



Auctioning

German Auctioning of Emission Allowances Periodical Report: May 2018

Editorial information

Publisher

German Emissions Trading Authority (DEHSt)
at the German Environment Agency

Bismarckplatz 1

D-14193 Berlin

Phone: +49 (0) 30 89 03-50 50

Fax: +49 (0) 30 89 03-50 10

emissionstrading@dehst.de

Internet: www.dehst.de/EN

Status: June 2018

Responsible Editor: Section E 2.3

Cover image: ©sellingpix/fotolia.com

Inhaltsverzeichnis

1 Overview	5
1.1 May 2018	5
1.2 Overview of the entire year 2018	5
2 Bidder Participation	6
2.1 Participation	6
2.2 Volume Demand	7
3 Auctions and the Secondary Market	9
3.1 Trading Volume EUA	9
3.2 Trading Volume EUAA	12
3.3 Clearing Prices and Price Development on the Secondary Market.....	12
4 Implementation of Valid Regulations	14
4.1 Surveillance Report by HÜSt.....	14
4.2 Fair and Open Access.....	14
4.3 Auction Result Publication	14
4.4 Other Events	14

German Auctioning of Emission Allowances

The German auctions of the third trading period are held weekly on the European Energy Exchange (EEX) spot market. The German Emissions Trading Authority (DEHSt) at the German Environment Agency is the competent authority for the German auctions. Further updated information on the third trading period auctions can be downloaded from the [EEX website](#). Reports on the second and third trading period auction results are available on the [DEHSt auction website](#). The 2018 auction calendar is published on the [EEX website](#).

The following tables summarise the key data of the German auctions on the EEX in 2018:

2018		
Auction product	Third trading period EUA spot contracts	Third trading period EUAA spot contracts
Period	12/01/2018 to 14/12/2018	10/10/2018
Auction volume entire year	194,027,000 EUA	800,500 EUAA
Auction volume per auction	4,360,000 EUA (2,180,000 EUA in August)	800,500 EUAA on 10/10/2018
Auction frequency	Weekly (Fridays, 09:00 to 11:00 a.m. CET)	On 10/10/2018 (13:00 to 15:00 a.m. CET)
Bid volume	500 EUA/EUAA	
Auction mode	Single-round, uniform-price procedure with a closed order book	

1 Overview

1.1 May 2018

In May, three auctions of emission allowances (EUA) of the third trading period were successfully carried out for Germany at the EEX. Due to public holidays there was no auction on 11/05/2018.

Overall about **13 million EUA** with a total value of over **€ 191 million** were auctioned. This results in a volume-weighted average price per allowance of **€ 14.62** (+11 percent compared to the previous month). Thus, this was the highest monthly average price since June 2011. The deviations of the clearing prices from the current prices on the lead market fluctuated between -1.00 and +0.40 percent (see also Section 3.3).

Overall, valid bids totalling about 26 million allowances were entered into trading system across the three EUA-auction dates. Thus the average cover ratio in the reporting period was 2.03 (see also Section 2.2). The average participation number of 26 bidders was slightly above the level of the previous month (25). This also applies to the average number of 21 (20) successful bidders (see also Section 2.1). In the German auction on 04/05/2018, the bidder participation reached a new record.

The following table gives an overview of the most important auction figures from the EUA-auctions performed during the reporting period.

Table 1: Overview of German EUA-auctions in May 2018

Date	Auction volume	Bid volume	Cover ratio	Bidders	Successful bidders	Price	Revenue
04/05/2018	4,360,000	8,570,500	1.97	29	23	€ 12.78	€ 55,720,800
18/05/2018	4,360,000	10,486,500	2.41	27	17	€ 15.20	€ 66,272,000
25/05/2018	4,360,000	7,417,000	1.70	23	22	€ 15.89	€ 69,280,400
May	13,080,000	26,474,000	*2.03	*26	*21	*€ 14.62	€ 191,273,200

Source: EEX, DEHSt
* Average

1.2 Overview of the entire year 2018

In the first five month of the current year a total of about **78 million EUA** with a total value of over **€ 887 million** were auctioned at the EEX for Germany. This results in a volume-weighted average price per allowance of **€ 11.31**.

The amount of emission allowances to be auctioned by Germany in 2018 totals about 194 million EUA. Taking into account the total annual amount, about 40 percent of the EUA-auction budget for 2018 has been auctioned to date.

The following table summarises the auction results on a monthly basis.

Table 2: Overview of the entire year 2018

Month	Type	Auction volume	Bid volume	Cover ratio	Bidders	Successful bidders	Price	Revenue
January	EUA	13,080,000	31,950,500	*2.44	*21	*14	*€ 8.47	€ 110,787,600
February	EUA	17,440,000	40,112,500	*2.30	*21	*16	*€ 9.31	€ 162,279,200
March	EUA	17,440,000	37,299,000	*2.14	*24	*18	*€ 11.08	€ 193,278,800
April	EUA	17,440,000	29,346,000	*1.68	*25	*20	*€ 13.20	€ 230,251,600
May	EUA	13,080,000	26,474,000	*2.03	*26	*21	*€ 14.62	€ 191,273,200
Total		78,480,000	165,182,000	*2.11	*23	*18	*€ 11.31	€ 887,870,400

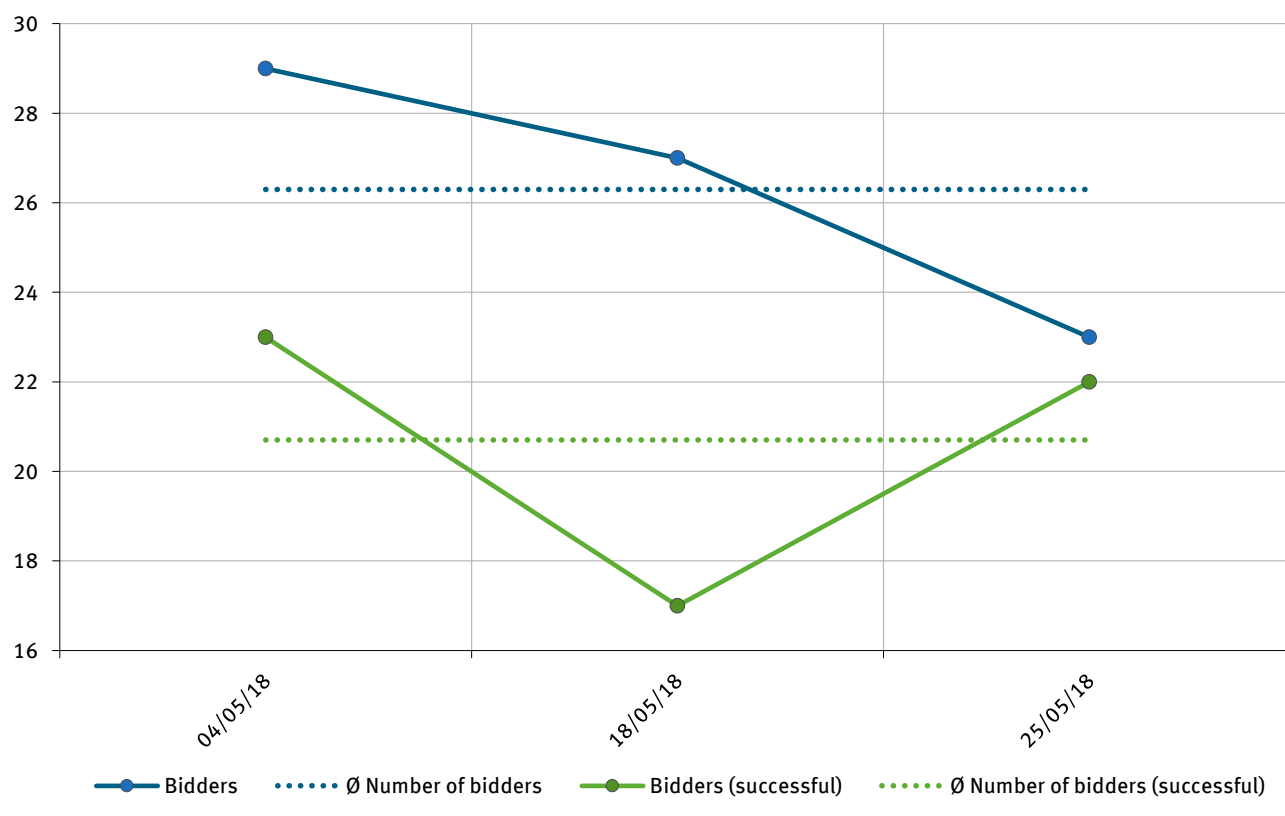
Source: EEX, DEHSt
* Average

2 Bidder Participation

2.1 Participation

The number of participants in the German EUA-auctions in May averaged across all dates was about 26 bidders. The average number of successful bidders was about 21. Participation in the auctions fluctuated between 23 and 29 bidders during the reporting period. The number of successful participants ranged from 17 to 23. There was no such auction where all participating bidders were successful.

The following figure illustrates EUA-auction participation over time.



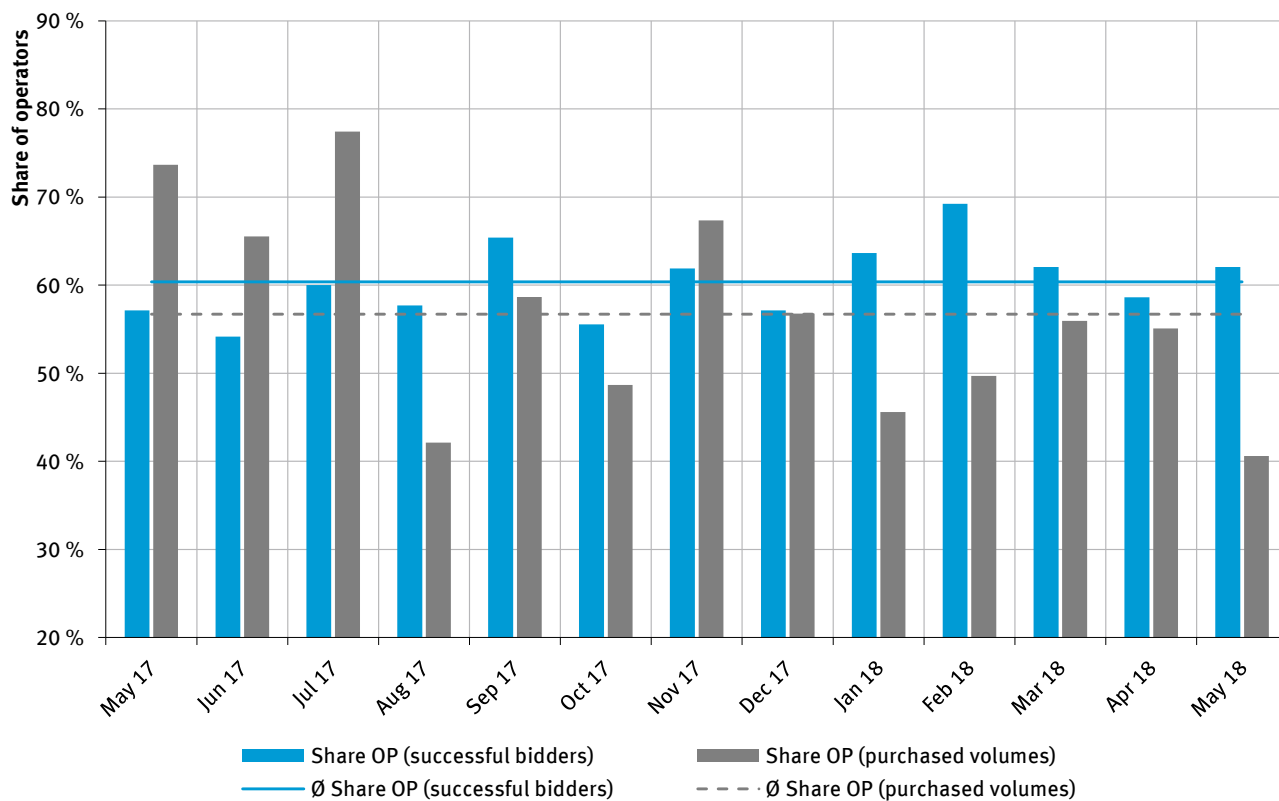
Source: EEX, DEHSt

Figure 1: Number of participating and successful bidders per auction date (EUA)

By the end of May 2018, a total of 76 trading members of EEX (+1 compared to the previous month) had been authorized to submit bids in the primary market auctions. In May, a total of 29 different bidders were successful in the German primary market auctions. Out of the 29 of those bidders, 18 were operators (i.e. companies of ETS covered installations), which accounts for about 62 percent of all successful bidders.¹ Overall, operators purchased approximately 41 percent of the auctioned volumes in May 2018. In the months of the preceding year, the operators' share of the purchased auction volumes fluctuated significantly more than the proportion of successful bidders. Nonetheless, average values of both ratios in the past 12 months stayed close together (at around 60 or 57 percent respectively).

The following figure illustrates the development of the proportion of operators among the successful bidders as well as of the purchased auction volumes in the past 12 months before the current reporting month.

¹ Pursuant to Art. 18 of the EU Auctioning Regulation bidding categories eligible to take part in the auctions at EEX are amongst others (stationary and aircraft) operators, credit institutions, investment firms and business groupings.



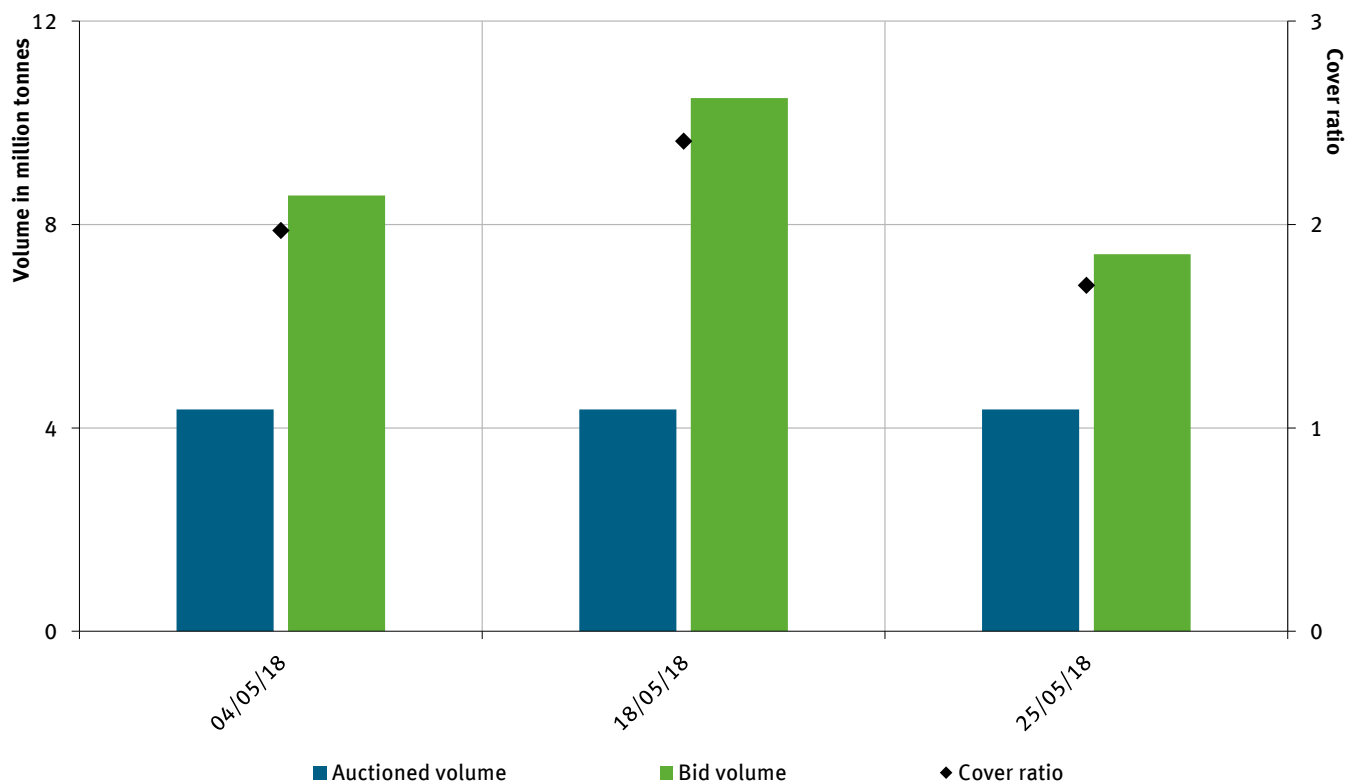
Source: EEX, DEHSt
OP = Operators

Figure 2: Share of operators among successful bidders and purchased auction volumes over the past 12 months (EUA)

2.2 Volume Demand

During the reporting period, the aggregated bid volumes per auction date fluctuated from 7.4 to 10.5 million allowances. Overall, valid bids totalling about 26 million allowances were entered into trading system in May. The resulting cover ratios during the reporting period ranged between 1.7 and 2.41 (2.03 on average).

The figure below summarises the results for each EUA-auction date.



Source: EEX, DEHSt

Figure 3: Number of participating and successful bidders per auction date (EUA)

Thus, the average bid volume per EUA-auction participant in May was about 335,000 allowances. The average volume awarded to each successful bidder was about 210,000 allowances.

Awarding allowances at all auctions is based on the EU-wide applicable uniform price procedure with one prescribed round of bidding (also see Info box below).

Info Box: Uniform Price Auction at the EEX

The auctions at the EEX follow the uniform price procedure which is common practice throughout the European Union. It involves one round of bidding and a closed order book. This simple and robust procedure protects against market manipulation and was used already for German auctions during the second trading period. The uniform price procedure means that all successful bidders pay the same price. The auction clearing price is determined by ranking all eligible bids, beginning with the highest bid, according to the bidding price.

In the event of equal bids, the bids are sorted by a random process. The bid volumes are aggregated starting with the highest bid until the volume of emission allowances on offer (e.g. 4.36 million EUA) 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 will thus be awarded their bid volume if their bidding price at least matches the auction clearing price. If a bid matches the clearing price exactly, the bidder may be awarded the remaining allowances which may be below the volume requested, depending on the bidding situation. If the bid from several participants matches the auction clearing price exactly, the above-mentioned random process applies.

3 Auctions and the Secondary Market

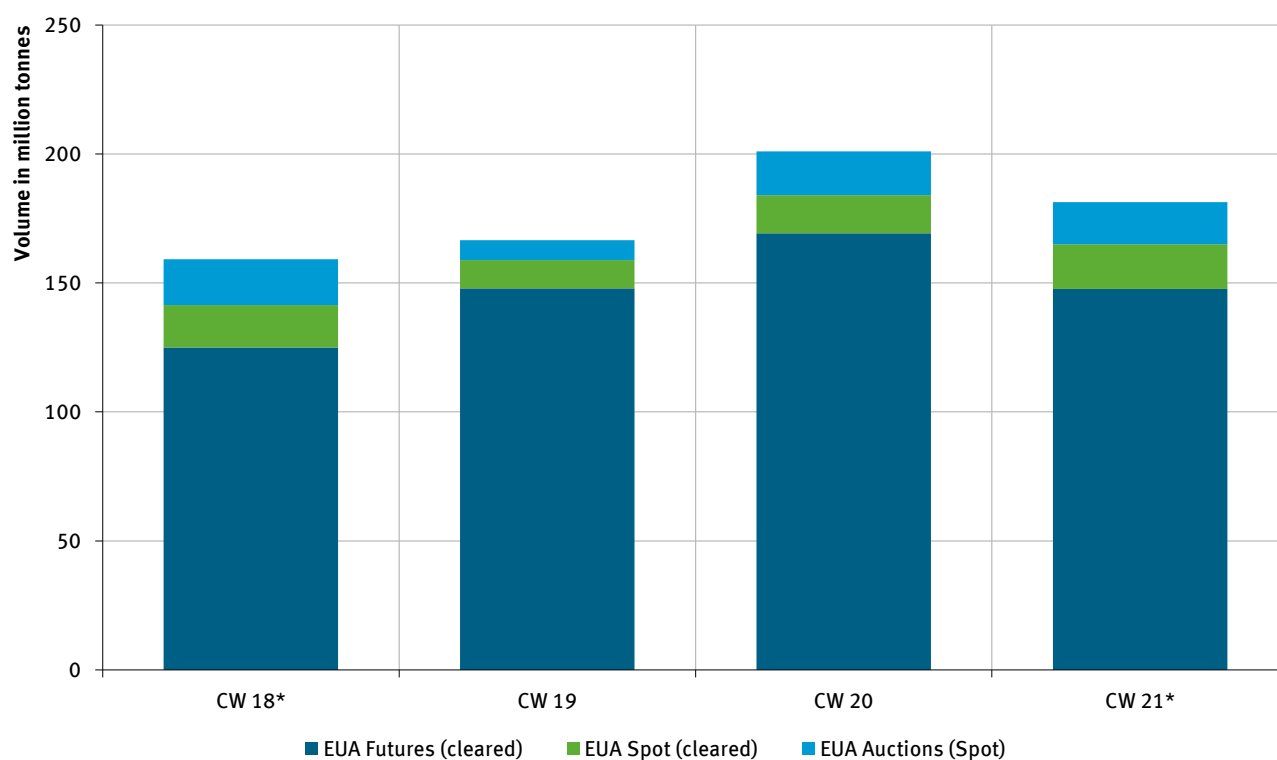
3.1 Trading Volume EUA

In May 2018, a total of about 13 million EUA were auctioned at the EEX for Germany. During the reporting period, the cumulative trading volume in the relevant total market was about 914 million EUA.² This comprises the monthly data of the London Energy Brokers' Association (LEBA) on OTC (see also Figure 6). The inclusion of this data allows for a more complete picture of the entire market volume in EUA trades.³

The secondary market trading volume of 846 million EUA was divided into approximately 756 million EUA on the cleared futures market, the highest level since March 2014, some 72 million EUA on the cleared spot market and about 18 million EUA bilaterally settled through the LEBA-Brokers (OTC).

In May 2018, a total of about 68 million allowances were auctioned by Member States on the primary market as spot contracts. With respect to the relevant total market for EUA, around 7.5 percent of the traded volume was related to auctions.

The figure below illustrates the trading volumes separately for different market segments based on calendar weeks (CW). In this weekly view, the LEBA data are not included as they are only published on a monthly basis.

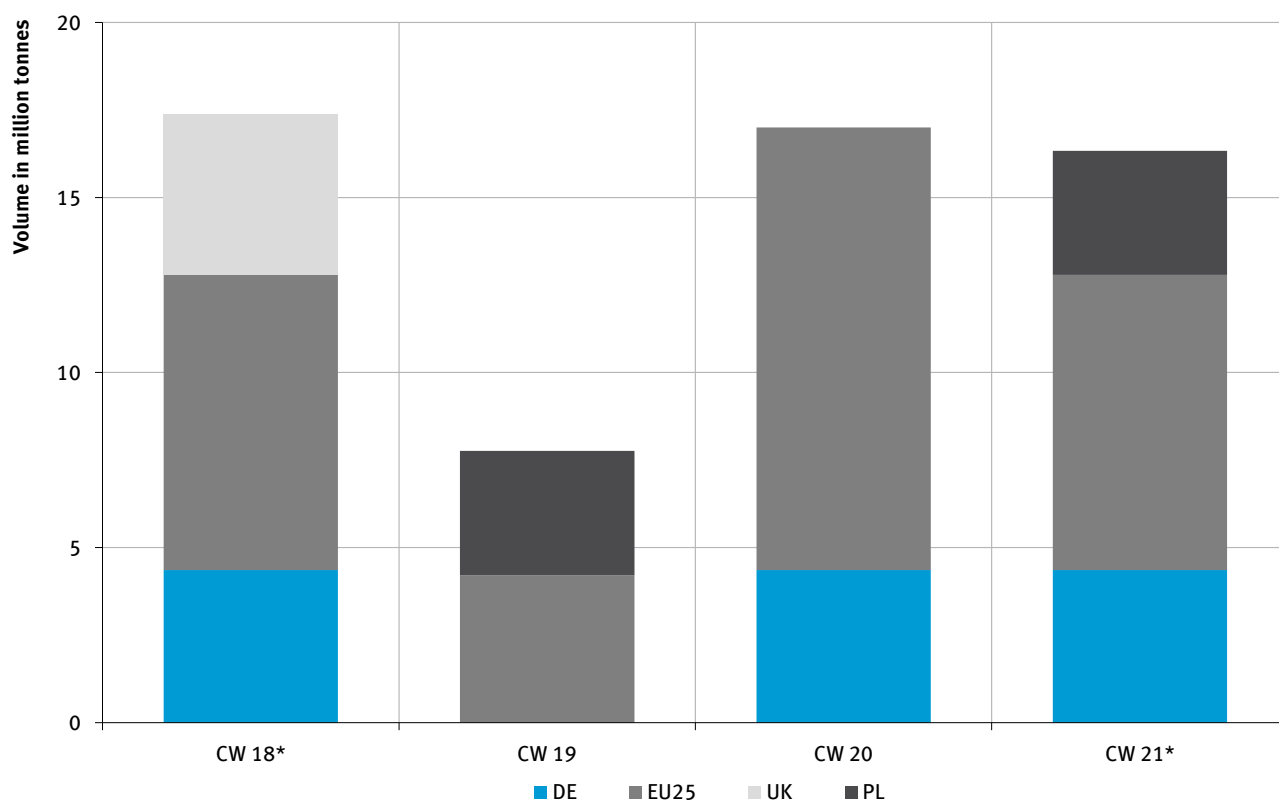


Source: ICE, EEX, CME, Nasdaq OMX, Thomson Reuters Eikon, DEHSt
 * CW 18: 30/04/2018-04/05/2018; CW 21: 21/05/2018-25/05/2018

Figure 4: Trading volumes on the primary and secondary market in May 2018 (EUA)

- All emission allowances (EUA) of the third trading period traded on the spot and futures markets on the ICE/ECX, EEX, CME/NYMEX and Nasdaq OMX exchanges are considered. Transactions completed directly on the stock exchange (screen traded) or those bilateral transactions that at least used the stock exchange clearing mechanism are included. The EUA spot contracts auctioned in May 2018 are also considered. As far as data on OTC volumes from bilateral trading activity (i.e. off-exchange) is available, it is included in the analysis. Option contracts are not involved.
- LEBA is an association of large brokerage firms active in the trading of energy commodities (including EUA). Their monthly volume reports also include bilaterally settled contracts that were not registered on clearing platforms. The data are not broken down into futures-/spot-contracts. Moreover, since the volumes are only available as monthly aggregated values, the data were taken into account only in Figure 6, but not in Figure 4.

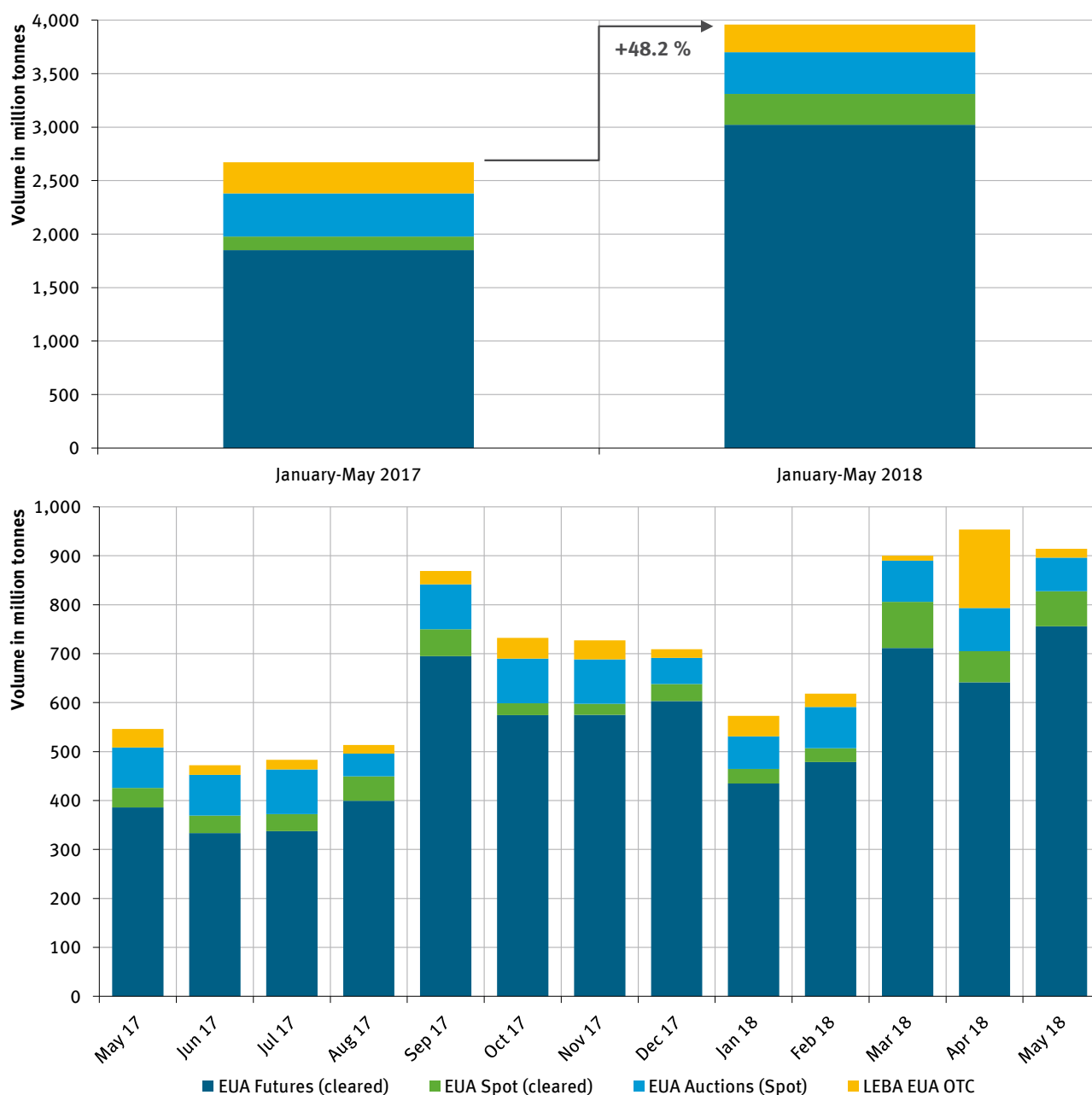
Figure 5 shows the auction volumes on the primary market per calendar week (CW). In addition to the German auctions, auction volumes of other EU Member States are also included in the figure.



Source: ICE, EEX, CME, Nasdaq OMX, Thomson Reuters Eikon, DEHSt
 DE = Germany, UK = United Kingdom, PL = Poland, EU25 = EU-Commission on behalf of other member states
 * CW 18: 30/04/2018-04/05/2018; CW 21: 21/05/2018-25/05/2018

Figure 5: Auction volumes on the primary market in May 2018 (EUA)

The following chart shows the development of the monthly EUA trading volumes on the primary and secondary market over the past 12 month before the current reporting month. In the first five month of the current year, the total market volume of 3.96 billion EUA was about 48 percent above the previous year's figure (Jan-May 2017: 2.67 billion EUA). Following a record high in April (160 million EUA), the volume of bilateral transactions (OTC) settled through the LEBA members declined considerably in May (see also Table 3).



Source: ICE, EEX, Thomson Reuters Eikon, LEBA, DEHSt

Figure 6: Trading volumes on the primary and secondary market over the past 12 month (EUA)

Table 3: Market shares of the various trading segments (EUA)

Market segments		May 2018	Apr 2018	Jan-May 2018	Jan-May 2017
Primary market	EUA-Auctions (Spot)	7.5 %	9.3 %	9.9 %	15.1 %
	EUA-Futures (cleared)	82.7 %	67.3 %	76.3 %	69.2 %
Secondary market	EUA-Spot (cleared)	7.9 %	6.6 %	7.3 %	4.8 %
	LEBA EUA OTC	2.0 %	16.8 %	6.5 %	10.9 %

Source: ICE, EEX, CME, Nasdaq OMX, Thomson Reuters, LEBA, DEHSt

3.2 Trading Volume EUAA

In May 2018, 150,000 aviation allowances (EUAA) were traded on the secondary market⁴. During the reporting period, about 960,000 EUAA were auctioned by the EU Member States on the primary market. Further information on the EUAA auction calendars is available on the website of the [European Commission](#).

3.3 Clearing Prices and Price Development on the Secondary Market

Reference prices from the most liquid trading venues served as appropriate benchmarks for evaluating the auction clearing prices achieved on the EUA-spot auctions. The reference contract for the auctions is the daily future traded on the London ICE or the EEX EUA spot contract. The product specifications are comparable with the spot-product of the auctions. The trade price immediately before the end of the bidding period was used as a reference price. If no trades take place immediately before the end of the bidding period, the last best bid was used as a reference price (see also Info box below).

Info Box: Reference Prices

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

The order book is open to inspection by any participant. It shows the current 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. Trading price records finally show the price limits where supply equals demand.

Table 4 shows the relative deviations of the auction clearing price from the secondary market. The deviation on each EUA-auction date just before the end of the bidding period (11 a.m. CET) varied over the reporting period between -€ 0.16 (-1.00 percent) and +€ 0.06 (+0.40 percent).

For a mean value analysis, the arithmetic mean of the absolute values of individual deviations over the reporting period is calculated. The average deviation from the last best bid was € 0.07 or 0.46 percent averaged over all dates.

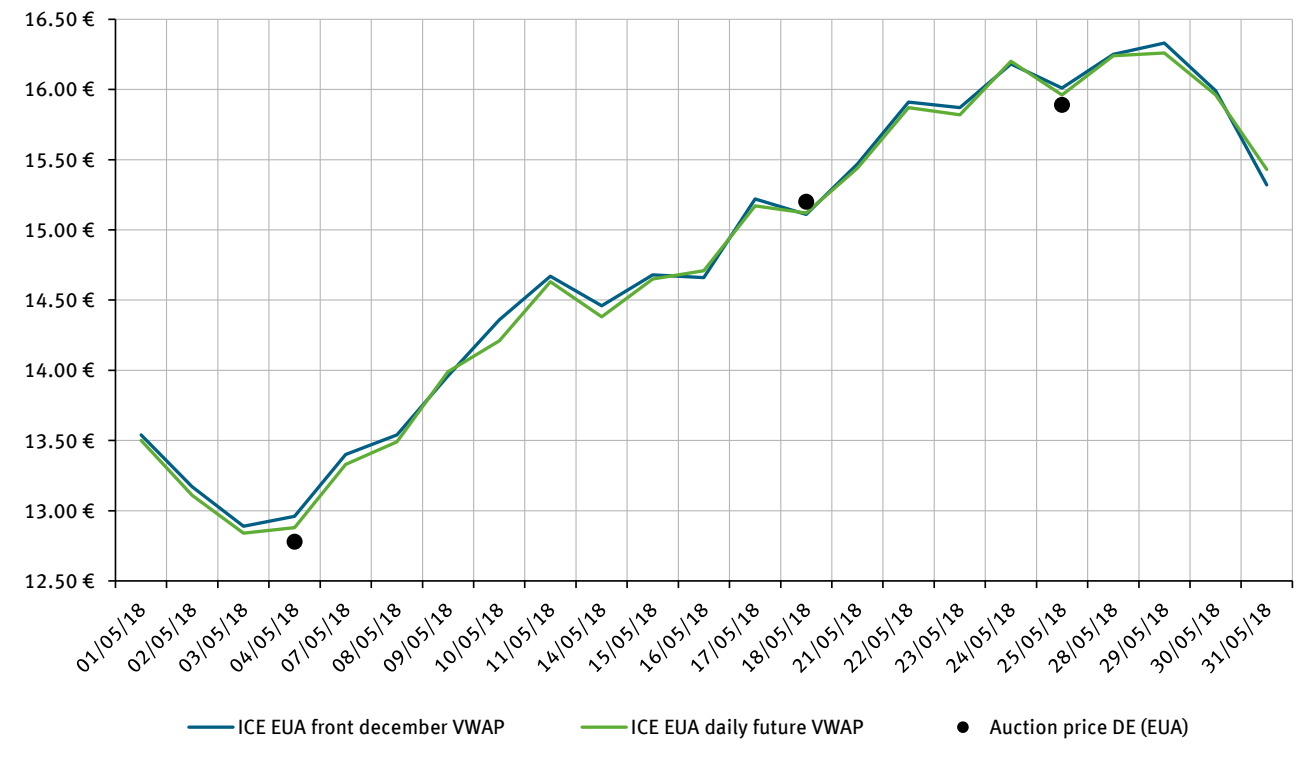
Table 4: Auctions and deviations from secondary market prices in May 2018 (EUA)

Date	Contract	Auction price	Deviation from secondary market	
			Absolute	%
04/05/2018	EUA Spot 3rd TP	€ 12.78	*€ 0.00	*0.00 %
18/05/2018	EUA Spot 3rd TP	€ 15.20	**€ 0.06	**0.40 %
25/05/2018	EUA Spot 3rd TP	€ 15.89	*-€ 0.16	*-1.00 %
Mean absolute deviation			€ 0.07	0.46 %

Source: ICE, EEX, Thomson Reuters Eikon, DEHSt
 * best bid ICE Daily Future
 ** last trade ICE Daily Future

⁴ All aviation allowances (EUAA) of the third trading period traded on the spot and futures markets on the ICE/ECX and EEX exchanges are considered. Transactions completed directly on the stock exchange (screen traded) or those bilateral transactions that at least used the stock exchange clearing mechanism are included.

The following figure shows an overview of the price development for emission allowances in the London lead market. In addition to the daily futures the development of futures for December delivery of the current and the following year is also shown (so-called „front-december future“).⁵ Rather than following the common practice of considering only settlement prices, our analysis takes into account all trades completed at the exchanges during the reporting period.⁶ The following graphic is based on volume-weighted average trading prices (VWAP), which fluctuated in an interval between around € 12.80 to € 16.30 in May 2018.⁷ On 29/05/2018, the highest value since June 2011 was reached.



Source: ICE, EEX, Thomson Reuters Eikon, DEHSt
DE = Germany

Figure 7: ICE secondary market prices and EEX auction clearing prices (EUA)

⁵ ICE EUA Dec18 contract expires on 17/12/2018.

⁶ Settlement prices are determined by the exchanges at the end of the trading day. Hence, they only reflect trade activity immediately before closure of the exchange and are, thus, not always an adequate reflection of the prevailing intra-day prices in the secondary market

⁷ The volume-weighted average prices (VWAP) for the ICE EUA front-december future and the ICE daily future contract is based on data from Thomson Reuters Eikon.

4 Implementation of Valid Regulations

4.1 Surveillance Report by HÜSt

In order to guarantee above-board market activities are 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 on the results of its surveillance activities through regular internal reports. HÜSt reported on auctions in May 2018 as follows (excerpt):

“Within their surveillance for the auctioning of emission allowances on behalf of the German Environment Agency at the EEX in May 2018 the Market Surveillance Office of the EEX could not detect any irregularities and especially no behaviour of bidders that was targeted at manipulating the auction price.”

4.2 Fair and Open Access

The implementation of the provisions of the EU Auctioning Regulation guarantees a fair and open access for all auction participants at EEX. Current access options can be found at [EEX Website \(Access\)](#).

More information about the auction process is also available on the EEX auction hotline. EEX can be reached by phone from Mondays to Fridays from 8:00 a.m. to 6:00 p.m. CET at +49 341 2156-331 or by e-mail at auctions@eex.com.

4.3 Auction Result Publication

All auction results and accompanying data were made publicly available during the reporting period within a 15-minute time window directly linked to the respective auction at [EEX Website](#).

4.4 Other Events

There are no matters relating to the implementation of the existing rules to be reported during the reporting period. The current regulations can be downloaded from [EEX Website \(Regulations\)](#).

German Emissions Trading Authority (DEHSt) at the German Environment Agency
Bismarckplatz 1
D-14193 Berlin

www.dehst.de/EN | emissionstrading@dehst.de