From a theoretical and technical point of view, auctions could take place at any frequency ranging from once per year to one each half hour of the working day. The volume to be auctioned should be spread evenly over the year, which is in line with the response to the consultation, though smaller volumes would be foreseen in August and there would be no auctions during two weeks over the Christmas period. As required in the Directive, predictability would be provided by establishing an **auction calendar** well in advance.

#### 4.5. What are the appropriate volumes for auctioning in 2011 and 2012?

Large emitters, particularly in the power sector, hedge significant part of their production up to three year in advance of delivery. This implies a demand for third trading period allowances well in advance of the first deadline for surrendering in this period, which is 30 April 2014. In this context, the appropriate volume for auctions in 2011 and 2012 has to be determined. Options range from ‘all potential hedging needs’ (or even more) to zero. Procedurally, there are two options: deciding these volumes directly in the Regulation or deciding these volumes under a procedure foreseen in the Regulation shortly after adoption of the Regulation.

#### 4.6. Access rules

Auctions must be conducted in an open manner. Openness is crucial for fostering a competitive result, facilitating efficient intermediation and mitigating the risk of market abuse. Given the need to protect the integrity of the market and avoid abuse of auctions for the purpose of money laundering and terrorist financing, there is a trade-off between openness and the cost of know-your-customer (KYC) checks.

#### 4.7. Payment, delivery and collateral

Payment, delivery and collateral management may be carried out by a clearing house or a settlement system. Settlement can be based on ‘delivery versus payment’ or ‘delivery after payment’. Collateral may be prescribed for up to 100% of the bidder’s aggregate bids. It may take various forms, e.g. cash, financial instruments or EUAs. If auctioning futures, the collateral would be substituted by a margining system.

At present, the EU ETS covers around 11 000 – 11 500 installations owned by some 5 000 companies, with emissions ranging from a hundred tCO<sub>2</sub> per installation per year to tens of millions. The 25 largest participating *companies* represented more than 50% of 2008 EU-25 emissions under the ETS, whereas the smallest 80% of *installations* counts for some 10%. The changes to the scope of the EU ETS and the option to opt out the smallest installations will not have a material impact on this distribution.

Given the rules for free allocation, direct participation in auctions by SMEs covered by the ETS and small emitters is unlikely to exceed 10% of overall emissions at the most. Instead of (or in addition to) buying at an auction, these companies may acquire any allowances they may need through intermediaries, notably the banks or fuel suppliers with which they already have business relationship, albeit at a premium. This may offer them the advantage of minimal transaction cost as well as certainty on price and quantity. This underlines the importance of competitive and efficient intermediaries for ensuring access to allowances for SMEs and small emitters.

Access to auctions for SMEs covered by the ETS and small emitters is facilitated in the first place by a simple and transparent auction design and by information and training in the bidder's language. Their expected participation in auctions is, however, not relevant for the present impact assessment, since the Directive requires full, fair and equitable access for them anyway.

#### **4.8. Full, fair and equitable access for SMEs and small emitters**

Apart from general auction features, SMEs covered by the EU ETS and small emitters may access auctions in three ways. The first is direct access both to the auction platform and the clearing house / settlement system. The second is direct access to the auction platform via a clearing member (so-called order-router), who also takes care of the payment and delivery. In this case, the bidder pre-registers with the clearing member, not with the auction platform. The third way is indirect access by outsourcing the participation in the auction process to an intermediary trader. A further option to enhance access is to provide for **non-competitive bidding**, where bidders do not have to specify a bid price, but will be awarded the volume they bid for at the clearing price.

#### **4.9. Ensuring competitive auctions and mitigating risk of market abuse**

Various features discussed above will help obtain competitive results and mitigate the risk of market abuse. There are three options for specific auction design features.

First, there is a choice between discriminatory pricing, where winning bidders pay the price they bid, and uniform pricing, where all bidders pay the same clearing price.

Second, there are different options for resolving tied bids: pro-rata re-scaling, first come – first served, and random selection.

Third, there is an option to set a limit on the size of bids accepted from a single entity in an individual auction.

#### **4.10. Auctioning aviation allowances**

As regards aviation allowances (EUAAAs) the question is whether any of the above mentioned issues needs to be dealt with in a different manner, taking into account the much smaller quantity of EUAAAs to be auctioned in comparison to EUAs and their restricted use, which stems from the fact that they can be used for surrendering against emissions from aviation operators only.

### **5. ANALYSIS OF IMPACTS**

#### **5.1. Auctioning spot and/or futures?**

In the context of a well-functioning secondary market, efficient auctions will result in a clearing price that will be close to the carbon price in the secondary market. So, when efficiently auctioning spot, the clearing price can be assumed to be close to the secondary spot price. When efficiently auctioning futures, the clearing price can be assumed to be close to the secondary market price for futures. The price of EUA futures is typically somewhat above the spot price, reflecting in particular the cost of carry, which can be expressed as an implicit annual interest rate.

Electricity generators in particular sell significant shares of their output up to three years in advance of actual delivery. They typically hedge their exposure to the carbon price and they can do so by buying spot, futures or **forwards**. Their choice will depend in the first place on their own internal cost of carry compared to the implicit annual interest rate derived from the

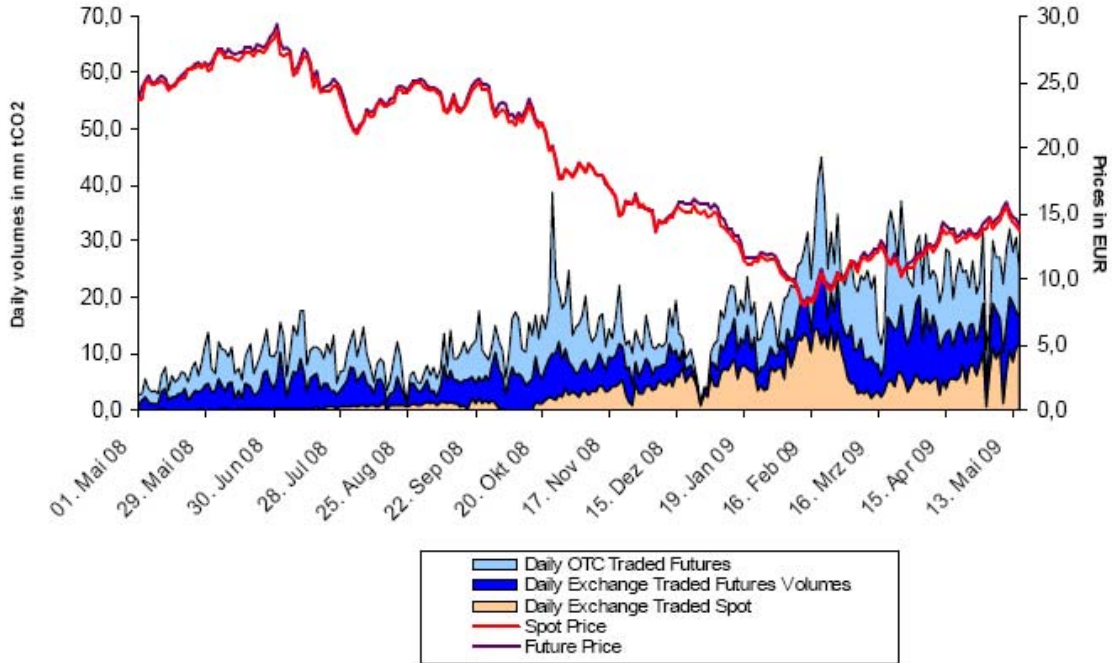
difference between the spot and futures EUA price. On balance, one can expect that their hedging strategies will result in a substantial demand for forwards and futures.

Auctioning futures, however, has a number of disadvantages.

Firstly, auctioning futures increases complexity and restricts access as it inevitably involves a clearing house and a system of cash margining. Membership of a clearing house is subject to KYC-checks and strict requirements as regards solvability and trading abilities.<sup>9</sup> Futures auctions therefore have limited participation. In particular, SMEs covered by the ETS and small emitters would face greater difficulty in participating.

Secondly, compared to spot auctions, auctioning futures has a much greater impact on the secondary market as the choice of the auctioning exchange 'locks in' the trade in the auctioned product until it matures. Graph 1 below shows the recent trading volumes and price development in the secondary market. Futures are not fungible between different platforms, i.e. the contractual specifications make them a specific 'product' whose trading requires membership of the exchange involved and, for non-members of the clearing house, a trading agreement with a clearing member. If a new product is auctioned, the secondary market will be partitioned between the new product and existing products. If an existing product is auctioned, the exchange trading that particular product will benefit from a very strong competitive advantage, in particular as the risk of default by the seller (acting on behalf of the Member States) in delivering the EUAs will be minimal.

**Graph 1: Trading volumes and price development in the secondary market**



Source: EU Emission Allowances Auctions for Phase III (2013-2020), General Remarks by EEX/Eurex, October 2009

Thirdly, auctioning futures does not add liquidity in the spot market until the **maturity date**. Fluctuations in short term demand for spot allowances cannot be addressed by futures

<sup>9</sup> Such requirements may be less stringent when the clearing house is used only for spot futures.

auctioned but not yet matured. Auctioning spot provides more flexibility and thereby mitigates the risk of market abuse in the secondary market.

Fourthly, auctioning futures requires specification of all characteristics of the product to be auctioned. The specification may suit some, but not all and some traders may well prefer non-standardised products for their hedging. Auctioning futures requires a choice to be made and there should be little flexibility for changing the specifications in order to have sufficient predictability. In addition, traders typically wish to hedge their risks by buying 'spreads', which consist of two 'legs', an EUA future and a fuel future at the same time. Buying futures in an auctioning is incompatible with such a strategy as the bidder can only bid for one of the two legs of the spread. At this concrete level, but also at a more general level, it is not for public authorities to make these choices. It is considered more appropriate to rely on the secondary market in this respect.

Fifthly, interest in the auctioned product differs. Auctioning spot would attract interest not only from compliance buyers in the electricity generating sector and industrial sectors, but in particular from intermediaries in the financial sector, which would use the EUAs for backing their supply of forwards and futures. In futures auctions, demand would be concentrated to a larger extent with the electricity generating sector and the auctions would compete with the supply of futures by intermediaries in the market. Concentrated demand and lower participation in futures' auctions may, in fact, decrease the level of competition in the auction and thereby increase the risk of market abuse.

Finally, when auctioning futures, the Member State would have to wait for full payment until maturity. In addition, unless the EUAs can serve as collateral, the Member State would have to pay an initial and variation margin in cash on top. Some Member States may, however, have to pay a relatively high interest rate when raising money to finance their current expenditure. For Member States, this 'cost of carry' may well be higher than the implicit cost of carry deriving from the difference between the spot and futures market prices on the secondary market. For Member States in such a position, auctioning futures would generate a financial cost which can be very significant.

Financial players on the carbon market can be expected to supply the required volumes of forwards and futures in a competitive manner. The crucial determinant is their cost of carry relative to the implicit interest rate. Auctioning an adequate volume at early spot auctions would facilitate such trading, as it helps to avoid excessive open positions.

Some of the above considerations against the auctioning of futures may carry somewhat less weight if only a limited part of the total volume is auctioned as futures, and, if more than one platform is involved, it could be somewhat easier to auction both spot and futures. None of the arguments against auctioning futures would, however, disappear. The efficiency of auctioning of the remaining spot allowances would, on the other hand, be hampered by reduced scale efficiencies and by reduced participation due to the competition between the two parallel auction infrastructures.

In conclusion, for the reasons given above, the public role of the auctioneer should be restricted to auctioning spot, leaving the supply of forwards and futures to the secondary market as is currently the case.

Delivery of third trading period EUAs will, however, require adaptation of the Community Independent Transaction Log (CITL), which will not practically be possible before 2012.

Auctions before 2012 can therefore only concern futures with delivery in e.g. 2013. In the absence of a centralised auction platform capable of auctioning futures before 2012, if a certain volume of third trading period EUAs needs to be auctioned before 2012, the most practical way forward would be to make use of existing auctioning infrastructure developed by Member States for auctioning futures in the second trading period.

**Table 2: comparing impacts of auctioning spot or futures**

Option	Sim- pli- city	Fair- ness	Open- ness	Trans- pa- rency	Har- mo- nisa- tion	Non- discri- mina- tion	Pre- dict- abi- lity	SMEs / small emit- ters	Admi- nistra- tive cost	Effi- cien- cy	Mar- ket abuse	Preferred option
Spot	+	0	+	0	+	+	+	+	+	+	+	√
Futures	-	0	-	0	0	0	0	-	-	-	-	10

+ positive effect, 0 neutral/no or negligible effect, - negative effect, n.r. not relevant

## 5.2. Auctioning through (a) trading place(s), primary participants or (a) third party service provider(s)?

Auctioning EUAs through existing infrastructure by making use of primary participants or trading places can significantly reduce costs and mitigate the risk of inefficiencies or failure. This applies to the one-off development of the platform and organisation. It also applies to the pre-registration, which entails a risk-based process of KYC checks in line with EU legislation on money-laundering. Auctioning through existing infrastructure and institutions also allows use to be made of existing trading relations with clearing houses or settlement systems. Existing collateral arrangements may be used and new arrangements established on commercial and competitive terms. The potential for efficiency gains is particularly important with settlement based on delivery versus payment and collateralisation for less than 100% of bids. The costs of establishing and managing these trading relationships will in fact make up the lion's share of the overall cost. In the primary participants' and trading place-based model, use can be made of existing trading relationships and established capacity for carrying out KYC. These advantages do not arise for the option of auctioning through a third party service provider, which would have to set up new infrastructure and establish new trading relations. Therefore this option is not recommended.

Auctioning through primary participants has the disadvantage that the large majority of bidders will have to bid indirectly, thereby revealing their trading strategy to the primary participant. In order to avoid conflicts of interest, any primary participant would be required to strictly separate trading for indirect bidders from trading on their own behalf ('Chinese walls'). The lack of direct and immediate access is considered to be a major problem, in particular by the electricity sector, seemingly because of lack of trust in 'Chinese walls' and a strong wish to 'be in control' and avoid any dependence on an intermediary. Moreover, encouraging primary participants to collect indirect bids (and carry out the requisite KYC checks) may come at a cost. The UK, for example, pays primary participants 5 euro cents per lot for each winning bid.

<sup>10</sup> Save for a potential transitional period due to the need for early auctions before the delivery of third trading period allowances is enabled in the CITL.



Any trading place carrying out the auctions must provide open and non-discriminatory access. Auctioning through (a) trading place(s) is particularly convenient for its existing members. For ensuring open access, the trading place(s) could, however, be required to develop capacity to deal with bids from non-members and/or provide for 'auction-only' membership. In the primary participants' model, in contrast, it is more difficult to ensure that primary participants provide full, fair and equitable access to SMEs in a transparent manner, although a non-competitive bidding facility may be used to compensate for this disadvantage.

Trading places may be organised as a multilateral trading facility or as a regulated market. The latter has the advantage of established experience with market abuse supervision. In the primary participants' model, the DMO and the auction monitor will monitor the conduct and results of the auctioning, but this does not provide a level of supervision comparable to that applicable under regulated markets.

Looking at costs and accessibility overall, the trading place-based model offers the most favourable conditions for auctioning EUAs for the third trading period.

**Table 3: comparing impacts of the options to auction through (a) trading place(s), primary participants or (a) third party service provider(s)**

Option	Sim- pli- city	Fair- ness	Open- ness	Trans- pa- rency	Har- mo- nisa- tion	Non- discri- mina- tion	Pre- dict- abi- lity	SMEs / small emit- ters	Admi- nistra- tive cost	Effi- cien- cy	Market abuse	Preferred option
Trading place- based	0	0	+	0	+	0	n.r.	+	0	+	+	√
Primary parti- cipants	0	-	-	-	0	0	n.r.	0	0	+	0	
3 <sup>rd</sup> party service provider	0	0	+	0	+	0	n.r.	+	0	-	0	

+ positive effect, 0 neutral/no or negligible effect, - negative effect, n.r. not relevant

### 5.3. What number of auction processes?

#### *Cost-efficiency*

The most obvious advantage of the centralised approach is the minimisation of the combined costs to public authorities and bidders. This concerns the cost of setting up, managing and maintaining the infrastructure, the transaction cost, the cost of pre-registration with the auctioneer and with the clearing house or settlement system, including the cost of collateral management. Potential costs related to lack of openness or transparency, discriminatory rules, complexity, risk of market abuse and the predictability provided by the auction calendar, are dealt with in subsequent sub-sections.

The selection and setting-up of an auction platform by means of a procurement procedure can easily take some ten man-years of work for the administering authority. Under the centralised approach, this volume of work is only needed once. Under the coordinated approach the same volume of work should be multiplied by the number of platforms being set up, since the coordinated approach can easily lead to the creation of eight or more platforms, generating a workload of some 80 man-years or more. Under the centralised approach, even with active

involvement, the central selection procedure would result in a much smaller workload for Member States. Under the coordinated approach, the work for the Commission is actually higher, since ensuring that appropriate selection procedures are followed and verifying and approving the individual platforms proposed by the Member States would be much more time consuming than running one single selection procedure. The cost of outsourced assistance would be significantly higher as well.

Under the coordinated approach, even the few Member States that already have invested in an auctioning platform for the current trading period would have to bear costs of adjusting to the new rules for large scale auctioning for the third trading period onwards. Germany for example selected an exchange for the period 2010-2012 and any prolongation would have to be awarded through a new selection procedure in any case.

Obviously, the cost of setting up multiple platforms would also lead to a higher total cost for the selected auctioneers. This would be reflected in the fees charged, see below.

Costs of managing and maintaining the auctioning infrastructure would multiply under the coordinated approach in a similar manner.

Transaction costs depend in the first place on the total volume of allowances auctioned, which is the same whichever approach is adopted. The centralised approach, however, offers the largest scope for economies of scale. A competitive selection process allows best 'value for money' to be achieved. Even if the net benefits under a centralised approach were no more than € 0.001 - € 0.0015 greater per allowance than under the coordinated approach, the additional annual benefit of lower transaction costs under the centralised approach would amount to € 1.0 – 1.5 million per year. Under the coordinated approach, transaction cost would be higher on average and might vary across the selected trading places, depending for example on the volume auctioned and differences in the detailed tender documents. The average transaction cost under the hybrid approach would probably be somewhere between the two other approaches.

As regards the cost of pre-registration, the hybrid approach offers the widest scope for making use of existing membership of the participating exchanges. Trading places may specialise and offer competitive conditions for different groups thereby further minimising the cost of KYC checks. Under the coordinated approach, this argument is less valid, as bidders on a certain platform would only have access to the allowances through that particular platform. For accessing a higher share of the volume to be auctioned, or for mitigating price risk by spreading participation over a larger number of auctions, bidders would have to pre-register in more than one platform, multiplying the costs of KYC. To illustrate the potential order of magnitude of the additional cost: if 500 participants want to participate through on average three auction platforms, and assuming an average cost of pre-registration, preparation and participation of € 1 000 per platform per year, the extra cost would amount to € 1 million per year. The extra cost for registering with a clearinghouse or settlement system and managing collateral may be of the same order of magnitude. The centralised approach may induce some duplication of pre-registering for bidders that wish to be (or remain) member of a trading place other than the one carrying out the auction. A trading place may, however, liaise with more than one clearing house or settlement system.<sup>11</sup> The more of them are involved, the

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<sup>11</sup> Such liaising with multiple clearing houses / settlement systems is not the case in the current carbon market, but it is not uncommon in other markets. It is in tune with EU policy objectives to increase the level of competition in financial markets, including the market for clearing services.

more use can be made of existing relationships and costs of duplication can be minimised. This would be encouraged by appropriate provisions in the Regulation and in the terms of reference for the selection procedure. Therefore, if the hybrid approach were to offer a cost advantage in this respect, this advantage would only be of limited importance.

Estimates of the above cost elements necessarily involve uncertainty. The set-up cost of say ten coordinated platforms is not only a function of administrative efficiency of the Member States (directly) involved, but also depends on the number of different exchanges selected. The importance of avoiding multiplication of pre-registration costs depends a lot on assumptions on the behaviour of different groups of participants. It is, however, important to note that, firstly, the coordinated approach is the most costly for all these elements, and secondly, any advantage of the hybrid approach in terms of lower pre-registration costs is likely to be outweighed by the advantages of the centralised approach in terms of lower set-up and transaction costs.

The organisation of the auctions represents an administrative cost, not a 'national business opportunity'. Holding the auctions, even when done frequently, creates very few jobs. In addition, any selection process for an exchange to hold the auctions must be open and competitive and must ensure that the auctions themselves are open and non-discriminatory throughout the EU. On these grounds, it is counterintuitive to expect that under a coordinated approach, different Member States would each select an auctioneer in their own country.

A comparison with other markets with substantial auctions may give a useful perspective. No single Member State auctions government bonds through more than one debt management office, even though the annual volume of bonds auctioned easily reaches tens or even hundreds of billions for the larger Member States. For the fiscal year 2009-2010, the UK DMO, for example, expects to issue gilts up to a value of £ 203 billion (net), and even in the years before the credit crunch this volume was around £ 50-60 billion. For 2009, the German Finance Agency expects to issue bonds<sup>12</sup> for an amount of € 153 billion. In contrast, assuming one billion allowances to be auctioned and a carbon price of € 15 and € 30, the total value of allowances to be auctioned amounts to 'only' € 15 billion and € 30 billion, respectively. Under the coordinated approach, a platform responsible for e.g. 20% of the allowances, would auction for a value of about € 3 billion and € 6 billion respectively.

Finally, as regards the potential cost of operational risk, it must first be noted that auctioning does not involve high-tech solutions. Infrastructure must be robust, but need not be very complex. Any candidate auctioneer must ensure and demonstrate robustness, e.g. by having back-up electronic systems in place. Today, all of this is well established practice and indeed, it rarely happens that a trading place experiences technical problems preventing trade for more than a couple of hours. Therefore, with auctions taking place at least weekly, the risk for market participants will be limited in any event. Even under extreme scenarios, disruption of the auctioning calendar is unlikely to happen. Bankruptcy of the auctioning exchange, for example, does not necessarily stop the auctioning, as the auctioning business is more likely to be sold as an ongoing activity to the highest bidding party willing to take over the contract. Similarly, in the extreme (and highly unlikely) scenario of serious malfunctioning that cannot be addressed in any other way than by terminating the contract and selecting another

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<sup>12</sup> This figure includes 2-year federal treasury notes, 5-year federal notes and federal bonds with a 10 and 30 year maturity. It does not include treasury discount paper with maturities of 12 months or less. Source: [www.deutsche-finanzagentur.de](http://www.deutsche-finanzagentur.de).

auctioneer, the Regulation would provide for a staged termination that allows time to find a (interim) solution for continued auctioning.

*Openness, transparency, complexity, non-discrimination, risk of market abuse*

A centralised approach is the simplest and most transparent approach. For bidders, there is only one auctioning system to get acquainted with. Information and training can focus on one single system. The hybrid approach is more complex, although this complexity affects the public authorities and exchanges in the first place and much less the bidders, as any bidder needs to engage with only one of the participating exchanges. The coordinated approach is most problematic in this respect: it multiplies the number of exchanges a bidder may need to get familiar with, each having its own set of rules. Bidders would also have to estimate the relative advantages and disadvantages of the various systems involved.

Non-discrimination is easiest to ensure under a centralised approach. It is more complex under the hybrid and coordinated approach: all participating exchanges/platforms must operate in a non-discriminatory manner to avoid potential unfair advantages to specific groups of bidders. Under the hybrid approach, the impact of any (hidden) discriminatory rule might be mitigated by the single clearing price and the fact that any bidder can choose to place its bids through another exchange. This is, however, not the case for the coordinated approach, where (hidden) discriminatory rules may persistently result in a lower clearing price to the benefit of the participants that enjoy some kind of favourable treatment from that particular auction platform. Of course, the Auctioning Regulation would contain rules and principles to prevent this from happening, but these are unlikely to be sufficiently detailed to rule out hidden infringements in the detailed operational rules.

Under the coordinated approach, participation would be spread over different auctioneers. For the individual auctions, such reduced participation implies a larger risk of market abuse.

*Impact on the auction calendar*

Establishing an auction calendar is most straightforward under the central and hybrid approaches. It is more complex and politically much more sensitive under the coordinated approach, in particular when different auction slots are not perceived as equally attractive. Without appropriate procedures, the establishment of the calendar may even get stalled and the predictability required in the ETS Directive would not be delivered.

Under the central and hybrid approaches, there is no issue as regards optimal frequency and size of auctions. Under the coordinated approach, in contrast, there may be a case for choosing a higher frequency in order to allow more flexibility for auction participants, in particular those that do not wish to participate in all the auction processes involved.

*Impact on competition between trading places in the secondary market*

Auctioning EUAs may generate further business, as it makes the trading place more attractive and some bidders may wish to concentrate both their purchases through auctions and the secondary market with one single entity. Such advantages could be particularly significant when auctioning futures, as onward trading of the auctioned product until its maturity date is bound to take place on the same exchange. Indeed, this is one of the reasons set out in section 5.1 underpinning the choice to auction spot only.

The following aspects must be taken into account.

First, the turnover in the secondary carbon market is relatively large compared to the volume to be auctioned. Reported trading volumes for 2009 exceeded 5 billion allowances and the growth in the last years has been significant. Continued growth would make the primary market segment resulting from the auctions ever smaller in relative terms.

Second, selecting an auctioneer implies limiting competition to the selection procedure. Once selected, the volume to go through the selected trading place is fixed and is no longer subject to competition. This holds for the centralised approach and also for the coordinated approach.<sup>13</sup> Any auction must be open and non-discriminatory EU-wide and, in fact, it would be surprising if under the coordinated approach all selection procedures resulted in different trading places being selected.<sup>14</sup> Only under the hybrid approach does competition for winning bids continue throughout the period. Under this approach one might expect some specialisation where platforms adapt their rules to attract specific groups of bidders, although concentration of winning bids with just one or two of the most efficient trading places cannot be excluded.

Third, the centralised approach best ensures an open and competitive selection procedure with close involvement of the Member States, thereby limiting any advantages to the selected auctioneer. Contracting for a limited period and repeating the selection procedure periodically would ensure competitive pressure over time.

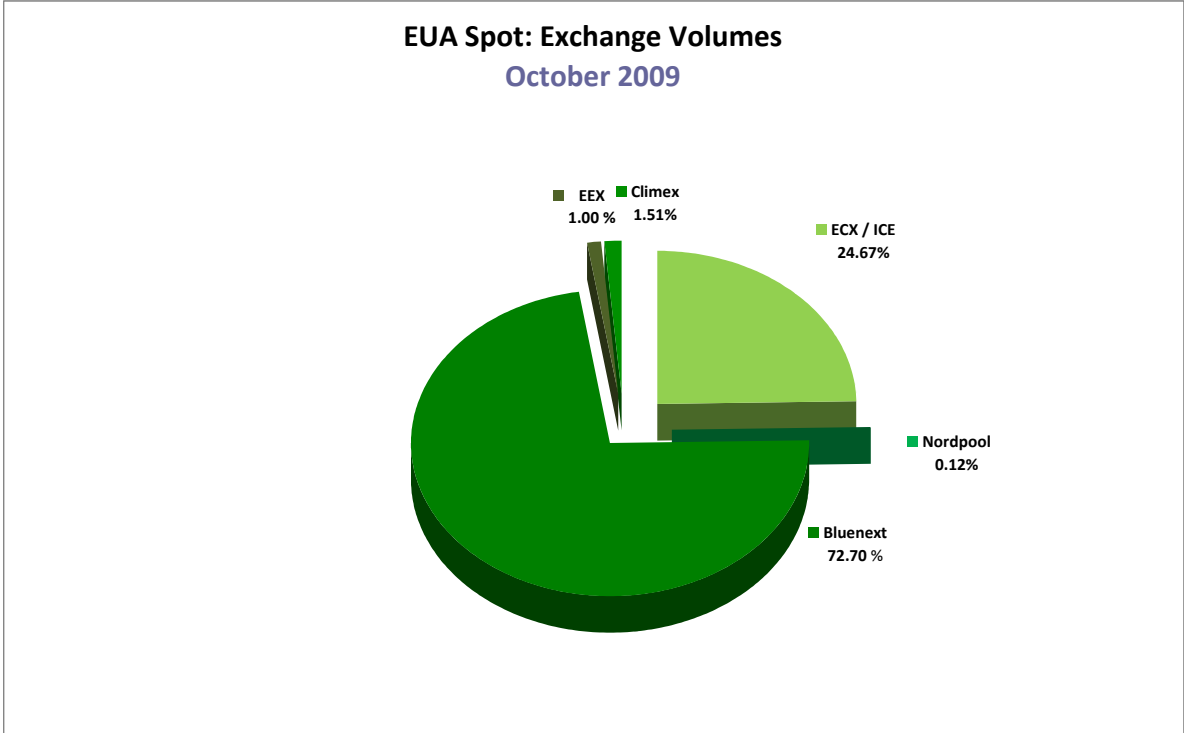
Fourth, current trading in the secondary market is highly concentrated with two exchanges, one for spot, the other for futures accounting for the vast majority of activity, see graphs 2 and 3 below. The data underpinning the graphs include the share of over-the-counter (OTC) trading cleared on exchanges, but not other OTC transactions. This concentration reflects the importance of liquidity of the market for participants when choosing a trading place. Large daily trading volumes best ensure that individual players can buy or sell the quantities they wish to, without affecting the market price. Large trading volumes in themselves bring down average cost and make the trading place more attractive. Smaller carbon exchanges have their own merits, for instance taking care of niche markets and/or enhancing the overall offer traded in the trading place concerned. Selecting a central auctioneer for auctioning spot allowances may have some impact, but most of these considerations are likely to remain valid. A policy that would be deliberately designed to spread auctioning volume over different trading places implicitly assumes that authorities know what distribution is 'optimal'. Any such assumption is, however, inherently risky and may reflect other motives rather than concerns about competition.

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<sup>13</sup> It is wrong to state that, "under the coordinated approach the market decides." Both under the coordinated and the centralised approach, the public authorities decide through a public procurement. The difference is only in the number of selection procedures.

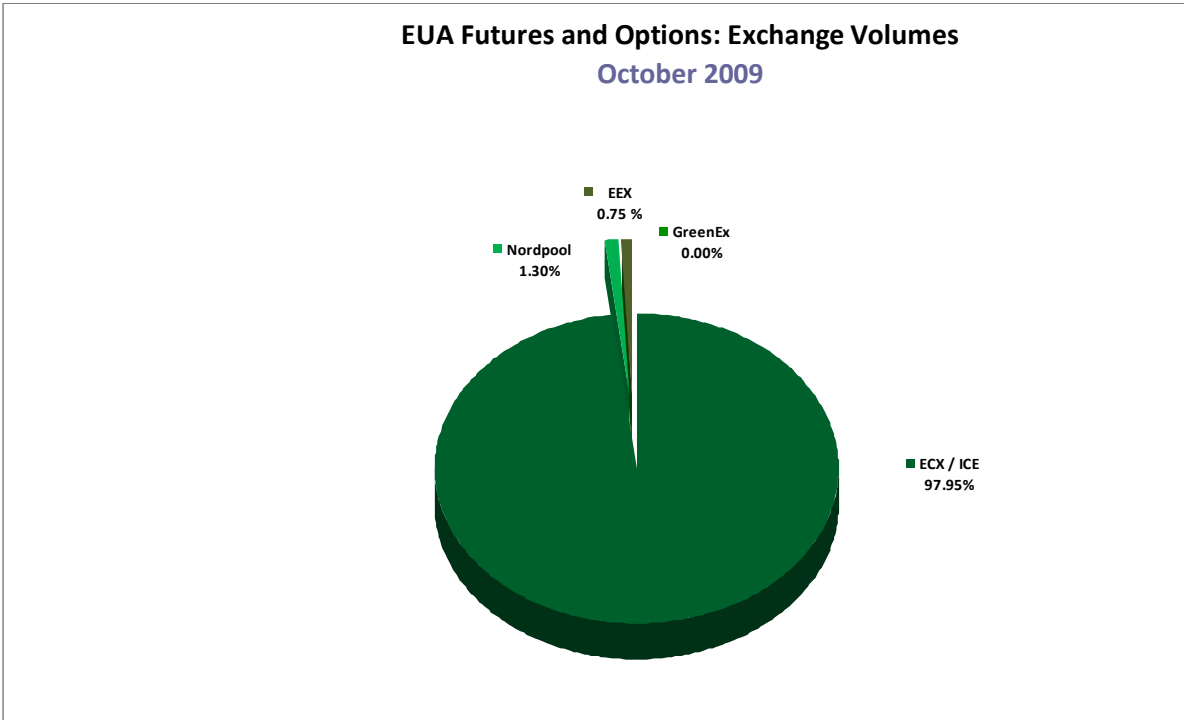
<sup>14</sup> In case a selected platform proves to be inefficient, this would typically result in a larger discount of the clearing price compared to the carbon price in the secondary market. The cost to the buyer, i.e. the sum of the transaction cost and the carbon price, would not be affected.

**Graph 2: Trading volumes of spot EUAs**



Source: European Climate Exchange (ECX)

**Graph 3: Trading volumes EUA futures and options**



Source: European Climate Exchange (ECX)

Fifth, the graphs above do not properly reflect the relevant market: most trading places don't compete for trading a single product, but rather a range of products, including financial and energy products and commodities. A number of carbon exchanges, for example, have been

developed on the back of energy trading, with the aim of complementing the existing range of services to customers and making their overall offer as competitive as possible. The trading volumes of existing carbon exchanges, even the larger ones, are relatively small compared to overall trading volume of electricity and carbon together. Furthermore, trading places are positioning themselves to develop their overall business by means of cross-border mergers and strategic alliances. Competition is at the global level, not just at European level.

Sixth, setting up and managing an auction platform is not a 'high tech' activity. In particular for trading places experienced and licensed in any other market, the barriers to entry are low. An illustration is the selection by the German authorities of EEX to carry out the carbon auctions in the second trading period, despite its relatively low carbon trading volume.

Seventh, the selection of a single trading place does not preclude the involvement of more than one clearing house or settlement system. So any impact on competition between clearing houses and settlement systems is even more limited, including after the selection of the exchange. In fact, clearing and settlement make up the larger share of activity in the business of auctioning allowances and the added value created by the auctioning platform on its own is small in comparison. Competition in clearing and settlement services is truly global and cross-sector, possibly even to a larger extent than for trading places.<sup>15</sup>

In conclusion, taking account of all the above, neither the coordinated, nor the centralised approach is expected to have a significant negative impact on the degree of competition between trading places in the carbon market. The choice of auctioning spot reinforces this conclusion.

#### *International aspects*

The coordinated approach risks repeating some of the negative experiences with National Allocation Plans, which undermined the effectiveness and efficiency of the EU ETS in the first and second trading periods and damaged its reputation internationally, reducing confidence in carbon markets more generally. Similarly, the coordinated approach is in some ways reminiscent of the experience with the ETS registry, where a central registry was only agreed after a more costly and less efficient phase with separate national ETS registries. The centralised approach, in contrast, is more easily understood and would strengthen the reputation of the EU ETS as a robust, effective and efficient system, thereby helping to encourage the use of cap-and-trade systems around the globe. The hybrid approach will be more difficult to understand, but would most easily be explained by reference to a centralised system. The coordinated approach risks undermining the credibility of the system, as it is difficult to explain its advantages, particularly in the light of the centralised auction systems under development in the US and elsewhere.

Absence of a centralised auctioning system can be expected to complicate potential future negotiations on linking the EU ETS to other emissions trading systems currently under development. It would, e.g., complicate the access to European auctions of participants in linked systems.

#### *Conclusion*

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<sup>15</sup> See for more information the websites of the European Association of Central Counterparty Clearing Houses and the European Central Security Depositories Association, [www.eachorg.eu](http://www.eachorg.eu) and [www.ecsda.com](http://www.ecsda.com) respectively.

For the reasons given above, the option of a centralised approach is the most appropriate model for EUA auctions in the third trading period.

**Table 4: comparing the impacts of the centralised, hybrid and coordinated approach**

Option	Sim- pli- city	Fair- ness	Open- ness	Tran- spa- rency	Har- moni- sa- tion	Non- discri- mina- tion	Pre- dict- abi- lity	SMEs/ small emit- ters	Admi- nistra- tive cost	Effi- cien- cy	Market abuse	Preferred option
Centralised	+	0	+	+	+	+	+	+	+	+	+	√ <sup>16</sup>
Hybrid	-	0	+	+	+	+	+	+	0	+	+	
Coordinated	-	-	-	-	-	-	-	-	-	-	-	

+ positive effect, 0 neutral/no or negligible effect, - negative effect, n.r. not relevant

#### 5.4. What is the appropriate frequency and size of auctions?

When determining the appropriate frequency and size of auctions, the main considerations stem from the need to ensure efficiency: the clearing price should reflect the prevailing secondary market price and mitigate the risk of market abuse. At the same time, the auctioning should strengthen, not disrupt, the secondary market.

Arguments in favour of bigger and fewer auctions are as follows.

Auctions should be important events so as to draw attention and foster participation so as to ensure competitive results. However, given the total volume to be auctioned, the size of each auction would still be significant even at relatively high frequencies. Moreover, if an auction were to result in a relatively low clearing price due to limited participation, this would be revealed publicly immediately after the auction and this would increase participation in the next auction.

Each auction involves administrative costs and requires lead-time to prepare, both for the auctioneer(s) and for participants, even though the largest part of the costs is a variable cost per auctioned allowance, whereas the marginal costs of holding/participating in an additional auction will be rather low.

Small and frequent auctions enable market participants to adjust their positions through the auctions, thereby reducing liquidity on the secondary market and hence increase the risk of price volatility and potentially reduce the overall efficiency of the EU ETS. However, this applies only (or almost exclusively) to the secondary market of the auctioned product and only to the extent that the participants wish to purchase allowances, rather than sell them.

Arguments in favour of smaller and more frequent auctions are as follows

Auctions that are big compared to normal trading volumes in the secondary market may well result in a low clearing price due to lack of demand at the particular

<sup>16</sup> The positive impacts as regards transparency, harmonisation, non-discrimination, predictability are expected to be somewhat larger for the centralised approach compared to the hybrid approach. Moreover, the uncertainty on openness, access to SMEs and small emitters and cost efficiency is smaller with a centralised selection procedure than with the qualification process under the hybrid approach.



moment in time and depress the price on the secondary market after the auction. A significant part of demand stems from hedging needs of the electricity sector and this demand is spread rather evenly throughout the year. This applies when auctioning futures, but also when auctioning spot, as the demand for futures and forwards from the electricity sector would be mirrored by demand for spot from financial intermediaries that would supply the futures and forwards.

With 'big auctions', participants may lower their market activity before the auction or even try to move the market price down in order to influence auction results. More frequent and smaller auctions reduce these risks and provide a smoother process for delivering allowances to participants. 'Big auctions' will generate more nervousness in any event, simply for the reason that more money is at stake.

More frequent auctions provide participants with the possibility to reduce price risk by spreading their purchases over a larger number of auctions. More frequent auctions also reduce the price risk for the Member States that will obtain the revenues.

More frequent auctions may make it more difficult for a player to acquire a volume of allowances big enough to be able to manipulate the market, as it would need to do so in a series of auctions, not just one. The higher frequency increases the chance of such a strategy being spotted.

Determining the optimal frequency is not exact science, but the above assessment concludes on a relatively high frequency. In a system with a central or a hybrid auction platform, the right balance appears to be struck with at least weekly auctions. Weekly auctions imply some 50 auctions of some 20 million EUAs each. Such a volume is roughly comparable to the current average daily trading volume in the market. For comparison, in 2010 the UK will have 8 auctions of a size of 4.4 million EUAs and Germany will have some 100 auctions of about 0.4 million EUAs. Of course, the total quantities to be auctioned in 2010 are very much smaller than the quantity to be auctioned with respect to the third trading period. In addition, the high frequency in Germany is partly explained by the fact that there will be both spot and futures auctions, both at a weekly frequency.

For practical reasons, a fixed auction timeslot is desirable. Similarly, the frequency should not depend on the precise actual total volume to be auctioned. If this volume turns out to be some 10, 20 or 30% higher, the frequency would remain weekly.

The optimal frequency and size should be taken into account in the choice between a central, hybrid or coordinated approach, rather than the other way around. If, however, a coordinated approach would be followed, a somewhat higher frequency could be envisaged in the interest of those market participants who do not wish to participate in all the auction platforms. As explained in section 5.3 above, such a need for a higher frequency is in the first place an argument against the coordinated approach.

## **5.5. What are the appropriate volumes for auctioning in 2011 and 2012?**

Minimising the risk of disturbing the secondary market is the key objective to be addressed under this question. A reliable carbon price that reflects the underlying scarcity in the allowances throughout the trading period is fundamental to the efficiency of the EU ETS. There may well be a need for early auctions before the start of phase 3, but the exact timing and volume need to be carefully chosen. Bringing too many phase 3 allowances into the

market too early bears the risk of unduly and temporarily depressing the price signal in the secondary market. Bringing too few phase 3 allowances into the market too late bears the risk of unduly and temporarily inflating the price signal in the secondary market. Neither of the above situations is desirable. The key elements to take into account include:

the hedging needs of the energy sector. Eurelectric has provided a collective estimate, but only very little company specific information is available to the Commission. It is clear that hedging strategies are different across European regions, to a significant extent depending on the degree of liberalisation.

the quantities of second trading period EUAs and Certified Emission Reduction units (CERs) from emission reduction projects in third countries that will be available in excess of emissions. The recession has caused a drop in emissions and hence many analysts expect a surplus of allowances and CERs in the second phase to be banked into the third phase.<sup>17</sup>

the extent to which financial intermediaries require EUAs and CERs to reduce their exposure to price risk in their supply of forwards and futures. Supplying forwards and futures without such backing would result in a risk premium, though the potential size of such a premium remains uncertain.

Pursuant to Article 10a, 300 million allowances from the New Entrants Reserve will be available for Carbon Capture and Sequestration and Renewable Energy demonstration projects. It is foreseen that the European Investment Bank will sell a significant part of these allowances as early as 2011 in order to finance these projects.

The most important uncertainty comes from economic growth over the next few years, which has a direct impact on both the volume of second trading period allowances and CERs that may be banked for use in the third Phase and the expected hedging needs. In this context, the best option is to clearly communicate the objective of minimising the risk of disturbing the secondary market and clarify the approach for doing this, whilst adopting the decision under a procedure to be foreseen in the Regulation shortly after its adoption. This allows more information, still to become available, to be taken into account, including e.g. 2009 verified emissions, in order to make a better informed decision.

## **5.6. Access rules**

Openness is crucial for fostering a competitive result, facilitating efficient intermediation and mitigating the risk of market abuse. Therefore, access must be ensured for ETS operators and intermediaries in the financial sector and in other sectors. In order to protect the integrity of the market and to avoid undue costs of KYC checks, precise details need to be given on these categories: ETS operator account holders, credit/financial institutions established in the EU and covered by the Anti Money-Laundering Directive, and under certain conditions commodity traders such as coal, gas and oil traders as well as potential further categories such as airports. This approach would allow cost-effective access for the bidders likely to bid for the bulk of EUAs up for auctioning.

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<sup>17</sup> However, the quantity effectively available on the secondary market may be lower to the extent that some companies (in particular smaller ones) may not wish to sell (all) their allowances.

Ensuring access to potential intermediaries such as banks, but also fuel suppliers and airports, is particularly relevant for SMEs covered by the EU ETS and small emitters, who can be expected to rely to a great extent on intermediaries as this allows them to buy the quantity of EUAs they wish at an agreed price from someone with whom they already have an established commercial relationship. Competition between potential intermediaries should encourage the lowest fees being charged at each intermediate step.

### **5.7. Payment, delivery and collateral**

As regards conditions for payment, delivery and collateral, the question is how to ensure the best level of protection of the revenues for Member States at least cost. A clearing house protects the Member States and the auctioneer from credit risk, i.e. the risk that winning bidders do not show up to pay their bids, e.g. in case of bankruptcy or when the price in the secondary market falls shortly after the auction and before the payment. Involving a clearing house also reduces systemic risk for the market in its entirety. In addition to setting prudent capital requirements towards its clearing members and requesting sound risk management from their customers, a clearing house sets a number of additional stress-tested lines of defence to absorb the total cost of a member's or a group of members' default. Auctioning futures or spot futures necessarily involves a clearing house, but this has the important additional advantage that these products fall within the scope of the Market Abuse Directive and the Markets in Financial Instruments Directive and hence the trading is covered by existing market supervision on the exchange concerned. These protections however entail a certain cost: the clearing house will require a fee.

Payment will always require appropriate KYC checks in addition to those carried out by the auctioneer. If a clearing house is involved, a bidder will have to become member of the clearing house directly or to establish a trading relationship with an existing clearing member which would act as the counterparty with the clearing house on its behalf. If another settlement system is used, bidders will have to become member of that system, or establish a trading relationship with an existing member of that system. Any trading place bidding in a competitive selection process to be selected as the central auctioneer will be requested to offer the most favourable conditions for direct and/or indirect participation in the auction, as well as for direct and/or indirect membership of the clearing house or settlement system.

The credit risk for Member States can also be reduced by a provision to exclude defaulting bidders from auctions for a certain period of time (and for a longer period in case of repetitive default), though this will have some cost and does not protect in case of bankruptcy of the bidder. In any event, EUAs not delivered because of default by the buyer would automatically be added to the volume for the following auction. In addition, as regards delivery on the seller's side, the risk of default can be reduced risks by pre-delivering the allowances before the auction starts.

Under the centralised approach, in order to encourage competitive offers, the Regulation should neither impose nor exclude the involvement of a clearing house. The optimal outcome will result from the competitive selection process.

### **5.8. Full, fair and equitable access for SMEs and small emitters**

Full, fair and equitable access for SMEs covered by the EU ETS and small emitters is facilitated in the first place by a simple and transparent auction design and by information and training in the bidder's language, in addition to the language that is customary in the sphere of

international finance. Obviously, adequate and cost-efficient payment, delivery and collateral systems are also important.. Indeed, any exchange bidding to become the central auctioneer may offer all three access modes: direct, through clearing members of the exchange acting as intermediaries ('order routers') and indirect. Granting indirect access would always be possible. The option of order-routing may be dispensed with only if the conditions for direct access are shown to ensure full, fair and equitable access.. The final specifications should be left to the selection procedure.

Providing for non-competitive bidding does not appear to be a cost-efficient contribution for facilitating access. With a uniform clearing price, any bidder will pay the clearing price. With efficient auctions, small bidders may safely bid at relatively high prices without much risk of actually having to pay that price.

## **5.9. Ensuring competitive auctions and mitigating risk of market abuse**

Risk of anti-competitive behaviour and market abuse in auctions cannot be assessed in isolation from the risk of such behaviour in the secondary market. As regards the latter, section 1.4.7 of the consultation paper discussed elements that may have mitigated the risk of such behaviour. Indeed, auctions are not the only source of allowances. Free allocation, credits from emission reduction projects in third countries (CERs) and the secondary market must all be taken into account.

Market abuse encompasses insider dealing and market manipulation. The first consists of using price sensitive market information which is not publicly available to the market at large. The latter consists of distorting the normal market price-setting mechanism, for example, by disseminating false or misleading information, by trading at an abnormal or artificial price, or by acquiring a dominant position. Strategies to achieve this could consist in hoarding, e.g. by stockpiling more than anticipated compliance needs, or cornering, e.g. by stockpiling allowances to create price peaks at given dates such as surrendering dates. Market participants could collude, i.e. act together in order to manipulate the price of an asset. The intention could be to buy at an artificially low price or, to the contrary, to drive up the price in order to raise competitors' costs.

Various features will help in obtaining competitive results and mitigating the risk of market abuse.

A simple auction design and open (but cost-efficient) access facilitate wide and competitive participation and are therefore key features for obtaining a competitive result for each auction.

A weekly frequency limits the potential gain from market abuse as bidders may lose little by waiting for the next auction. It also makes anti-competitive behaviour easier to detect. At the same time, the size of weekly auctions is expected to attract sufficient bidders.

Auctioning adequate quantities of EUAs in a timely manner ensures liquidity in the market and makes potential cornering strategies more expensive and less likely to succeed.

In addition, the auctioning of 'spot futures' could benefit from existing market supervision on the exchange concerned under the Market Abuse Directive and the Markets in Financial Instruments Directive, since such products can only be traded on a regulated exchange and the

auctioned product would be a tradable on the market. Furthermore, an independent auction monitor will be appointed, there will be a periodic review of the Regulation and the Commission will examine the risk of market abuse as required under Article 12 of the revised ETS Directive.

Three specific auction design features have been evaluated.

First, there is a choice between discriminatory pricing, where winning bidders pay the price they bid, and uniform pricing, where all bidders pay the same clearing price. The first makes it more costly to use auctions for building up a large position and thereby capability to manipulate the market. Neither form is systematically likely to raise more revenue than the other, since the price-setting rule influences behaviour. The disadvantage of discriminatory pricing is, however, a perceived unfairness in particular vis-à-vis smaller and less informed bidders. This could discourage their participation and make it easier for a small number of large bidders to get a large share of the allowances, - the opposite of the intended effect. A large majority of stakeholder rejected this option and it may be noted that uniform pricing has been the norm in all cases of auctions of tradable emission permits with the US SO<sub>2</sub> allowances auctions being the only exception. As large positions could also be built by buying in the secondary market, the effectiveness of discriminatory pricing in mitigating the risk of market abuse appears limited and therefore the Regulation should instead provide for uniform pricing.

Second, tied bids<sup>18</sup> can be resolved in different ways. 'First come – first served' is not an appropriate approach, as it unnecessarily encourages bidders to assume price risk while the auction is open and such a rule disfavors participants with least knowledge of the market, e.g. SMEs and small emitters. A large majority of stakeholders favoured pro-rata re-scaling of tied bids. This approach is perceived as fair as it treats all tied bidders as equal and it reduces the risk in particular for smaller bidders. However, an approach where tied bids are resolved by random selection of the winners would significantly reduce the incentive for collusion as bidders coordinating their bids are less certain about the quantity they could receive.<sup>19</sup> This approach has the disadvantage that it requires a robust information disclosure process to inform the bidders who submitted the tied bids, so they can find out whether or not their bids were honoured. The grounds for perceiving this approach as 'fair' are equally strong: it reduces the number of affected bidders. Bidders can in any event reduce the impact of the rules by placing smaller bids at slightly different prices. Furthermore, participating in an auction, in particular when bidding at prices close to the expected clearing price, involves a risk of not winning (all) bids. This applies to SMEs and large participants alike and, in the event of not winning the desired quantity in the auction, it does not seem very difficult to redress the shortfall in the next auction or in the secondary market. This does not, however, outweigh the advantage of reducing the incentive for collusion and therefore randomly resolving tied bids should be the chosen approach.

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<sup>18</sup> Tied bids are bids exactly at the clearing price which can not all be honoured due to the limited and pre-determined volume available for the auction concerned.

<sup>19</sup> The risk of such behaviour is difficult to forecast. A comparison of auction size and total volume needed by the largest compliance buyers may be illustrative. With a weekly auction, the normal size of the auction would be about 20 million allowances. The demand from the largest individual compliance buyers may exceed 10% of the total volume to be auctioned, i.e. some 100 million allowances. Electricity producers may, however, be less interested in participating in the auction when auctioning spot.

Third, a limit could apply to the size of bids accepted from a single entity in an individual auction. The intention would be to make it difficult to acquire a dominant position which could be used for manipulating the market. Currently, there is no evidence of such behaviour and the above mentioned design features are already meant to reduce the incentives and possibilities for any player to pursue such strategies successfully. The effectiveness of a maximum bid-size is questionable as it is possible (and probably much easier) to pursue such a strategy by acquiring a similar dominant position on the secondary market. Moreover, a maximum bid-size compatible with the needs of the largest emitters would need to be set at a relatively high level. Pursuant to Article 12 of the revised ETS Directive, the Commission will by 31 December 2010 examine whether the market for emissions allowances is sufficiently protected from insider trading and market manipulation and a report on this examination may be accompanied by appropriate proposals. Pending this examination, the Regulation would best provide for an option to introduce a maximum bid-size at a later stage, if there is evidence of its need, usefulness and effectiveness.

#### **5.10. Auctioning aviation allowances**

Apart from the frequency and the size of auctions, the much smaller quantity of EUAAs to be auctioned does not lead to different choices with respect to the issues discussed above.

Auctioning EUAA *futures* is even less warranted, as 85% of the allowances will be allocated for free in any event and potential hedging needs can be satisfied by supply of EUA forward and futures.

Auctioning through a separate infrastructure is likely to have a negative impact on participation, particularly from bidders other than aviation operators. This would significantly increase the risk of inefficient results and market abuse. The auctioneer carrying out the EUA auctions should therefore also carry out EUAA auctions.

The much smaller volume to be auctioned strongly argues for the centralised approach. Fragmentation by spreading the volume over several auction platforms significantly reduces efficiency.

The preferred options with respect to access, payment, delivery and collateral, SMEs covered by the EU ETS and small emitters and market abuse are valid also with respect to EUAA auctions.

The frequency of the auctions should, however, be much less. The same reasons as given in section 5.4 above apply. However, sufficient size must be kept in order to attract an adequate level of participation. This concern is particularly important given the high concentration of emissions with a small number of large aircraft operators covered by the ETS. Therefore, a two-monthly auction of an average size of 5 million EUAAs appears to strike the right balance.

### **6. CONCLUSIONS – THE PREFERRED OPTIONS**

In conclusion, the following options are preferred as they best achieve the objectives as set out in section 3.

Auctions should be of spot or 'spot futures' and not futures, despite considerable support for the latter, in particular from the power sector. In their responses, the sector did not explain

why futures and forwards would not be available in the secondary market, particularly when an appropriate volume of spot allowances would be auctioned. In contrast, certain stakeholders emphasised the negative impact on the secondary market when auctioning futures.

Auctions should make use of existing infrastructure by selecting an exchange. This option received substantial support in the consultation.

Auctioning should be carried out through a centralised auction process. This option received overwhelming support in the consultation. Only a limited number of Member States (though including the ones responsible for the larger shares to be auctioned) expressed their preference for the co-ordinated approach.

The Auction Regulation should furthermore provide for:

Weekly auctions and a procedure for determining the 2011 and 2012 volumes to be auctioned after the adoption of the Regulation, taking into account further information;

Solid KYC-checks with respect to categories of participants which are pre-defined so as to ensure access to any potential participant that has a legitimate interest in trading;

Protection against credit risk and assurance of auction integrity by potential involvement of a clearing house and/or exclusion or penalty provisions for defaulting bidders, whilst ensuring adequate openness, including for SMEs covered by the EU ETS and small emitters;

Mitigation of risk of market abuse by means of auction design, frequency, liquidity, auction monitoring and periodic review. In addition, tied bids would be cleared randomly and imposing a maximum bid-size will be retained as an option if the need and effectiveness are demonstrated.

The auctioning of EUAAs would follow the same format, albeit at a lower frequency.

The selection of the auctioneer and hence the details on payment, delivery, collateral, fees, and further detailed auction rules, will be carried out immediately following the adoption of the Regulation. This is also the case for the determination of the details of the auction calendar, and in particular for the volumes to be auctioned in 2011 and 2012. The Regulation will, however, determine the appropriate framework, conditions and minimum requirements for these further decisions.

## **7. MONITORING AND EVALUATION**

Setting up the infrastructure required for large scale auctioning as foreseen in the revised ETS Directive is a process which consists of several steps. Adoption of the Regulation and the Terms of Reference for the selection of a central auction platform is a first step. The selection procedure will be based on a competitive dialogue, which is particularly suitable as it allows a careful assessment of all potential features that may help to optimise the auctioning system before specifying the precise selection and award criteria on the basis of which the final choice of the auction platform and the clearing house or settlement system will be made.

An independent auction monitor will be appointed to report to the Commission on the conduct of the auctions on behalf of the Member States. The purpose of this monitoring is to detect possible non-compliance with the objectives pursued by the revised ETS Directive, to improve auction design modalities through periodic review and to identify any anti-competitive behaviour and/or market abuse. It implies a regular analysis of how auctions are conducted, how the Regulation is implemented and the bids submitted.

Under the centralised approach, provisions for sanctions would cover in particular potential infringements of the rules by the selected auctioneer and by bidders. Such provisions are to be included in the decision appointing the auctioneer and in the auction rules laid down by the auctioneer.

At any time, the Commission may make proposals to improve or adjust the rules as deemed appropriate. The Commission will monitor the functioning of the European carbon market (including the auctions) as required under Article 10(5) of the revised ETS Directive.



## **ANNEXES**

ANNEX 1: Glossary

ANNEX 2: Summary of the response to the consultation

ANNEX 3: Minutes of the inter-service Impact Assessment Steering Committee meeting on 4 November

ANNEX 4: Overview of existing experience

ANNEX 5: Estimated shares of Member States in the total quantity to be auctioned pursuant to Article 10(2) of the revised ETS Directive

## ANNEX 1: GLOSSARY

**Anti-competitive behaviour** – Conduct that contravenes Articles 81 and 82, as well as Articles 86 of the Treaty establishing the European Community.

**Auctioneer** – A public authority or an agent or sub-contractor who conducts an auction on behalf of one or more Member States.

**Auction calendar** - covers the annual volume of auctions, the distribution over spot and futures (if any), the dates of individual auctions spot or futures (if any), the auction processes used for individual auctions and the size of individual auctions.

**Auction design** – For the purposes of this consultation, auction design encompasses the choices on the number of rounds, number of bids that may be submitted, the rules for establishing the clearing price resolving tied bids, the potential use of a reserve price and maximum bid-size.

**Auction platform** – Refers to the IT system used by an auctioneer to run an auction.

**Auction process** - Refers to the whole process of organising an auction, encompassing the following functions: setting the date and volume of auctions to take place; registering and pre-qualifying participants; providing an platform and infrastructure; collecting bids, managing collateral, running the auction, calculating the results and resolving eventual ties, ensuring the settlement (payment and delivery) and monitoring.

**Banking of allowances** - A mechanism whereby participants are able to exchange excess allowances or credits from one trading period for new allowances or credits for use in later trading periods.

**Certified Emission Reduction (CER)** - The unit of the Kyoto Protocol's Clean Development Mechanism (CDM), equivalent to 1 metric tonne of CO<sub>2</sub> equivalent.

**Clean Development Mechanism (CDM)** - Flexible mechanism under Article 12 of the Kyoto Protocol through which EU companies may finance greenhouse gas emission reduction or removal projects in developing countries and receive credits (CERs) for doing so. These credits may be used up to a certain limit for compliance purposes within the EU ETS.

**Clearing house** - A clearing house acts as guarantor of the transaction in case of default by either the buyer or seller. Moreover, clearing houses provide netting services that central counterparties do not provide such as daily margining services for futures transactions pending their maturity date. Clearing houses are better suited for payment and delivery in futures auctions which require the netting of such margins.

**Clearing price** – The price at which the quantity of allowances supplied in an individual auction is equal to the quantity demanded in that auction. All bidders who bid at more than the clearing price receive the allowances that they bid for.

**Collateral, payment and delivery** – Requirements that determine the process for a trade, meaning security to guarantee a trade, the way in which payment is made and the means by which a commodity is delivered, respectively.

**Collusion** – Market participants acting together to manipulate the price of an asset.

**Community independent transaction log (CITL)** - A log that records the issuance, transfer, cancellation, retirement and banking of allowances that take place in the EU ETS registry.

**Coordinated approach** – The auctioning of allowances by Member States acting individually or jointly through a limited number of auction processes.

**Cornering strategies** – A market strategy where an ETS market participant attempts to control a significant proportion of all available supplies of a given commodity by stockpiling allowances to create price peaks at given dates such as surrendering dates, in order to be able to manipulate the price.

**Default** – The act of failing to meet an obligation, e.g. to pay for or deliver allowances.

**Discriminatory-price auctions** – An auction in which the winning bidders pay the amount they bid for the asset.

**Early auctions** - Auctions held prior to the relevant year in the trading period. An allowance which falls under the cap calculated e.g. for the year 2014 may be auctioned in 2012 or 2013.

**Emission Reduction Unit (ERUs)** – The unit of the Kyoto Protocol Joint Implementation (JI) flexible mechanism, equivalent to 1 metric tonne of CO<sub>2</sub> equivalent.

**Equal treatment** – A general principle of Community law according to which similar situation ought to be treated in the same way whilst different situations ought to be treated differently.

**EU allowances (EUAs)** – The currency used in the EU ETS. One EUA can be surrendered with respect to 1 metric tonne of CO<sub>2</sub> equivalent of verified emissions.

**EU Aviation Allowances (EUAAAs)** – The currency used in the EU ETS which can only be used with respect to emissions from aircraft operators. One EUAA can be surrendered with respect to 1 metric tonne CO<sub>2</sub> equivalent of verified emissions.

**Exchanges** - Organised markets for the buying and selling of financial instruments and/or commodities.

**Forwards** - A transaction between two parties to exchange a fixed volume of allowances against fixed payment at a future date. It is a direct, 'over-the-counter' (OTC) trade between two counterparties conducted bilaterally or through a broker. Note that in other documents sometimes another definition of "forwards" is used: "a future with collateral margining rather than cash margining".

**Full centralisation** – A single process for auctioning all EU allowances.

**Full decentralisation** – Auctions arranged by individual Member States, implying a potentially large number of separate auction processes.

**Fungibility** – The ability of an asset to be freely substituted by another in satisfying an obligation.

**Futures** – A standardised, exchange-traded transaction to buy or sell allowances or credits at a designated future point in time at a price agreed upon today by the buyer and seller. This involves a margining system with either cash or collateral margin payments. Note that in other documents the definition of "futures" is sometimes meant to include only futures with cash margining, whereas the ones with collateral margining are called "forwards".

**Futures auctions** - Auctions of allowances in accordance with standardised terms and conditions to be delivered at some future date. Payment is deferred until delivery although buyers and sellers are subject to a margining system in the interim.

**Hedge** - Offset exposure to price risk. An electricity producer that, e.g. commits to supply electricity in two years time will have a need for the corresponding EUAs in two years. It may hedge the price risk in the carbon market by buying carbon futures that will guarantee the delivery of allowances at the time it needs them at a pre-determined price.

**Hoarding strategies** - A market strategy, whereby an ETS operator attempts to control a significant proportion of all available supplies of a given commodity, by stockpiling more than what is needed to cover its anticipated compliance needs.

**Hybrid approach** – Where several auction processes are coordinated by one centralised clearing platform taking into account aggregate demand (all bids collected by the auctioneers) and aggregated supply (all EUAs auctioned by all auctioneers). So calculating the clearing price, resolving ties, managing the corresponding software and possibly collateral, payment and delivery would be carried out at a central level, whereas registering participants and collecting bids would be taken care of by several auction processes at a decentralised level

**Initial margin call** – The initial security payment made to an exchange's clearing house by the buyer and seller of futures in order to guarantee the eventual trade.

**Insider dealing** – Using price sensitive market information which is not publicly available to the market at large.

**Intermediaries** – Companies trading in EUAs or other products on behalf of, or in order to satisfy demand from others, in particular ETS operators.

**Joint Implementation (JI)** - Flexible mechanism under Article 6 of the Kyoto Protocol through which EU companies may finance greenhouse gas emission reduction or removal projects in other developed countries and receive credits for doing so (ERUs). These credits may be used up to a certain limit for compliance purposes within the EU ETS.

**Legal certainty** – A general principle of Community law which entails complete knowledge of one's legal position. The principle of legal certainty militates against the retrospective application of legal acts save for in very exceptional circumstances.

**Liquidity** - The degree to which an allowance can be bought or sold on the secondary market without affecting the price. Liquidity is characterised by high trading volumes.

**Lot size** - Number of allowances associated with one unit of the auctioned product.

**Margining system** – A system designed to manage risks pertaining to futures. Under a margining system, the buyer and seller pay an initial margin call of e.g. 10% and daily variation margin calls in accordance with changes in the market price of the futures not covered by the initial margin call until maturity of the futures. A margining system is managed by a clearing house.

**Market abuse** – Consists of insider dealing and market manipulation.

**Market manipulation** - Distorting the normal market price-setting mechanism, e.g. by disseminating false or misleading information, by trading at an abnormal or artificial price, or by acquiring a dominant position.

**Maturity date** – The date when a futures expires. The maturity date of futures is the date where settlement and delivery of the allowances is foreseen.

**Non-competitive bids** – Bids for a fixed quantity without specifying a price. Participants submitting and winning such bids pay the clearing price.

**Over-the-counter (OTC)** – Trading not mediated by an exchange but undertaken directly between the trading parties. OTC-trades are often facilitated by a broker.

**Price discovery** - The process of determining the price level of an asset based on supply and demand factors.

**Primary market** – The primary market refers to auctions of EUAs and EUAAs. Primary issuance of allowances takes place in respect of free allocation (which is not a 'market') and in respect of auctioned allowances.

**Proportionality** – A general principle of Community law whereby the measures employed ought to be commensurate to the desired objective.

**Regional Greenhouse Gas Initiative (RGGI)** - A regional initiative by states and provinces in the Northeast of the United States to reduce greenhouse gas emissions. RGGI is a cap and trade emissions trading system for greenhouse gas emissions from power plants.

**Secondary market** - The market in which carbon units (EU allowances, CERs or ERUs) are traded after they are initially offered in the primary market. In the secondary carbon market an traders transact with each other rather than with an issuing authority.

**Single-round sealed-bid model** – An auction design where bidders only have one time slot to submit bids which are submitted confidentially and opened simultaneously.

**Spot futures** – A futures trade with a maturity date only a few days after the contract date. Spot futures are regulated as financial instruments in the Markets in Financial Instruments Directive (MiFID), though in practice they have characteristics comparable to spot trades.

**Spot** - A transaction in which a commodity is bought or sold for immediate delivery or delivery in the very near future.

**Spot auctions** - Refer to auctions resulting in immediate or near immediate payment and delivery.

**Spread** – The price difference between two defined assets.

**Subsidiarity** – A principle referred to in Article 5 of the Treaty establishing the European Community which states that in areas outside the exclusive competence of the Community, the Community shall take action only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore by the scale or effects of the proposed action be better achieved by the Community.

**Tied bids** – Two or more bids made at the clearing price in an auction for which the quantity offered does not suffice.

**Trading period** – EU allowances are valid for a specific multi-annual trading period. As from 2013 onwards, trading periods will last 8 years. The EU ETS does not have an annual 'vintage'. Sometimes, trading periods are also referred to as 'phases'.

**Uniform-price auctions** – An auction in which all of the successful bidders pay the same price for the auctioned asset.

**Variation margin call** – Additional security required by an exchange from the buyer or seller of futures because of changes in the market value of the futures.

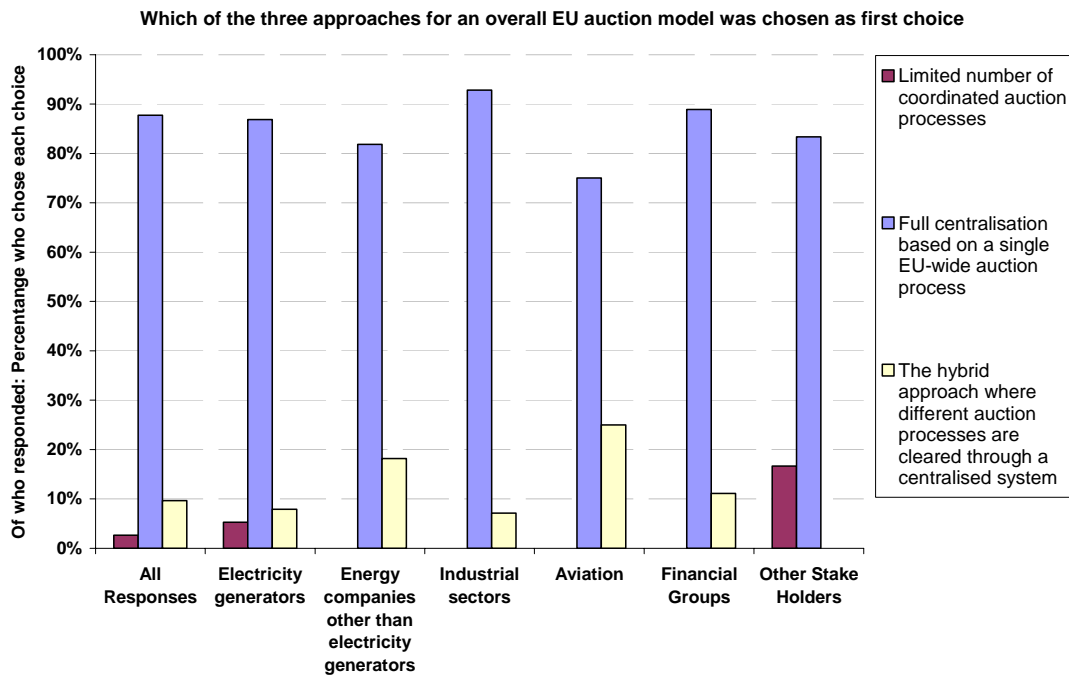
## ANNEX 2: SUMMARY OF THE RESPONSE TO THE WRITTEN CONSULTATION

The online consultation that was open from 3 June till 3 August raised significant interest. There were 124 responses to the detailed questions raised in the consultation paper from stakeholders other than Member States. The majority of these were from large companies covered by the EU ETS and their trade associations, particularly those in the electricity generating sector. Other respondents included the operators of carbon exchanges, carbon traders and non-governmental organisations. Hardly any responses were submitted by SMEs. In addition to the direct responses to the consultation questions there were various position papers submitted that gave more general perspectives on the auction process and issues. There were 12 responses submitted by Member States. In general, the respondents show a significant degree of consensus and in many cases echo arguments raised in the consultation document in their response. However, there are some key issues where divergent views exist with reasoned arguments submitted for and against particular features of the auction process.

### *Overall approach to auctioning*

Respondents are overwhelmingly in favour of a **single process for auctioning** allowances. This is shown in the graph below, which evaluates responses excluding member states. Member States (MS) are split, generally with the largest emitters wanting to control their own process (UK, Poland, Germany, Spain). A number of MS are in favour of centralisation (Sweden, Finland, Denmark, Austria, France, Italy, Netherlands) but do not seem optimistic on achieving this: the Netherlands state that a hybrid outcome is the most likely and Italy states that they have started developing a national platform in preparation for the failure to agree on a centralised approach. The possibility of a central EU platform with an effective opt-out for Member States has been raised by the UK and Eurelectric, who is strongly in favour of a centralised system, raised a compromise option with a central process for those countries interested in the option as an initial stage, but then converging to a single platform over time.

The hybrid approach where different auction processes are cleared through a centralised system gained significant support particularly as a second choice where the first preference was for full centralisation.



*\*Further breakdown of statistics is presented in section 5*

*\*Financial Group: Grouping: Intermediary, Trader on own account, Regulated market, Other carbon market, Clearing House*

*\*Other Stakeholders: Groups NGOs, Trade Associations and those classified as other*

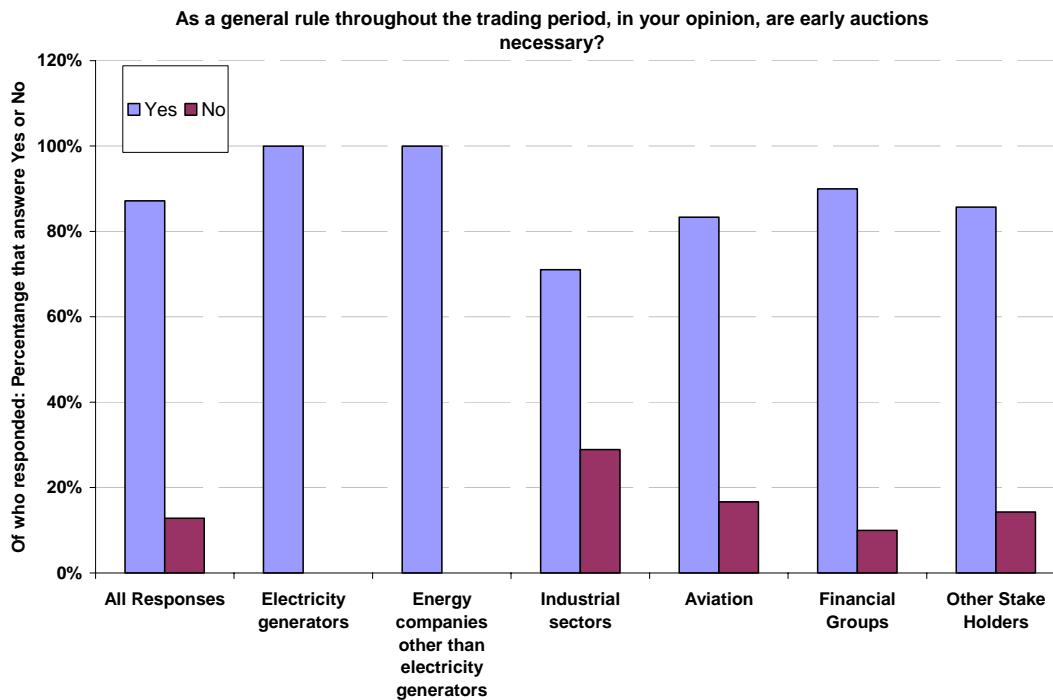
*\*Statistical analysis does not include Member state responses*

Those respondents in favour of a centralised process point to enhanced efficiency and equal access for all parties. Those wanting a variety of auction processes suggest some form of competitive benefit. Germany questions whether attempting to impose an auction format conflicts with the principle of subsidiarity.

#### *What and when to auction?*

**Early auctions** would be welcomed by a large majority of respondents. There were some counter-arguments that the futures market would provide for advanced hedging needs if there is sufficient certainty around the calendar and process for the release of spot allowances. However, the majority felt that early auctions were necessary to enable power companies to back forward electricity sales contracts (the focus on power contracts as the driver for early auctions came from both power companies and industrial electricity buyers). The power companies generally argued for a significant volume of early auctions, in some cases asking for all allowances being auctioned before the compliance year. The most frequent counter argument against the early auction of EUAs, raised in particular by Member States, is the potential for an oversupply of allowances to depress the market price and push higher EUA prices and correspondingly higher emission reduction efforts to the back-end of the compliance period by when any initial allowance oversupply would disappear. In this respect, a number of respondents pointed at the bankable allowances from Phase II and project emission credits that will be available to cater for advanced hedging needs. A significant number of respondents, including some Member States, requested a specific study on this subject to determine the appropriate profile of early auctions and avoid distorting the EUA market.

The graph below shows the preference of the electricity generators, intermediaries & other energy companies for early auctions for risk management.



*\*Further breakdown of statistics is presented in section 5*

*\*Financial Group: Grouping: Intermediary, Trader on own account, Regulated market, Other carbon market, Clearing House*

*\*Other Stakeholders: Groups NGOs, Trade Associations and those classified as other*

*\*Statistical analysis does not include Member state responses*

Considerable support exists for **auctioning futures**, the most common reason given being because this is felt to reduce the required cash flow for companies hedging their exposure under the EU ETS. Another reason mentioned regards the practical issues associated with early spot allowance sales, particularly the availability of the registry for spot allowances (as spot allowances for the third trading period can not be delivered before 2012, early auctions in 2011 would have to be achieved through futures). However, not all respondents saw futures as necessary and there were a variety of comments on some potentially significant issues associated with futures auctions by the Member States. These include:

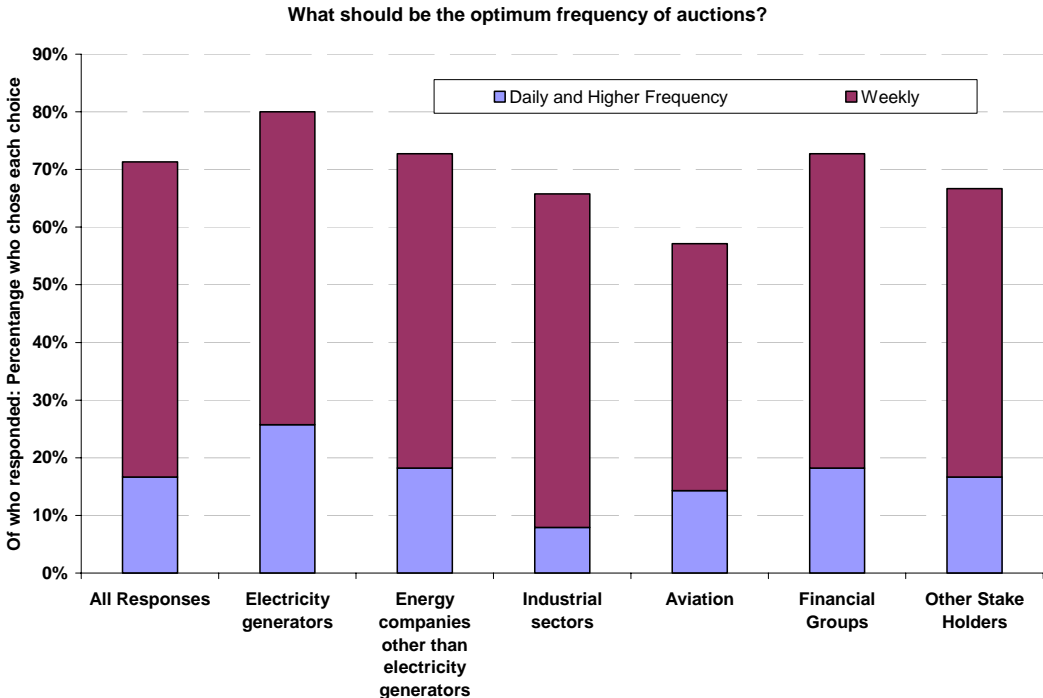
- Member States would have to set up or have access to an exchange and a form of clearing house system to manage margin calls, creditworthiness of counterparties, etc. A futures system parallel to those offered by the existing exchanges, possibly with concessions made to assist trading by smaller emitters, could have serious implications for the operation and competitiveness of existing futures exchanges.
- EEX stressed that futures traded on existing exchanges are not fungible with each other (unlike spot allowances). This potentially means that the decision to auction a portion of EUAs through futures on a particular exchange would lock in the trades of these allowance futures to that platform, which is not helpful in the context of inter-exchange competition.
- Some Member States noted that auctioning futures poses an issue with respect to their accounting rules.

There was very little discussion in the responses on whether the early auction of spot allowances would enable intermediaries to offer futures and thereby sidestep some of the



complications associated with Member States auctioning futures directly. The arguments provided tended to focus on whether futures were needed, not where they would come from.

There are a range of opinions on the optimal **frequency** of auctions. Most respondents opted for weekly or monthly auctions. There were also a number of arguments for daily or almost continuous auctioning. The justification for frequent auctions is to maintain a steady flow of allowances into the secondary market whilst minimising the size of any individual injection so as to avoid destabilising the secondary market. This argument was put forward by some financial players, such as KfW (who have experience from the auction of Phase II EUAs in Germany) and Barclays Capital, and by some of the largest emitters, e.g. E.On and RWE. The potential disadvantage of this system is a risk of a low number of participants in some auctions. The balance between ensuring sufficient participation and limiting the scale of the auction to prevent shocks to the secondary markets is the main reasoning for those pointing to a weekly or monthly approach. The graph below shows that amongst respondent categories consisting of large emitters (energy companies, electricity generators) and financial groups, a higher proportion opted for a high frequency of auctions (daily or more frequent) than was the case for the overall sample. ‘Daily’ is a higher frequency than any of the options outlined in the consultation paper.



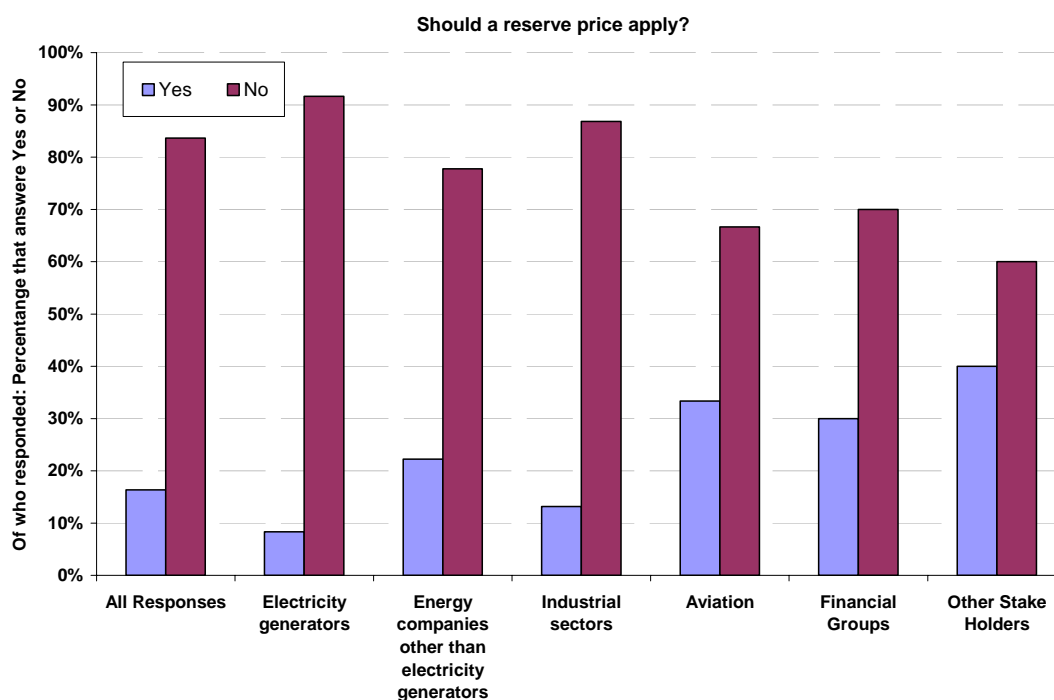
*\*Further breakdown of statistics is presented in section 5*  
*\*Financial Group: Grouping: Intermediary, Trader on own account, Regulated market, Other carbon market, Clearing House*  
*\*Other Stakeholders: Groups NGOs, Trade Associations and those classified as other*  
*\*Statistical analysis does not include Member state responses*  
*\*The residual of these statistics presented, shows the percentage of respondents that opted for a lower than weekly frequency*

Most respondents want the **auction calendar** to be determined well in advance. In particular there is a desire for the annual volume of allowances to be auctioned and the distribution of these between spot allowances and futures to be set at least three years in advance. The precise distribution of these between specific auction dates and processes can then be set nearer the actual time. Recognising that there is some uncertainty on the exact volume of EUAs available to be auctioned, some respondents suggested a system where the timing for the auction of the bulk of the allowances is set well in advance and then the timing for any residual is set nearer the auction date.

## Auction design

There is widespread agreement on the use of a single-round sealed-bid auction with uniform pricing for participants. The majority of respondents like the simplicity of this system and the perceived fairness to all parties paying the same price. There are also perceived benefits for small and medium-sized enterprises (SMEs) in that they do not need to guess the right bid level as would be necessary in a discriminatory-price auction. Some respondents like discriminatory-price auctions as it increases the cost of building a strong position that could be used for attempts to corner the market.

In general there was limited appetite for a reserve price, as many respondents argued that a robust auction design and process should suffice to avoid the clearing price varying too widely from the ongoing secondary market price. An exception to the general sentiment is the position of most Member States that consider a reserve price to be a useful tool to protect the auctioneer against any events that might cause an artificially low clearing price. A number of respondents used the discussion on reserve prices to underline their opposition to any absolute price floor for EUAs. The graph below illustrates the majority of respondents' disagreement with the adoption of a reserve price.



*\*Further breakdown of statistics is presented in section 5*

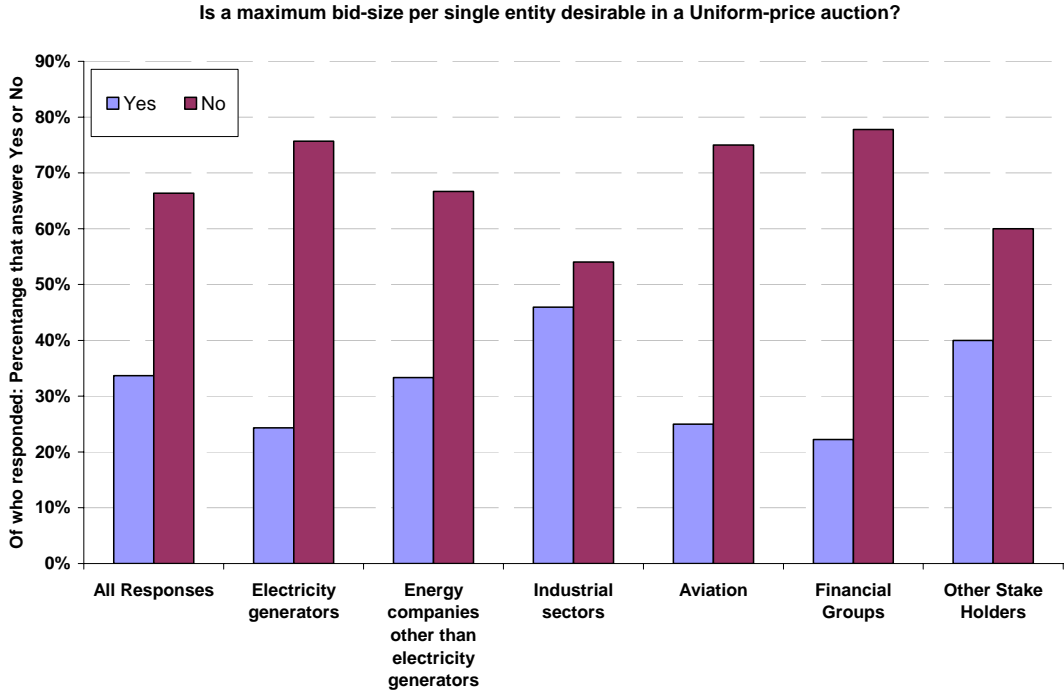
*\*Financial Group: Grouping: Intermediary, Trader on own account, Regulated market, Other carbon market, Clearing House*

*\*Other Stakeholders: Groups NGOs, Trade Associations and those classified as other*

*\*Statistical analysis does not include Member state responses*

A clear majority were against a **maximum bid-size**, although the size of the majority against varied between groups and there was a sizeable minority in favour of a maximum bid-size for uniform-price auctions amongst the industrial respondents. Many respondents felt that the clear price signal and availability of allowances on the secondary market and the use of frequent auctions removed the need to set a maximum bid-size as a protection against cornering in an auction. It was also pointed out by a number of respondents, including some of the larger emitters, that the need for some single entities to purchase large amounts of the allowances in order to balance their compliance needs is unavoidable under the revised EU

ETS. They therefore claim this behaviour does not act as an indication of market abuse (in the auction process or more generally). We can see from the graph below that almost all respondent categories are against a maximum bid-size. It is also noticeable, and unsurprising, that those most against a maximum bid-size were the large emitters (electricity generators) and financial institutions.



*\*Further breakdown of statistics is presented in section 5*  
*\*Financial Group: Grouping: Intermediary, Trader on own account , Regulated market, Other carbon market, Clearing House*  
*\*Other Stakeholders: Groups NGOs, Trade Associations and those classified as other*  
*\*Statistical analysis does not include Member state responses*

The responses for discriminatory-price auctions were broadly similar.

*How will the auction(s) be implemented?*

There was strong support for a **harmonised pre-registration process and collateral system** in the auctions. This is consistent with the level of support for a fully centralised auction process. It was however pointed out that a harmonised collateral system could be difficult to design and implement given the variation in the risk profile of bidders where direct bidding takes place. There was support for auctioneers to be able to rely on third parties, particularly appropriate financial and credit institutions, to carry out registration and know-your-customer checks.

It is clear that a large majority of stakeholders would be unhappy with any process that does not allow direct bidding by industrial emitters covered by the EU ETS. There is very little support for anything resembling a **primary participants** model. There is majority support for the **use of existing exchanges** due to the efficiency benefits of utilising existing infrastructure. However this support often comes with the caveat that it is dependent on cost-effective non-discriminatory access for non-members of the exchange.

The majority of respondents felt that standard auction processes would be sufficient to meet the **needs of SMEs**, particularly when the options available through intermediaries and the secondary market are taken into account. Most respondents to the consultation are, however, not SMEs.

Respondents favour an EU level **auction monitor** to ensure that the process operates correctly. There was also a large majority in favour of provisions in the regulation to prevent insider dealing and market manipulation, however a number of the detailed comments regarding this issue suggested that a regulatory system for the energy markets is under development within the EU and that it would be appropriate to consider abuse of the EUA market within that. Some responses also commented that any attempt to separate consideration of market abuse in the auction context from behaviour in the secondary market would be artificial and ineffective. Respondents were heavily in favour of central **enforcement and sanctions** to ensure that auctions took place as planned, with the enforcement measures applying to bidders, the Member States and auctioneer(s) responsible for the auction process.

#### *EUAA auctions*

For the **auctioning of EU Aviation Allowances (EUAAAs)** the majority of responses were in favour of having the same auction process as for EUAs.

However, despite the general support for a similar process, there were some differences in the level of support for specific features

- Those supporting auctioning of EUAA futures were in the minority
- Aviation respondents were split with equal votes for uniform and discriminatory pricing for EUAs, presumably this split would apply to the rules for EUAAAs also.
- There was majority support for a maximum bid-size in EUAA auctions
- The optimal auction frequency was lower, reflecting the smaller number of allowances to be auctioned in EUAA auctions

It may, however, be noted that the number of respondents in aviation was limited. Furthermore, half of the other respondents gave their views on the overall process for auctioning EUAAAs, but only about a quarter answered the detailed questions.

## **ANNEX 3: MINUTES OF THE IMPACT ASSESSMENT STEERING GROUP**

### **Impact Assessment Steering Group, 4 November 2009**

DG ENV summarised the context, referring to previous meetings with the Commission services, to the written consultation and to the meetings with stakeholders and Member States that have taken place. The three key issues were briefly mentioned:

- Whether to auction spot or futures, see sections 4.1 and 5.1 of the draft impact assessment (IA). DG ENV's assessment leads to the conclusion to auction only spot (or spot futures), but not futures. Many stakeholders called for auctioning futures, but Member States tend to agree with DG ENV.
- Whether to auction through a 'primary participants model', through exchanges or by contracting a third party service provider, see sections 4.2 and 5.2 of the draft IA. DG ENV's assessment leads to conclusion that it is best to auction through exchanges. This is widely supported by stakeholders and Member States.
- Whether to have a centralised, coordinated or hybrid approach. DG ENV's assessment concludes that the centralised approach scores best on cost-efficiency and on all other policy objectives. This approach has overwhelming support from stakeholders and most Member States favour it.

DG ENV set out the timing for the comitology procedure and for the proportional Impact Assessment, which must be finalised at the latest by 11 November as it is to be discussed in the Impact Assessment Board on 25 November. It focuses on the key issues, taking into account that the ETS Directive already lays down the objectives and principles and that the best way to auction is to be as close to the secondary market as possible.

SJ asked for clarification on the definition of spot futures. DG ENV explained that legally it is a financial instrument, but de facto it is similar to a spot EUA, as the maximum delay for delivery is 4 days.

SJ suggested DG ENV to clarify in its proposals which issues are to be defined upfront and which would be left for the competitive dialogue tender procedure. Difficult decisions should not be left for the tender procedure. DG ENV replied that important issues will be determined in the Regulation, whereas issues to be left open for the competitive dialogue procedure are those where flexibility is useful in order to negotiate best value for money. In addition, careful drafting is necessary as to avoid unnecessarily foreclosing the procedure for certain potential candidates.

DG ENTR asked about the appropriate volume for early auctions. DG ENV explained that this will require a careful assessment based i.a. on the expected hedging needs of the electricity sector and the ability of intermediaries in the secondary market to provide futures and forwards in response to these hedging needs.

SJ asked for the interpretation of Art. 10.4 and the possibility to auction allowances before 2013. DG ENV explained that there is widespread consensus such early auctions are possible

and Member States may welcome obtaining revenues soon. DG ENV furthermore referred to a recital (22) of the revised Directive

DG TREN suggested:

- the IA should include more figures, in particular on the expected hedging needs, volumes traded on the secondary markets, amount of allowances to be auctioned etc.
- creating a table of different options and tradeoffs to show the (in)compatibility of various elements of auction design
- explaining in the IA why the auctioning by means of a third party provider is not preferred (DG ENV explained that this is because of the advantages of using existing infrastructure)
- describing the potential forms of market abuse and the related concerns
- clarifying whether and why the reserve price/force majeure measures will be applied
- coordinating the IA with the Commission's proposal with respect to the 300 million allowances from the New Entrants Reserve for CCS and renewable energy demonstration projects.

DG TREN asked to be consulted on the final draft of the IA before its submission to the Board, and asked DG ENV whether the call for tenders will be subject to ISC.

MARKT raised that the primary auctioning of spot futures would not fall under MAD or MiFID. In the discussion, DG ENV said to reflect on the legal and practical issues and that an exchange auctioning spot futures has at least the necessary infrastructure for market supervision in place. DG COMP added to that that competition law applies to the auction procedure.

DG COMP asked why resolving tied bids randomly would better avoid collusion than pro rata rescaling. DG ENV explained under which scenarios it would be relevant and stressed the importance of avoiding market abuse. Later in the meeting, DG ENTR asked about the consequences of companies having different degrees of luck. SJ raised the position of SMEs in this respect and suggested to expand on these issues. DG ENV replied that, in case of random resolution of tied bids, all tied bidders have bad luck and get less than they bid for.

DG ECFIN suggested adding to the IA some text on the advantages of auctioning over allocating them free of charge and on aspects of subsidiarity. DG ECFIN also suggested mentioning a fully decentralised approach and its advantages and disadvantages. Other issues to be added:

- arguments for a lower frequency of aviation allowances auctioning
- current market shares of exchanges on the secondary market
- arguments on the options for who is to pay the administrative costs of auctions (fees or direct payment from the auction revenues).

In response to the last suggestion, DG ENV set out the intention to provide for Member States not paying any fees. The exchanges would be asked to specify their fees to bidders and this would be selection criterion in the tender procedure. There is no need to include an analysis in the IA, since it doesn't matter: if the costs are financed by fees charged to the bidder, the clearing price will reflect these fees. This has the same cost for Member States as the option where they would pay directly.

DG ECFIN asked whether the disclaimer on the first page of the IA document is correct. DG ENV answered that it would check this.

DG COMP stressed the importance for the decision making (not directly for the IA) of the details of the terms of reference.

DG ENV asked participants to provide any further remarks to the IA by Friday noon and closed the meeting.

## ANNEX 4: OVERVIEW OF EXISTING EXPERIENCE

### *EU ETS Second trading period*

<b>Member State</b>	<b>Average annual quantity to be auctioned</b>	<b>Remarks</b>
Germany	40 million (about 9%)	As from January 2010, allowances are auctioned at the European Energy Exchange (EEX), which has been selected through a competitive tender process. Auctions of spot allowances are held each Tuesday throughout the year. Auctions of futures are held on Wednesdays from January until end October.
United Kingdom	17 million (7%)	The UK auctions are carried out by the UK Debt Management Office. A number of 'primary participants' have direct access to the auctions; other bidders have to submit their bids through one of these primary participants. For 2010 eight auctions are planned. An auction schedule with dates and volumes is publicly available. As from January 2010, also non-competitive bidding facility has been put in place.
The Netherlands	3.2 million (3.7%)	The first auctions, expected to take place in the first half of 2010, will be carried out by the Dutch Debt Management Office following the primary participants' model. A further part of the allowances will be auctioned by an exchange. The open and competitive selection procedure is currently in preparation.
Austria	400.000 (1.3%)	For 2009-2012, two auctions per year are foreseen carried out by an exchange. The first auction in 2009 also provided for a non-competitive window, but bidders hardly used this option.

### *RGGI – United States*

RGGI auctions some 130 million allowances per year in four quarterly auctions. The auctions are carried out by a third party service provider, (<http://www.rggi.org/co2-auctions>)

All auctions referred to above are designed as single round, sealed bid, uniform price.

For further information: [http://ec.europa.eu/environment/climat/emission/auctioning\\_en.htm](http://ec.europa.eu/environment/climat/emission/auctioning_en.htm)



**ANNEX 5: ESTIMATED SHARES OF MEMBER STATES IN THE TOTAL QUANTITY TO BE AUCTIONED PURSUANT TO ARTICLE 10(2) OF THE REVISED ETS DIRECTIVE**

EU	100,00%
Austria	1,36%
Belgium	2,48%
Bulgaria	2,96%
Cyprus	0,26%
Czech Republic	4,57%
Denmark	1,22%
Estonia	0,89%
Finland	1,63%
France	5,35%
Germany	19,57%
Greece	3,39%
Hungary	1,46%
Ireland	0,92%
Italy	9,42%
Latvia	0,20%
Lithuania	0,53%
Luxemburg	0,17%
Malta	0,10%
The Netherlands	3,28%
Poland	12,21%
Portugal	1,72%
Romania	4,88%
Slovakia	1,50%
Slovenia	0,43%
Spain	8,44%
Sweden	0,87%
United Kingdom	10,20%