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## **AUCTIONING OF EMISSION ALLOWANCES IN GERMANY**

**Report On The Third Quarter 2010**

## Imprint

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## 1. REPORT THIRD QUARTER 2010

Since January 2010, the Federal Republic of Germany offers an annual total of 40 million emission allowances (EUA) for auctioning. The auctions are held weekly at the spot and futures markets of the European Energy Exchange EEX in Leipzig (see info box below). The German Emission Trading Authority (DEHSt) has commissioned the state-owned bank KfW Bankengruppe to act as vendor (seller) of allowances at the EEX on behalf of the Federal Government. Further updated information on terms and conditions of participation is available on the EEX website.<sup>1</sup> Previous Periodical Reports are available on the DEHST auctioning website<sup>2</sup>.

### 1.1. Current Developments

- In compliance with Section 5 Subsection 4 of the Emissions Trading Auctioning Ordinance 2012, DEHSt has published the number of EUAs auctioned in order to cover the costs incurred by the Federal Government in the exercise of its duties and responsibilities in connection with emissions trading on November 4th. It amounts to 1,142,017 allowances, bringing the final total quantity to be auctioned in 2010 to 41,142,500 million (see also 1.4).<sup>3</sup>
- The futures auctions for 2010 on the EEX market finished on October 27th, as anticipated. Weekly auction contingents on the spot market have therefore been increased to 870,000 allowances for the period between November and December. The German auction calendar for 2010 at the EEX will close by November 30th with 252.500 EUAs to be auctioned (see also 1.4).<sup>4</sup>
- The Regulation by the European Commission on the timing, administration and other aspects of the auctioning of greenhouse gas emission allowances has come into effect after three months of consultation in the Council and Parliament on November 19<sup>th</sup>. Thus, a binding legal framework within the EU has been created for the auctioning of allowances - for aviation activities subject to emissions trading from 2012 and for stationary activities from 2013. Further information on the auctions of the third trading period has been published by the DEHSt in its second quarterly Report.

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<sup>1</sup>see: <http://www.eex.com/de/EEX/Produkte%20%26%20Entgelte/EUA-Prim%C3%A4rmarktaktion>

<sup>2</sup>see: [http://www.dehst.de/cIn\\_162/nn\\_476194/DE/Emissionshandel/Versteigerung/Versteigerung\\_node.html?\\_nn=true](http://www.dehst.de/cIn_162/nn_476194/DE/Emissionshandel/Versteigerung/Versteigerung_node.html?_nn=true)

<sup>3</sup>see: [http://www.dehst.de/cIn\\_162/nn\\_476194/DE/Emissionshandel/Versteigerung/Refinanzierung\\_2010.html?\\_nnn=true](http://www.dehst.de/cIn_162/nn_476194/DE/Emissionshandel/Versteigerung/Refinanzierung_2010.html?_nnn=true)

<sup>4</sup>see: [http://www.eex.com/de/document/83350/2010\\_BMU\\_Auction\\_Calendar\\_update.pdf](http://www.eex.com/de/document/83350/2010_BMU_Auction_Calendar_update.pdf)

### Info Box: Participation, Deadlines and Procedure

Weekly auctions of futures and spot contracts on the EEX are a part of regular stock exchange trading. Participation is possible either directly as EEX Member or indirectly via a broker or as a client of an EEX Member. This ensures that small and medium-sized enterprises, which do not have their own trading department, are also able to participate in auctions. Exchange members already admitted to emissions trading on the EEX can participate in the weekly auctions at no additional cost and without separate fixed costs.

In the years 2010 and 2011, in separate auctions between January and October, 300,000 allowances will be auctioned for immediate delivery ("spot contract") on Tuesdays, and 570,000 for delivery in December of the current year ("futures contract") on Wednesdays. From November of each year, 870,000 remaining allowances will be auctioned weekly on the spot market. The dates of auction are published in the EEX Auction Calendar:

[http://www.eex.com/de/document/83350/2010\\_BMU\\_Auction\\_Calendar\\_update.pdf](http://www.eex.com/de/document/83350/2010_BMU_Auction_Calendar_update.pdf)

The auction procedure is broadly laid down in the Ordinance on the Auctioning of Emission Allowances (Emissionshandels-Versteigerungsverordnung, EHVV 2012). A single-round, uniform-price procedure is applied at auctions. All successful bidders pay the same price. Auctions are conducted with a closed order book, and each bidder can only see his own bids. The minimum bid is 500 allowances in auctions on the spot market and 1,000 allowances in auctions on the futures market.

## 1.2. Market surveillance report

In order to guarantee above-board market activities free of manipulation on the EEX, continuous surveillance is conducted by an independent Market Surveillance Office (Handelsüberwachungsstelle, HÜSt) as required under German law. HÜSt reports to the DEHSt in regular internal reports on the results of its surveillance activities. HÜSt reported as follows on auctions in the third quarter of 2010:

"The auctions of emission allowances at the EEX on behalf of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety in the third quarter of 2010 took place following the defined procedure and without any disturbances. For this period, the Market Surveillance of the EEX could not detect any irregularities, and especially no behaviour of bidders that aims at manipulating the auction price"

### 1.3. Overview of the third quarter

Between July and September 2010, a total of 11,310,000 emission allowances (EUAs) with a value of 166,073,400 euro were auctioned. This is equivalent to a volume-weighted revenue per allowance of 14.68 euro. As the markets slowed down, the average revenue per allowance was 0.34 euro or 2.3 percent lower than in the previous quarter. With 13 auctions on each market, the legally-prescribed total of 26 auctions was again realized in the third quarter. Table 1 summarises the essential results of the reporting period.

Table 1: Overview of the 3rd quarter 2010

Contract	Auctions	Total bid volume	Auction volume	Times covered	Clearing price	Revenue
Spot	13	19,503,000	3,900,000	5.00*	14.62 €*	57,021,000 €
Futures	13	35,173,000	7,410,000	4.75*	14.72 €*	109,052,400 €
<b>Total</b>	<b>26</b>	<b>54,676,000</b>	<b>11,310,000</b>	<b>4.83**</b>	<b>14.68 €**</b>	<b>166,073,400 €</b>

\* Period average

\*\* Volume-weighted average value

Of the total auction volume, 7,410,000 allowances with a value of 109,052,400 euro (average price 14.72 euro) were auctioned on the futures market (MidDec2010) and 3,900,000 allowances with a value of 57,021,000 euro (average price 14.62 euro) were sold in spot auctions (see Table 1). Detailed auction results for each auction date are displayed in Tables 2 (Spot) and 3 (Futures).

Over the 26 auction dates, valid bids for a total of just under 55 million emission allowances were entered into the trading system. Thus, the aggregated bidder demand in the reporting period exceeded supply by a factor of 4.83 ("times covered", see Table 1). As in the six previous months, overall demand was relatively evenly distributed over the two auction segments, with cover ratios of 5.00 on the spot and 4.75 on the futures market. The average number of bidders on the futures market went up to six, compared to five on the spot market, reversing the ratio of the previous quarter.

Table 2: Overview of auctions in the 3rd quarter 2010 (Spot)

Auction dates	Total bid volume	Auction volume	Times covered	Clearing price	Revenue
06/07/2010	1,561,000	300,000	5.20	15.20 €	4,560,000 €
13/07/2010	1,100,000	300,000	3.67	13.85 €	4,155,000 €
20/07/2010	1,659,000	300,000	5.53	14.30 €	4,290,000 €
27/07/2010	1,311,000	300,000	4.37	13.34 €	4,002,000 €
03/08/2010	1,676,000	300,000	5.59	14.29 €	4,287,000 €
10/08/2010	925,000	300,000	3.08	14.32 €	4,296,000 €
17/08/2010	1,600,000	300,000	5.33	14.30 €	4,290,000 €
24/08/2010	1,325,000	300,000	4.42	14.66 €	4,398,000 €
31/08/2010	1,625,000	300,000	5.42	15.26 €	4,578,000 €
07/09/2010	2,075,000	300,000	6.92	15.53 €	4,659,000 €
14/09/2010	1,316,000	300,000	4.39	15.04 €	4,512,000 €
21/09/2010	1,930,000	300,000	6.43	14.77 €	4,431,000 €
28/09/2010	1,400,000	300,000	4.67	15.21 €	4,563,000 €
<b>September</b>	<b>6,721,000</b>	<b>1,500,000</b>	<b>5.60*</b>	<b>15.14 €**</b>	<b>18,165,000 €</b>
<b>July to September</b>	<b>19,503,000</b>	<b>3,900,000</b>	<b>5.00*</b>	<b>14.62 €**</b>	<b>57,021,000 €</b>

\* Period average

Table 3: Overview of auctions in the 3rd quarter 2010 (Futures)

Auction dates	Total bid volume	Auction volume	Times covered	Clearing Price	Revenue
07/07/2010	2,645,000	570,000	4.64	14.84 €	8,458,800 €
14/07/2010	2,545,000	570,000	4.46	13.64 €	7,774,800 €
21/07/2010	1,356,000	570,000	2.38	13.94 €	7,945,800 €
28/07/2010	4,006,000	570,000	7.03	13.61 €	7,757,700 €
04/08/2010	2,260,000	570,000	3.96	14.33 €	8,168,100 €
11/08/2010	2,620,000	570,000	4.60	14.44 €	8,230,800 €
18/08/2010	2,211,000	570,000	3.88	14.35 €	8,179,500 €
25/08/2010	2,696,000	570,000	4.73	15.16 €	8,641,200 €
01/09/2010	3,246,000	570,000	5.69	15.27 €	8,703,900 €
08/09/2010	2,016,000	570,000	3.54	15.73 €	8,966,100 €
15/09/2010	2,960,000	570,000	5.19	15.36 €	8,755,200 €
22/09/2010	3,766,000	570,000	6.61	15.03 €	8,567,100 €
29/09/2010	2,846,000	570,000	4.99	15.62 €	8,903,400 €
<b>September</b>	<b>14,834,000</b>	<b>2,850,000</b>	<b>5.20*</b>	<b>15.40 €**</b>	<b>43,895,700 €</b>
<b>July to September</b>	<b>35,173,000</b>	<b>7,410,000</b>	<b>4.75*</b>	<b>14.72 €**</b>	<b>109,052,400 €</b>

\* Period average



#### 1.4. Overview of the current year

In the first nine months of the current year a total of 33,930,000 emission allowances (EUAs) with a value of 483,067,500 euro were auctioned (average revenue per EUA 14.24 euro). In line with legal requirements, 22,230,000 emission allowances with a value of 317,689,500 euro (average price 14,29 euro) were sold on the futures market (MidDec2010) and 11,700,000 emission allowances with a value of 165,378,000 euro (average price 14,13 euro) on the spot market. Cumulative auction results of the current year up to and including September 2010 are displayed in Table 4.

In addition to the legally-required **annual basic amount** of 40 million emission allowances, further allowances from the National Reserve are auctioned to cover the costs arising to the state in fulfilling its duties related to emissions trading. This **annual refinancing volume** is calculated from the average auction clearing prices between January and October and the nominal refinance need. The 2010 refinancing volume of 1,142,017 allowances was published on the DEHSt website on November 4th.

The **annual total amount** auctioned in 2010 as the sum of annual basic amount and refinancing volume amounts to **41,142,500 million allowances**, taking into account the EEX minimum bid quantity of 500 EUAs. This leaves a residual quantity of 7,212,500 million EUAs to be auctioned by the end of the year. The proportion of the total annual amount auctioned between January and September was 82.47 percent.

In line with the Emissions Trading Auctioning Ordinance, no further auctions will take place on the futures market between November and December. The weekly number of allowances offered on the spot market has therefore been augmented from 300,000 to 870,000 allowances. The last auction of the current year will be held on November 30th, at which date the remaining 252,500 of the total annual amount will be up for auction.

Table 4: Overview of the current year 2010

Month	Contract	Auctions	Volume of bids	Auction volume	Times covered	Clearing price	Revenue
January	Spot	4	7,045,000	1,200,000	5.87*	13.02 €*	15,624,000 €
	Futures	4	19,463,000	2,280,000	8.54*	13.08 €*	29,816,700 €
February	Spot	4	6,633,000	1,200,000	5.53*	12.89 €*	15,465,000 €
	Futures	4	13,337,000	2,280,000	5.85*	13.03 €*	29,702,700 €
March	Spot	5	7,778,000	1,500,000	5.19*	12.86 €*	19,287,000 €
	Futures	5	11,101,000	2,850,000	3.90*	13.05 €*	37,198,200 €
April	Spot	4	9,554,000	1,200,000	7.96*	14.07 €*	16,878,000 €
	Futures	4	21,753,000	2,280,000	9.54*	14.29 €*	32,581,200 €
May	Spot	4	7,328,000	1,200,000	6.11*	15.17 €*	18,204,000 €
	Futures	4	10,993,000	2,280,000	4.82*	15.52 €*	35,385,600 €
June	Spot	5	5,794,000	1,500,000	3.86*	15.27 €*	22,899,000 €
	Futures	5	11,403,000	2,850,000	4.00*	15.42 €*	43,952,700 €
July	Spot	4	5,631,000	1,200,000	4.69*	14.17 €*	17,007,000 €
	Futures	4	10,552,000	2,280,000	4.63*	14.01 €*	31,937,100 €
August	Spot	5	7,151,000	1,500,000	4.77*	14.57 €*	21,849,000 €
	Futures	4	9,787,000	2,280,000	4.29*	14.57 €*	33,219,600 €
September	Spot	4	6,721,000	1,200,000	5.60*	15.14 €*	18,165,000 €
	Futures	5	14,834,000	2,850,000	5.20*	15.40 €*	43,895,700 €
January to September	Spot	39	63,635,000	11,700,000	5.44*	14.13 €*	165,378,000 €
	Futures	39	123,223,000	22,230,000	5.54*	14.29 €*	317,689,500 €
<b>Total</b>		<b>78</b>	<b>186,858,000</b>	<b>33,930,000</b>	<b>5.51**</b>	<b>14.24 €**</b>	<b>483,067,500 €</b>

\* Period average

\*\* Volume-weighted average value

## 2. BIDDER PARTICIPATION

### 2.1. Participation

The total volume of emission allowances auctioned during the third quarter amounted to 11.31 million and was spread among 83 successful bidders. Of all bidders, 45 participated in the futures market, while the remaining 38 took part in the spot market. The number of successful participants reached approximately the same level as in the previous quarter (86). Total number of bidders actively participating in the auctions during the reporting period was 139 (167).<sup>5</sup>

Compared to the second quarter, overall auction activity suffered a slight setback. This is almost entirely due to a decrease in demand on the spot market, whereas futures auction activity remained stable. Trading on the spot market slowed down after an temporarily increase in activity at the beginning of the second quarter, which coincided with the approaching deadline for installations participating in emissions trading for the surrender of emission allowances by April 30th. The DEHSt reported on this phenomenon in its second quarterly report. Another reason for the weakening of the spot market could lie in a significant turnover drop in secondary market trading. This has had some repercussions on the German auction market (see 3.1). Due to the falling participation rate and a constant number of successful bidders, the mean success rate over all twenty-six auction dates - from a bidder's perspective - is now nearly 60 percent.

In contrast to the previous quarter, the average bidder participation in the futures auction exceeded that of the spot market, with six compared to five being active on the spot market. Figures 1 and 2 show the development of participant numbers for the spot and futures markets in detail. As in the first six months, the number of bidders fluctuated strongly in both segments - between 6 and 3 (spot) and 9 and 3 (futures).

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<sup>5</sup> As participants can enter bids on several dates, the number of participating and successful bidders does not necessarily correspond to the number of different exchange members taking part in auctions over the reporting period. It has also to be considered that indirect participation of bidders via intermediaries, such as banks and brokers, is not reflected in the numbers of participants mentioned. These merely take into account exchange members that participate directly in auctions as intermediaries, but not third-parties as indirect bidders.

However, the number of successful bidders did not vary as much as the number of active participants during the third quarter. Thus, at only two out of 26 auctions more than four (or fewer than two) participants were successful in their bidding. In the past six months, 90 percent of all auctions remained in the range of two to four successful bidders. The number of successful bidders, however, never fell below two during the third quarter. A tendency towards converging bid structures that had been observed during the second quarter is continuing (see 2.3). The average quantity awarded per successful bidder remained more or less unchanged at approximately 100,000 allowances on the spot market and 165,000 allowances in futures auctions.

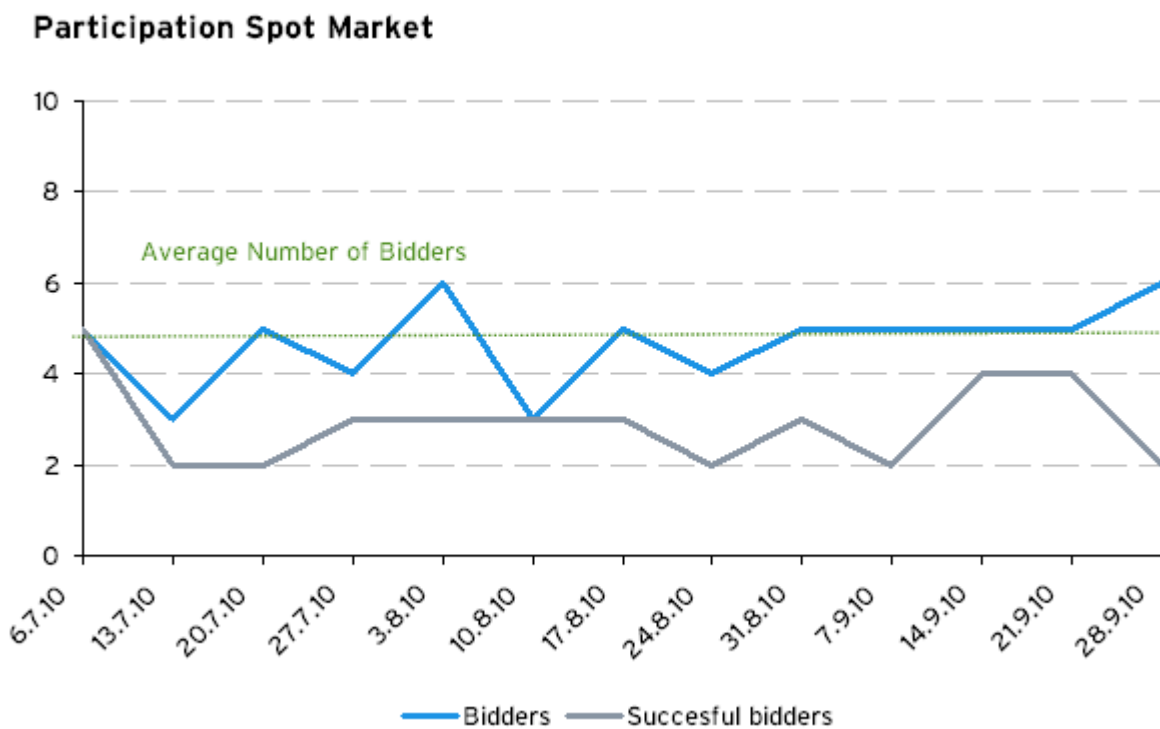


Figure 1: Number of participating and successful bidders per auction during the 3rd quarter 2010 (Spot)

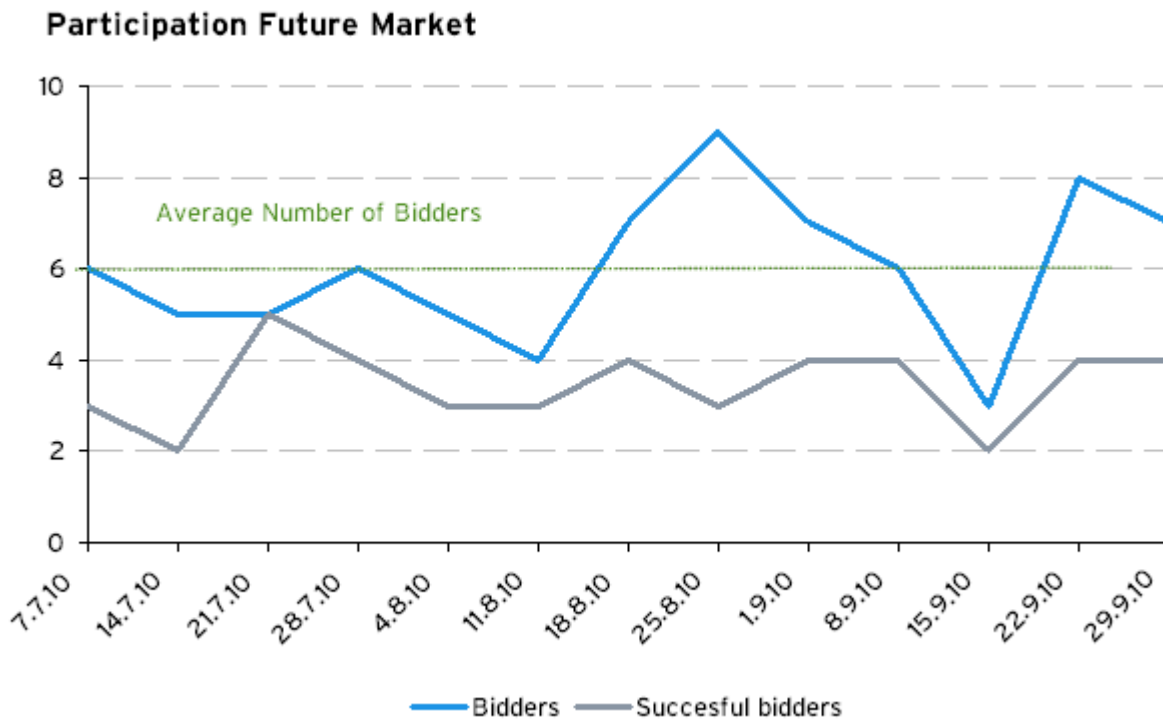


Figure 2: Number of participating and successful bidders per auction during the 3rd quarter of 2010 (Futures)

## 2.2. Quantitative demand

In the period under review, aggregated bid volumes fluctuated between 0.93 and 2.08 million in the spot segment and 1.36 and 4.01 million on the futures market. Although the demand interval for futures auctions - standardized by the quantities offered - was again above the spot market in the third quarter, the gap between the two segments declined substantially. In both markets, the demand ranges shrank compared to the previous quarter. In the spot market auctions, the amount of bids began to even out towards the middle of the second term after the peak in demand around the deadline for the surrender of emission allowances for installation operators (see 2.1).

On the futures market, not only a slightly decreasing fluctuation in participation, but also a decrease in bids placed for time strategic reasons seems to have led to the convergence observed. Time strategic bids can be explained by the fact that there is no limit to the number and volume of bids a single bidder can enter into the order book. Theoretically, bidders can make multiple bids with a total volume that is above the auction volume of 300,000 (870,000 from November on) allowances on the spot market or 570,000 allowances on the futures market.

Such a procedure is unobjectionable from a procedural point of view, and enables bidders to make staggered bids in line with the development of the reference price on the lead market. Since bid volumes of bidder that lie above the tendered quantity may not be successful, they do not constitute economically relevant additional demand and have therefore to be taken into account when evaluating peaks and troughs in demand.<sup>6</sup>

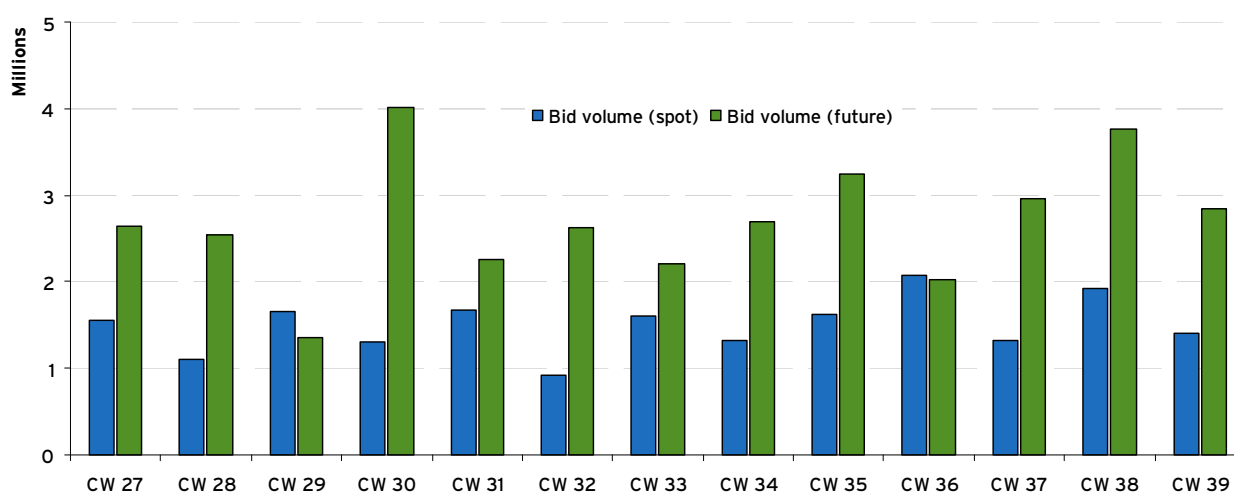


Figure 3: Bid volumes on the spot and futures markets in the 3rd Quarter 2010

### 2.3. Bidding and clearing prices

Figure 4 shows the differences between the highest bid in an auction and the corresponding clearing price during the third quarter. In a uniform price auction, these differences define the price range in which all bids are located that might be successful (see info box below). The figure shows clearly that the development of price bids on the spot market (blue line) increasingly mirrors bidder behaviour at futures auctions (green line). The impact of a futures auction on the immediately following spot market auction is noticeable. Thus, the difference between maximum bid and clearing price follows futures market developments with a delay of one week. Maximum bids seen in the futures market seem to develop a major signalling function for participants in the spot market regarding prospects of successful bids.

<sup>6</sup> A sufficient, but not necessary indication of the described bidder behaviour arises from the observation that the average bid volume per bidder exceeds the volume of allowances available per auction - 300,000 (870.000) or 570,000 respectively.

In comparison with the previous quarter, the differences observed between maximum bid price and clearing price decreased significantly in both segments. Over the reporting period, the auction clearing price was less than 5 cent (0.05 euro) below the maximum bid in 17 out of 26 auctions. In the previous quarter, this could only be observed in two auctions. However, at no auction in the third quarter were bids at the highest price limit market-clearing bids and thus identical with the clearing price (price difference of 0.00 cent). We would like to emphasize that in spite of this development, the number of successful bidders did not decline, but became more constant (see 2.1). It therefore remains to be seen whether participants will enhance their individual chance of successful bidding by generally entering higher maximum bids. Such behaviour was observed during the first quarter. As Chapter 3 shows, the clearing prices achieved were equivalent to the reference prices on the leading markets at any given period. This is true for the entire year.

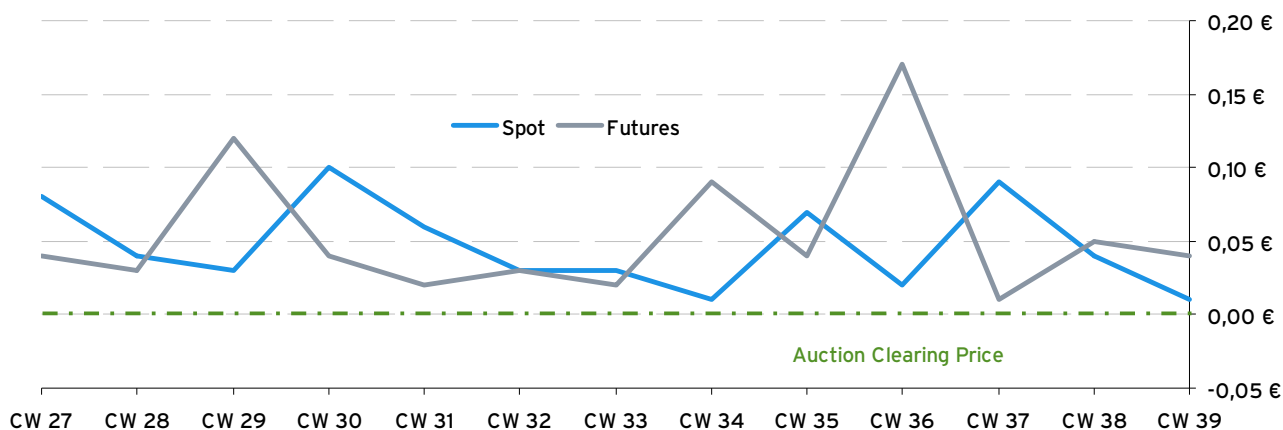


Figure 4: Difference between maximum bid price and clearing price in the 3rd quarter 2010

### **Info Box: Uniform price auction at the EEX**

In accordance with customary procedure throughout the European Union, German auctions at the EEX are conducted at a uniform price, in a single round of bidding and with a closed order book. This straightforward and - as far as market manipulation is concerned - highly stable auctioning procedure will continue to be applied at auctions in the third trading period. With the uniform price method, all successful bidders pay the same price. The corresponding clearing price is established by ranking all eligible bids, beginning with the highest bid, according to the bid price.

In the case of tied bid, the bids are additionally ranked according to the time they were entered, beginning with the earliest bid ("first-come-first-served principle"). Starting with the highest bid, the volumes of the bids are aggregated until the volume of emission allowances on offer (300,000 (spot) and 570,000 (futures)) is reached. The bid price at which the aggregate volume of bids reaches or exceeds the offered volume of auctioned allowances determines the auction clearing price.

Bidders receive allowances equivalent to the quantity for which they have bid, provided that their bid price is at least equal to the auction clearing price. If a bidder has matched the clearing price his allocation corresponds to the quantity remaining on offer after allocation to bidders at higher prices. Depending on the bidding structure, this residue volume can also lie below the volume demanded by this bidder. If several bidders have offered the clearing price, the above-mentioned "first-come-first-served" principle is applied.



## 3. AUCTIONS AND THE SECONDARY MARKET

### 3.1. Trading volume on the secondary market

While a total of 11.31 million emission allowances was auctioned by the KfW banking group during the third quarter, the overall market volume for the same period dropped to 730 million allowances (1,270 million for the 2nd quarter)<sup>7</sup>. The slump on the spot market was 55 percent and thus more pronounced than in the futures segment (-40 percent). Trading activity slowed down particularly in the weeks of August. The average share of German auctions on the relevant overall market during the reporting period rose from 0.9 to 1.5 percent. The 8.8 million spot contracts auctioned by the United Kingdom in July and September have been taken into account.

While the weekly proportion of futures auctions fluctuated between 0.7 and 1.6 percent (on average 1.1 percent), the variation interval on the spot market reached, as usual, a higher level, between 2.8 and 8.9 percent (on average 4.6 percent). The particularly low proportion of German spot auctions in weeks 27 and 36 can be largely put down to the auctions held simultaneously in the United Kingdom. In two separate dates 4.4 million allowances each were given into the market. Relative shares of over 6 percent were only observed in mid-August in the traditionally weak summer months.

Figure 5 shows the development of the total market trading volume, divided into spot and futures segments (columns). It also indicates the corresponding relative share of the German auction volume (lines).

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<sup>7</sup> The analysis only includes transaction for immediate delivery (spot) and futures contracts maturing in December 2010, which are traded at the ECX, BlueNext, EEX, Climex and NordPool exchanges. Only transactions concluded at the exchange (screen-traded) or bilateral transactions that went through the exchange clearing mechanisms are included. Options in general as well as futures contracts with different maturities are not considered.

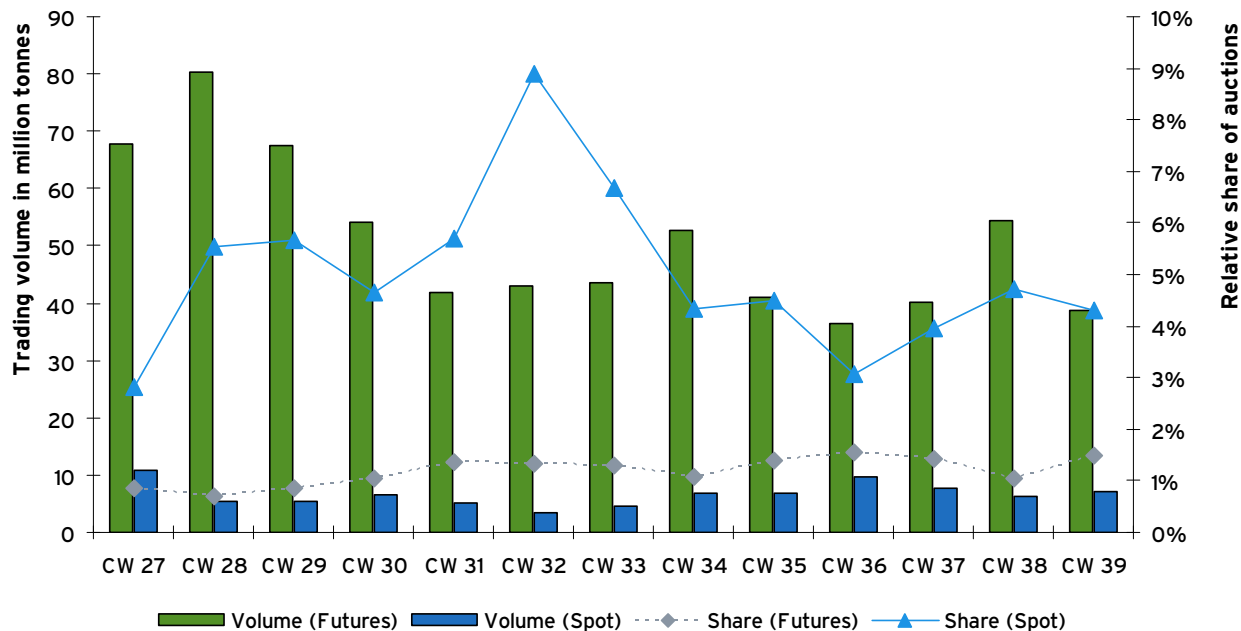


Figure 5: Total trading volume and relative share of auctions in the 3rd Quarter 2010

### 3.2. Auction clearing prices and price development on the secondary market

Reference prices of the respective most liquid market places serve as appropriate benchmarks for assessment of clearing prices achieved at auctions in the third quarter (see next Info Box). The reference contract for the auctioning of the MidDec10 futures contract is the Dec10 Future, traded at the London ECX. The BlueNext EUA spot market provides the benchmark for spot market auctions. While in the futures segment, the lead market function of the ECX remains uncontested, we would like to point out that on the spot markets, the traded volumes at the London and Paris exchanges are now reaching similar levels.

Tables 5 and 6 show the relative deviations of clearing prices at the spot and futures auctions from the relevant lead markets right at the end of the bidding windows. Reference prices were the last trade and the last best bid.

### Info Box: Reference prices

In regular exchange trading, participants enter their buying and selling requests (bids and asks) into a constantly updated order book. As in German auctions, such buying bids include quantity and price limits. The price limit is the highest price a buyer is willing to pay for the purchase of an allowance. Sellers, too, can put a price limit on their selling bid, i.e. a minimum price per allowance sold.

The order book is open to inspection by any participant. It shows the currently highest purchase offer (best bid) and the lowest sales offer (best ask) with the relevant quantities. Trading occurs where best bid and best ask overlap. The best bid is therefore a good indicator for the willingness to pay on a market. Trading prices finally show at what price limits supply equals demand.

As Table 5 shows, the average deviation of clearing prices in spot market auctions from the reference price at the BlueNext exchange (last best bid) during the reporting period was -0.102 percent. Deviations fluctuated between -0.408 and +0.070 percent. On the futures market, deviation from the ECX reference price fluctuated in a comparable range between -0.429 and +0.070 percent with a mean deviation of -0.034 percent. At eleven out of twenty-six auctions, the clearing price coincided with the best bid on the relevant lead market.

When comparing the auction clearing prices with the settlement prices of the last trades in the relevant segments, the mean deviation in the spot segment was -0.398 percent. The corresponding deviation in the futures segment was -0.102 percent. Over both market segments, deviations fluctuated between -0.448 and +0.070 percent. The auction clearing price coincided with the last trade on three occasions.

Auction clearing prices thus deviated roughly to the same degree as in the previous quarters, and it could be observed that in both segments, auction results remained very close to market rates.

Table 5: Auction clearing prices and reference prices immediately before the end of the bidding window (Spot)

Auction dates	Clearing price	Deviation from BlueNext spot market	
		Last best bid	Last trade
06/07/2010	15.20 €	0.000%	**
13/07/2010	13.85 €	-0.288%	**
20/07/2010	14.30 €	-0.140%	**
27/07/2010	13.34 €	-0.150%	-0.348%
03/08/2010	14.29 €	0.070%	-0.448%
10/08/2010	14.32 €	-0.209%	**
17/08/2010	14.30 €	0.000%	**
24/08/2010	14.66 €	-0.408%	**
31/08/2010	15.26 €	0.000%	**
07/09/2010	15.53 €	0.000%	**
14/09/2010	15.04 €	0.000%	**
21/09/2010	14.77 €	-0.135%	**
28/09/2010	15.21 €	-0.066%	**
<b>September</b>	<b>15.14€*</b>	<b>-0.050%*</b>	<b>**</b>
<b>July to September</b>	<b>14.62 €*</b>	<b>-0.102%*</b>	<b>-0.398%*</b>

\* Period average

\*\* No trade in the last ten minutes of the bidding phase

Table 6: Auction clearing prices and reference prices immediately before the end of the bidding window (Futures)

Auction dates	Clearing price	Deviation from ECX futures market	
		Last best bid	Last trade
07/07/2010	14.84 €	0.000%	-0.067%
14/07/2010	13.64 €	-0.219%	-0.365%
21/07/2010	13.94 €	-0.429%	-0.429%
28/07/2010	13.61 €	0.000%	-0.073%
04/08/2010	14.33 €	0.070%	0.070%
11/08/2010	14.44 €	0.000%	-0.069%
18/08/2010	14.35 €	0.000%	0.000%
25/08/2010	15.16 €	0.066%	0.000%
01/09/2010	15.27 €	0.066%	0.000%
08/09/2010	15.73 €	0.000%	-0.127%
15/09/2010	15.36 €	0.065%	-0.065%
22/09/2010	15.03 €	-0.066%	-0.133%
29/09/2010	15.62 €	0.000%	-0.064%
<b>September</b>	<b>15.40 €*</b>	<b>0.013%*</b>	<b>-0.078%*</b>
<b>July to September</b>	<b>14.72 €*</b>	<b>-0.034%*</b>	<b>-0.102%*</b>

\* Period average

To complement the market snapshots on auction days, Figures 6 (Spot) and 7 (Futures) give an overview of the clearing prices in German auctions in the context of historical price developments on the relevant lead markets. Rather than following the common practice of just looking at settlement prices, our analysis takes into account all trades completed at the exchanges during the third quarter.<sup>8</sup>

During the three-month reporting period, trading prices at the BlueNext exchange (Spot) fluctuated between 13.25 and 15.81 euro. The volume-weighted average price for an emission allowance was 14.78 euro for all spot contracts traded in Paris in the third quarter. As Figure 6 shows, over the entire reporting period, auctions were carried out more or less synchronous to the lead market in Paris. In this relatively volatile market environment, clearing prices at the spot auctions fluctuated between 13.34 and 15.53 euro, which is less than the lead market variation. The average clearing price at spot auctions was 14.62 euro, which is 16 cent (0.16 euro) or 1.08 percent below the volume-weighted secondary market average. Although again, clearing prices at spot auctions corresponded to relevant market prices over the third quarter, average deviations over the last three months were larger than in the previous quarters (0.00 percent in Q1; +0.405 percent in Q2).

Since auction and secondary market results almost entirely coincide at auction dates, deviation between auction clearing prices and the volume-weighted secondary market average for the period mainly depends on two factors - firstly, price development on the lead market between two successive auction dates and, secondly, the time lapse between auctions. Put simply - the clearing price of an auction reflects the price situation on the lead market at a given time but not the development of lead market prices before and after an auction. Thus, normal price fluctuation between auctions will only even out over longer observation periods, i.e. a longer sequence of auctions where positive and negative deviations can cancel each other out. Mid-term price development on the secondary market is best reflected in auction results if auctions are held very frequently. Significant price fluctuation between two auction dates, on the other hand, in connection with diverging trading volumes, may hamper convergence over the period, as positive and negative price developments may not cancel each other.

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<sup>8</sup> The settlement price is defined as the daily closing price determined at exchanges. As a rule, settlement prices merely describe trading activity immediately prior to closure of the market, and are therefore only of limited application in describing the secondary market.

During the past third quarter, in 8 out of 13 German spot auctions held, clearing prices were above (+ in Figure 6) the volume-weighted average of the previous trading week in Paris, and 5 times below (- in Figure 6) However, due to low trading volume and smaller price deviations, the mostly positive periods were over-compensated by the five negative periods in the third quarter, resulting in an overall deviation of -1.08 percent.

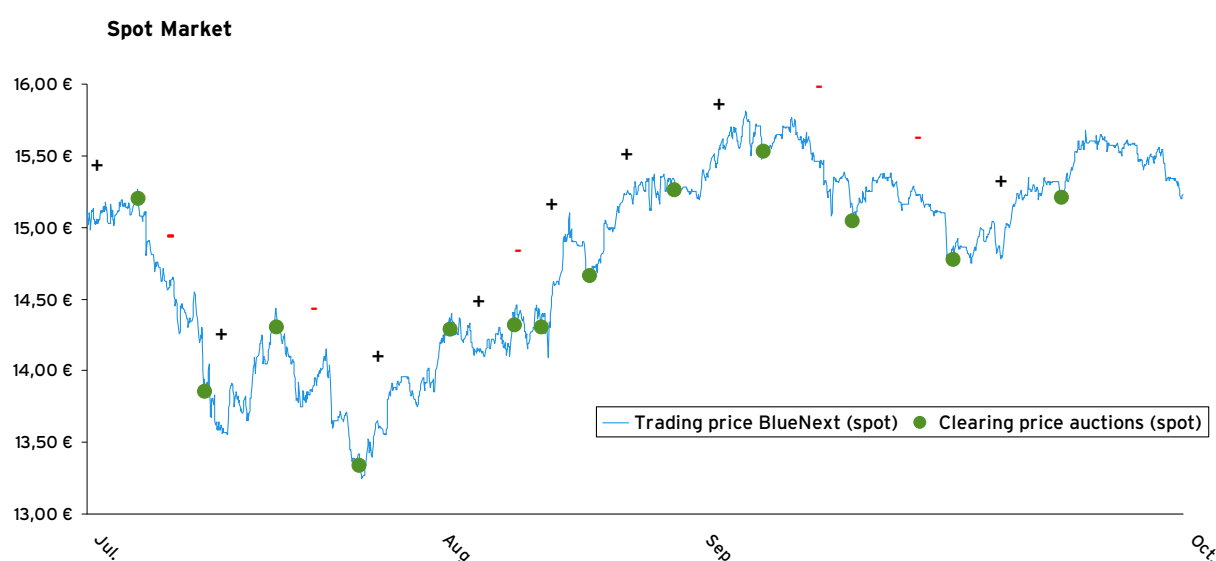


Figure 6: Auction clearing prices and trading prices at the BlueNext spot market in the 3rd Quarter 2010 (Spot)<sup>9</sup>

Price development on the futures market took an almost parallel route to that of the spot market described above. Trading prices at the ECX underwent similar variation in the third quarter as those on the spot market, between 13.23 and 15.95 euro, but showed the usual mark-up compared to spot contracts. Since the trading volume was considerably larger than on the spot market, a graphic representation of individual trades did not seem helpful and has been replaced by volume-weighted daily average prices at the ECX, compared to clearing prices of German futures auctions (Figure 7). Analogous to spot auctions, auctions on the futures market in the second quarter were conducted more or less synchronous to the lead market in London.

<sup>9</sup> Notice that Figure 6 plots varying quantities of traded allowances per unit time. Hence the graph shows variation of intervals between auction clearing prices and months on the time axis, although there is exactly one week between successive auction dates.

Clearing prices in the futures auctions fluctuated between 13.61 and 15.71 euro, depending on the London reference price. Fluctuations remained slightly below those on the lead market.

The volume-weighted average price for the delivery of an emission allowance as a futures contract for delivery in December 2010 over all contracts traded in London was 14.74 euro. The average clearing price of the German primary market auctions lay only 2 cent (0.02 euro) or 0.136 percent below this value at 14.72 euro. Against the background of our explanations of the relationship between auctions and secondary market development, the final deviation at the futures market seems all the more remarkable. Over the 13 auction dates of the third quarter, the volume-weighted average price from 60,000 individual ECX transactions was reflected in the German auctions with a deviation of approximately 0.1 percent.

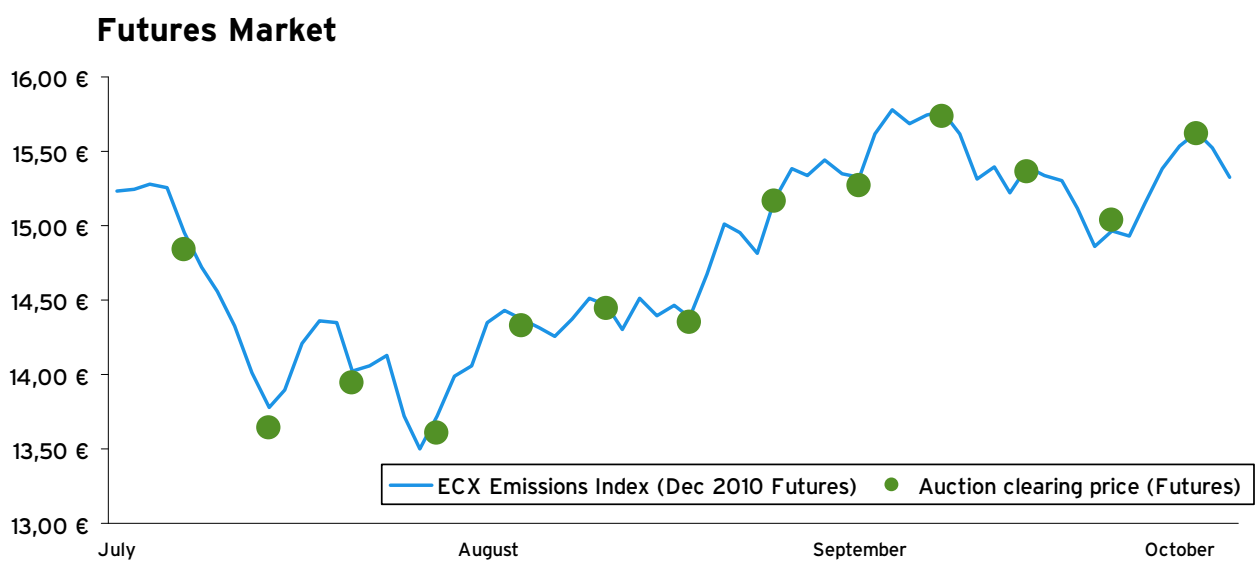


Figure 7: Auction clearing prices and ECX Emissions Index (Dec 2010 Futures) in the 3rd Quarter 2010 (Futures)

The short and mid-term price analysis strikingly shows again that the German auctions were carried out in almost complete synchrony with the secondary market development over the third quarter. The auctions thus give an accurate picture of overall market developments even under varying conditions. This is a success that can be mainly attributed to the high frequency of auctions - an auction per week in each segment - and the extensive use of established secondary market structures.