

Auctioning German Auctioning of Emission Allowances

First Quarter 2020

Umwelt 
Bundesamt

DEHSt
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Editorial information

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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 2020 auction calendar is published on the [EEX website](#).

The following tables summarise the key data of the German auctions on the EEX in 2020:

| 2020 | | |
|----------------------------|---|---|
| Auction product | Third trading period EUA spot contracts | Third trading period EUAA spot contracts |
| Period | 10/01/2020 to 11/12/2020 | 07/10/2020 |
| Auction volume entire year | 131,266,000 EUA (provisional) ¹ | 752,500 EUAA |
| Auction volume per auction | January–July: 2,363,000 EUA August: 1,181,500 EUA September–December: 4,182,000 EUA (provisional) ¹ | 752,500 EUAA on 07/10/2020 |
| Auction frequency | Weekly (Fridays, 09:00 to 11:00 CET) | On 07/10/2020 (13:00 to 15:00 CET) |
| Bid volume | 500 EUA/EUAA | |
| Auction mode | Single-round, uniform-price procedure with a closed order book | |

¹ The MSR reduction for the auction volumes from September 2020 to August 2021 is expected to be determined by the European Commission in May 2020.

1 Overview

1.1 First Quarter of 2020

Between January and March, twelve auctions of emission allowances (EUA) of the third trading period were successfully carried out for Germany at the EEX.

Overall about **28 million EUA** with a total value of over **€ 644 million** were auctioned. This results in a volume-weighted average price per allowance of **€ 22.71** (minus 7.7 percent compared to the previous quarter). In March the lowest monthly average price since November 2018 was achieved in German auctions at EUR 19.76 as secondary market prices for EUA fell as a result of the economic impact of the Covid 19 pandemic. The deviations of the clearing prices from the current prices on the lead market fluctuated between -1.03 and +0.47 percent (see also Chapter 3.3).

Overall, valid bids totalling about 62 million allowances were entered into trading system across the twelve EUA-auction dates. Thus, the average cover ratio in the reporting period was 2.18 (see also Chapter 2.2). The average participation number of 23 bidders was above the level of the previous quarter (19). This also applies to the average number of 16 (15) successful bidders (see also Chapter 2.1).

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 the first Quarter of 2020

| Date | Auction volume | Bid volume | Cover ratio | Bidders | Successful bidders | Price | Revenue |
|-----------------|-------------------|-------------------|--------------|------------|--------------------|-----------------|----------------------|
| 10/01/2020 | 2,363,000 | 4,342,500 | 1.84 | 27 | 21 | € 24.48 | € 57,846,240 |
| 17/01/2020 | 2,363,000 | 5,888,000 | 2.49 | 23 | 12 | € 25.01 | € 59,098,630 |
| 24/01/2020 | 2,363,000 | 4,684,500 | 1.98 | 21 | 20 | € 24.48 | € 57,846,240 |
| 31/01/2020 | 2,363,000 | 4,686,500 | 1.98 | 27 | 23 | € 23.48 | € 55,483,240 |
| January | 9,452,000 | 19,601,500 | *2.07 | *25 | *19 | *€ 24.36 | € 230,274,350 |
| 07/02/2020 | 2,363,000 | 5,347,500 | 2.26 | 28 | 23 | € 23.17 | € 54,750,710 |
| 14/02/2020 | 2,363,000 | 5,701,000 | 2.41 | 22 | 13 | € 24.27 | € 57,350,010 |
| 21/02/2020 | 2,363,000 | 4,871,500 | 2.06 | 22 | 16 | € 25.15 | € 59,429,450 |
| 28/02/2020 | 2,363,000 | 6,251,500 | 2.65 | 27 | 9 | € 23.46 | € 55,435,980 |
| February | 9,452,000 | 22,171,500 | *2.35 | *25 | *15 | *€ 24.01 | € 226,966,150 |
| 06/03/2020 | 2,363,000 | 4,918,000 | 2.08 | 26 | 20 | € 23.36 | € 55,199,680 |
| 13/03/2020 | 2,363,000 | 5,448,500 | 2.31 | 18 | 13 | € 22.78 | € 53,829,140 |
| 20/03/2020 | 2,363,000 | 4,469,500 | 1.89 | 20 | 14 | € 16.35 | € 38,635,050 |
| 27/03/2020 | 2,363,000 | 5,144,000 | 2.18 | 18 | 11 | € 16.55 | € 39,107,650 |
| March | 9,452,000 | 19,980,000 | *2.12 | *21 | *15 | *€ 19.76 | € 186,771,520 |
| Q1 2020 | 28,356,000 | 61,753,000 | *2.18 | *23 | *16 | *€ 22.71 | € 644,012,020 |

Source: EEX, DEHSt
* average

1.2 Overview of the entire year 2020

In first Quarter of the current year a total of about **28 million EUA** with a total value of over **€ 644 million** were auctioned at the EEX for Germany. This results in a volume-weighted average price per allowance of **€ 22.71**.

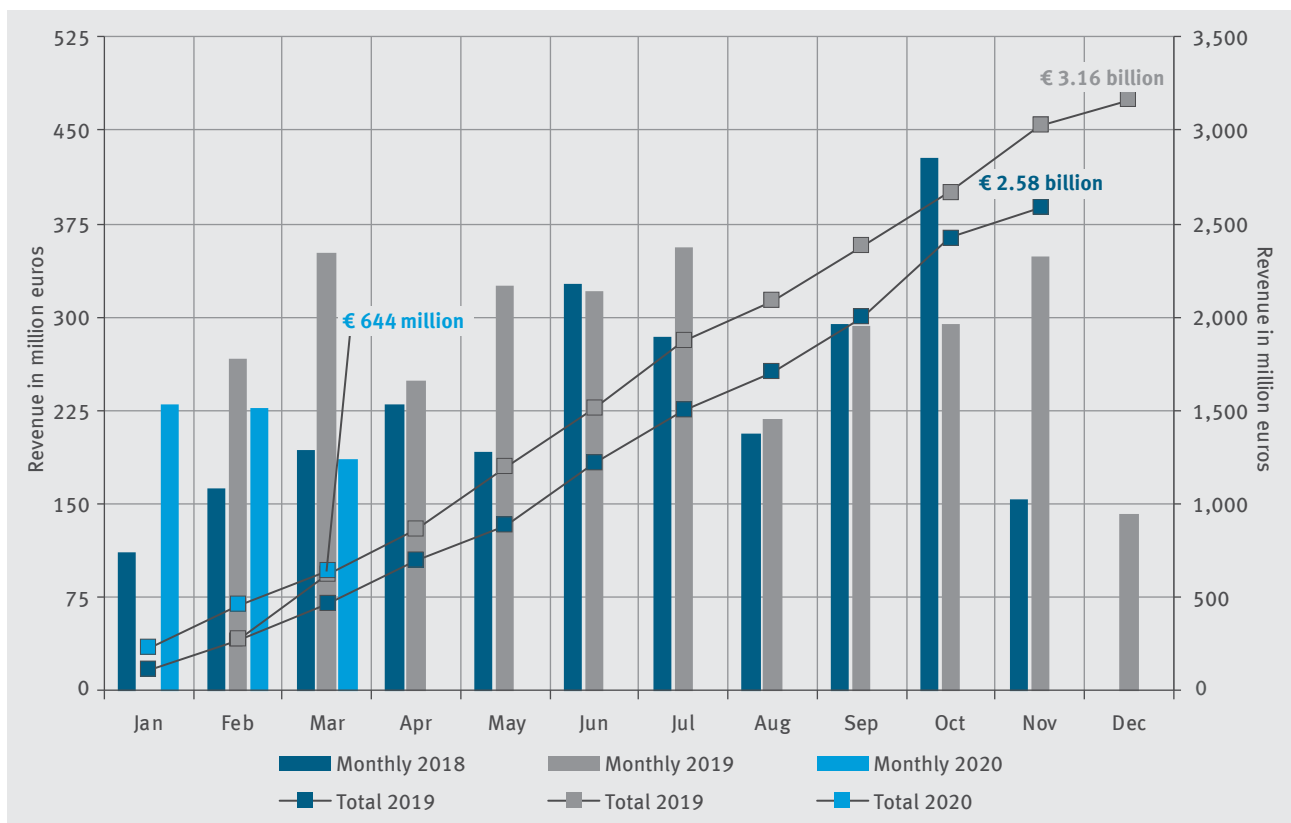
The following table summarises the auction results on a monthly basis.

Table 2: Overview of the entire year 2020

| Month | Type | Auction volume | Bid volume | Cover ratio | Bidders | Successful bidders | Price | Revenue |
|--------------|------|-------------------|-------------------|--------------|------------|--------------------|-----------------|----------------------|
| January | EUA | 9,452,000 | 19,601,500 | *2.07 | *25 | *19 | *€ 24.36 | € 230,274,350 |
| February | EUA | 9,452,000 | 22,171,500 | *2.35 | *25 | *15 | *€ 24.01 | € 226,966,150 |
| March | EUA | 9,452,000 | 19,980,000 | *2.12 | *21 | *15 | *€ 19.76 | € 186,771,520 |
| Total | | 28,356,000 | 61,753,000 | *2.18 | *23 | *16 | *€ 22.71 | € 644,012,020 |

Source: EEX, DEHSt
* average

The following figure shows the German EUA/EUAA auction revenues in the period since 2018. In addition to the monthly values, the cumulative total revenues of the individual years are also shown in the chart. Since 2012 German auction revenues flow entirely into the so-called Energy and Climate Fund (EKF).



Source: EEX, DEHSt

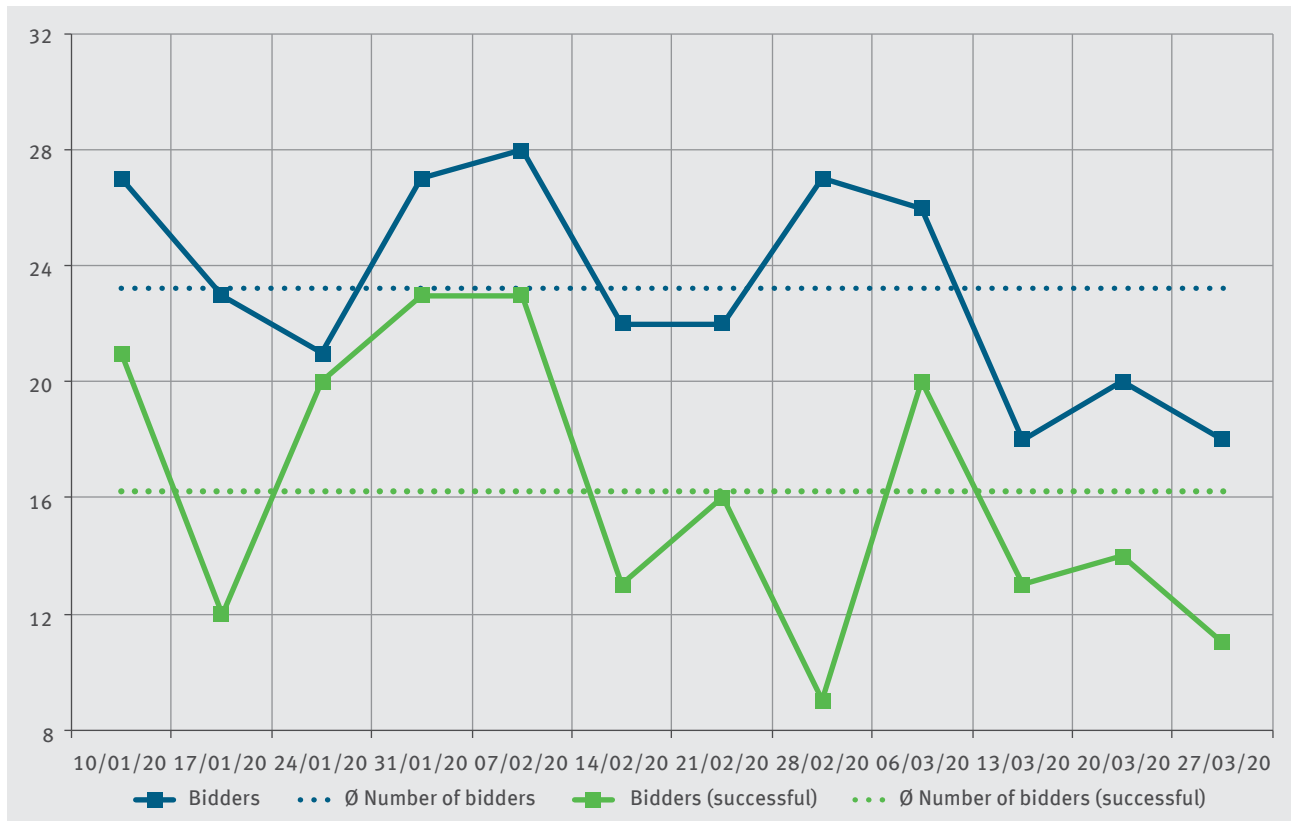
Figure 1: Auction revenues (EUA+EUAA) from 2018 to 2020

2 Bidder Participation

2.1 Participation

The number of participants in the German EUA-auctions in the first Quarter averaged across all dates was about 23 bidders. The average number of successful bidders was about 16. Participation in the auctions fluctuated between 18 and 28 bidders during the reporting period. The number of successful participants ranged from 9 to 23. There was no such auction where all participating bidders were successful.

The following figure illustrates EUA-auction participation over time.



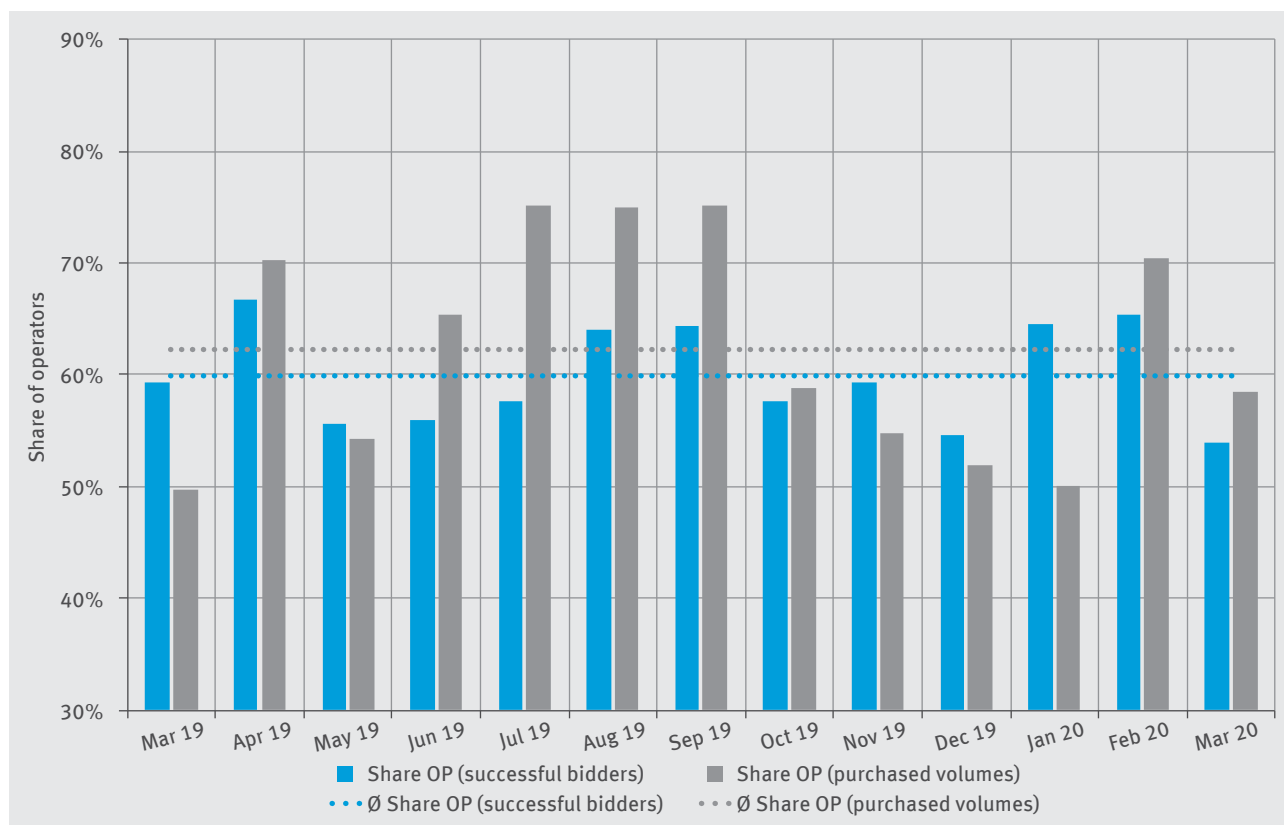
Source: EEX, DEHSt

Figure 2: Number of participating and successful bidders per auction date (EUA)

By the end of March 2020, a total of 87 trading members of EEX (minus 1 compared to the previous month) had been authorized to submit bids in the primary market auctions. In March, a total of 26 different bidders were successful in the German primary market auctions. Out of the 26 of those bidders, 14 were operators (i.e. operators of ETS covered installations or aircraft operators), which accounts for about 54 percent of all successful bidders.² Overall, operators purchased approximately 58 percent of the auctioned volumes in March 2020. In the months of the preceding year, the operators' share of the purchased auction volumes fluctuated more than the proportion of successful bidders. Nonetheless, the moving averages of the past 12 months for both parameters are close to each other (at around 60 percent).

² 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.

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 period.



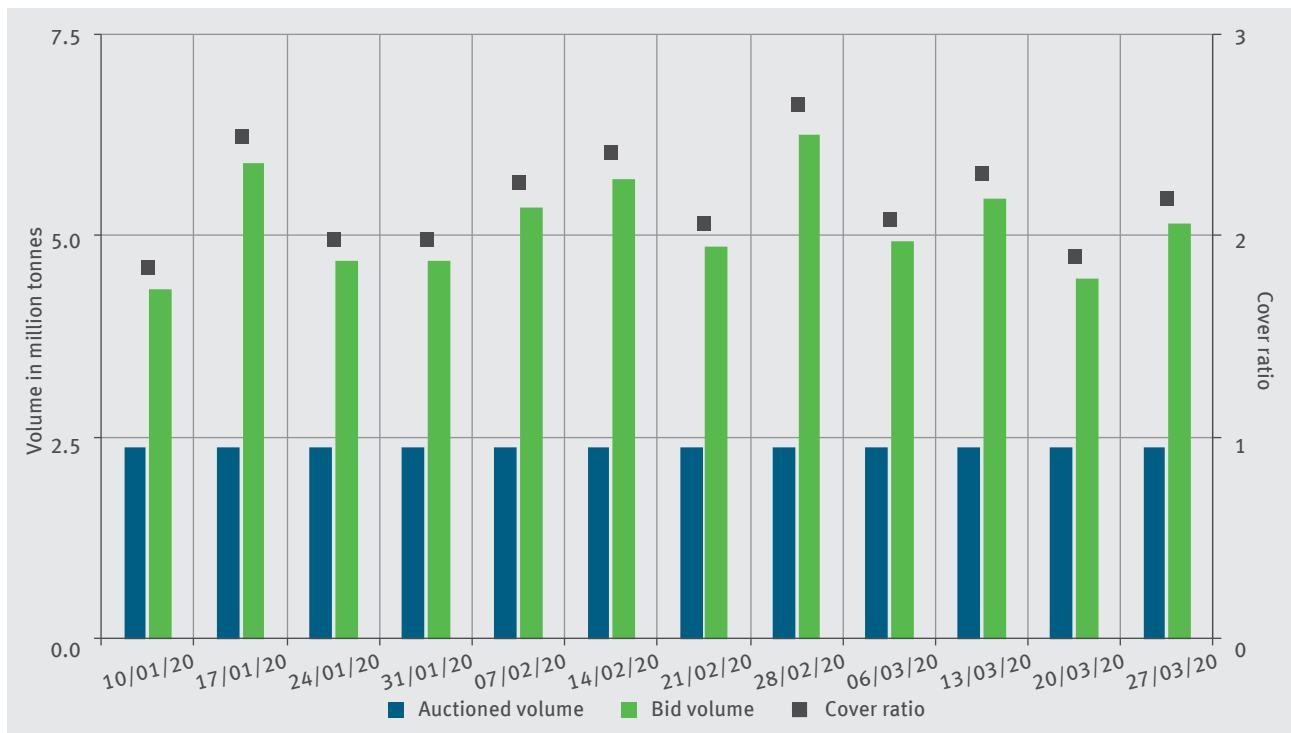
Source: EEX, DEHSt
OP = Operators

Figure 3: 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 4.3 to 6.3 million allowances. Overall, valid bids totalling about 62 million allowances were entered into trading system in the first Quarter. Supply volumes were constant at around 2.4 million allowances per date. The resulting cover ratios during the reporting period ranged between 1.84 and 2.65 (2.18 on average).

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



Source: EEX, DEHSt

Figure 4: Auctioned and bid volume and cover ratio for each auction date (EUA)

Thus, the average bid volume per EUA-auction participant in the first Quarter was about 220,000 allowances. The average volume awarded to each successful bidder was about 145,000 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).

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. 2.3 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

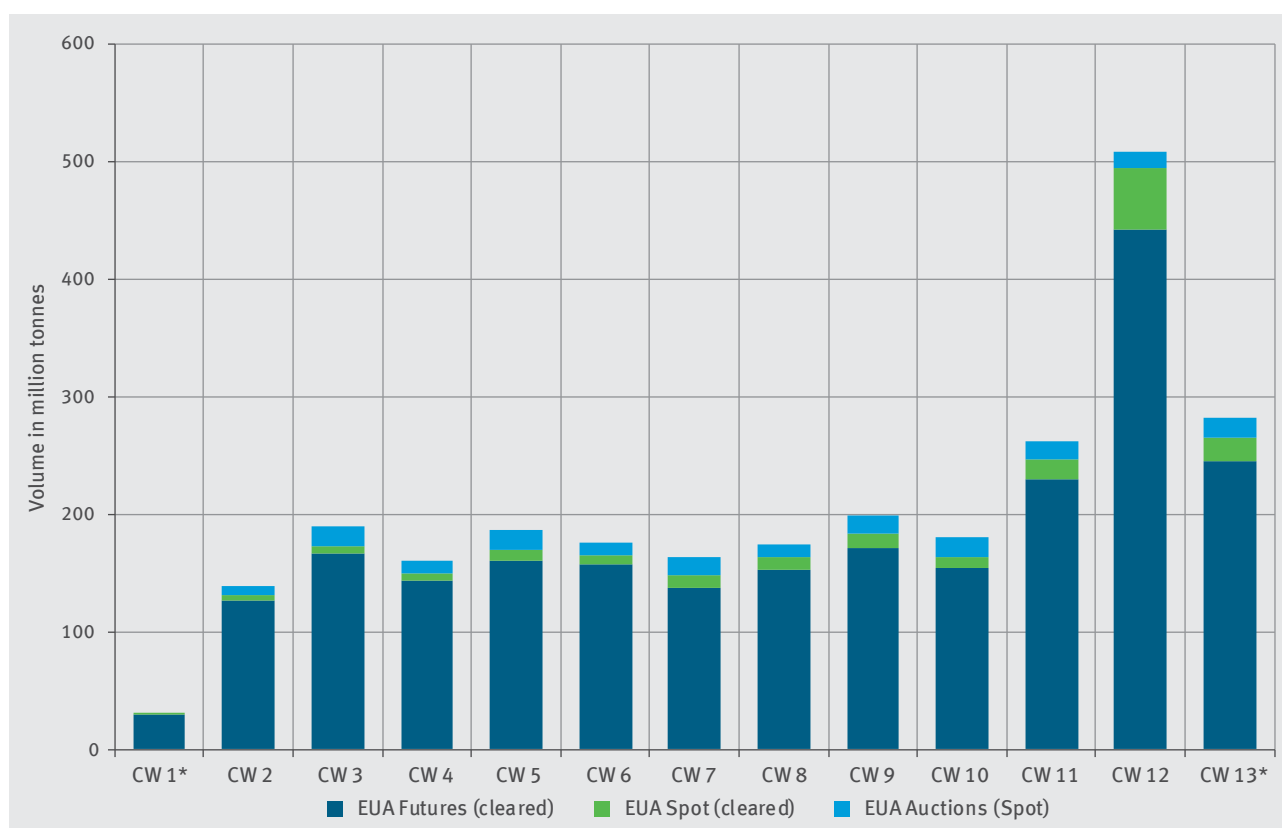
3.1 Trading Volume EUA

In the first Quarter of, a total of about 28 million EUA were auctioned at the EEX for Germany. During the reporting period, the cumulative trading volume in the relevant total market was about 2.74 billion EUA.³ This comprises the monthly data of the London Energy Brokers’ Association (LEBA) on OTC (see also Figure 7).⁴ The inclusion of this data allows for a more complete picture of the entire market volume in EUA trades.

The secondary market trading volume of 2.57 billion EUA was divided into approximately 2.39 billion EUA on the cleared futures market, some 181 million EUA on the cleared spot market and about 0.15 billion EUA bilaterally settled through the LEBA-Brokers (OTC). Overall, trading volumes on the secondary market in March reached the highest level since October 2018 and exceeded the one billion EUA mark for the fifth time. In addition, an absolute record of around 500 million EUA was reached in CW 12.

In the first Quarter of 2020, a total of about 172 million allowances were auctioned by Member States on the primary market as spot contracts. With respect to the relevant total market for EUA, around 6 percent of the traded volume was related to auctions (see also Table 3).

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.



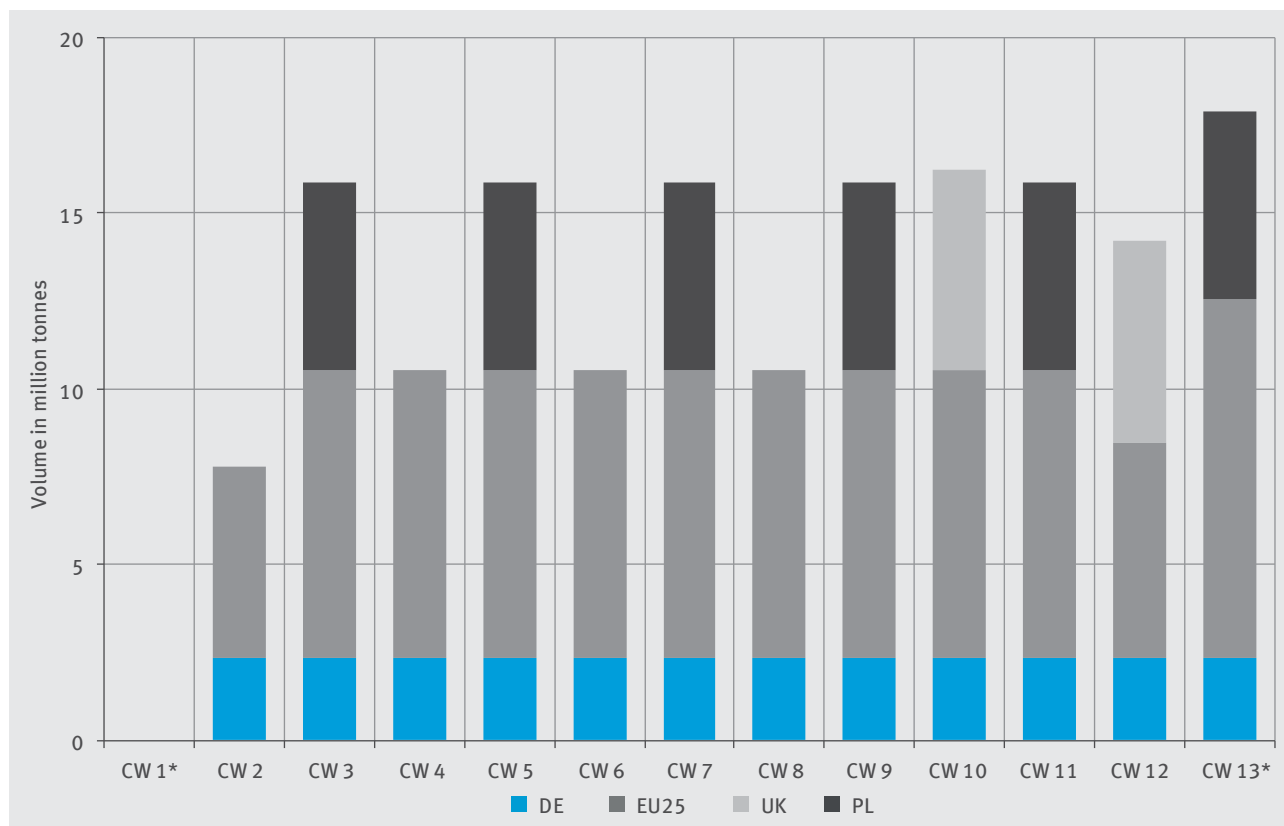
Source: ICE, EEX, Nasdaq OMX, Refinitiv Eikon, DEHSt
 * CW 1: 02/01/2020–03/01/2020; CW 13: 23/03/2020–27/03/2020

Figure 5: Trading volumes on the primary and secondary market in the first Quarter of 2020 (EUA)

3 All emission allowances (EUA) of the third trading period traded on the spot and futures markets on the ICE/ECX, EEX 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 the first Quarter of 2020 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.

4 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 7, but not in Figure 5.

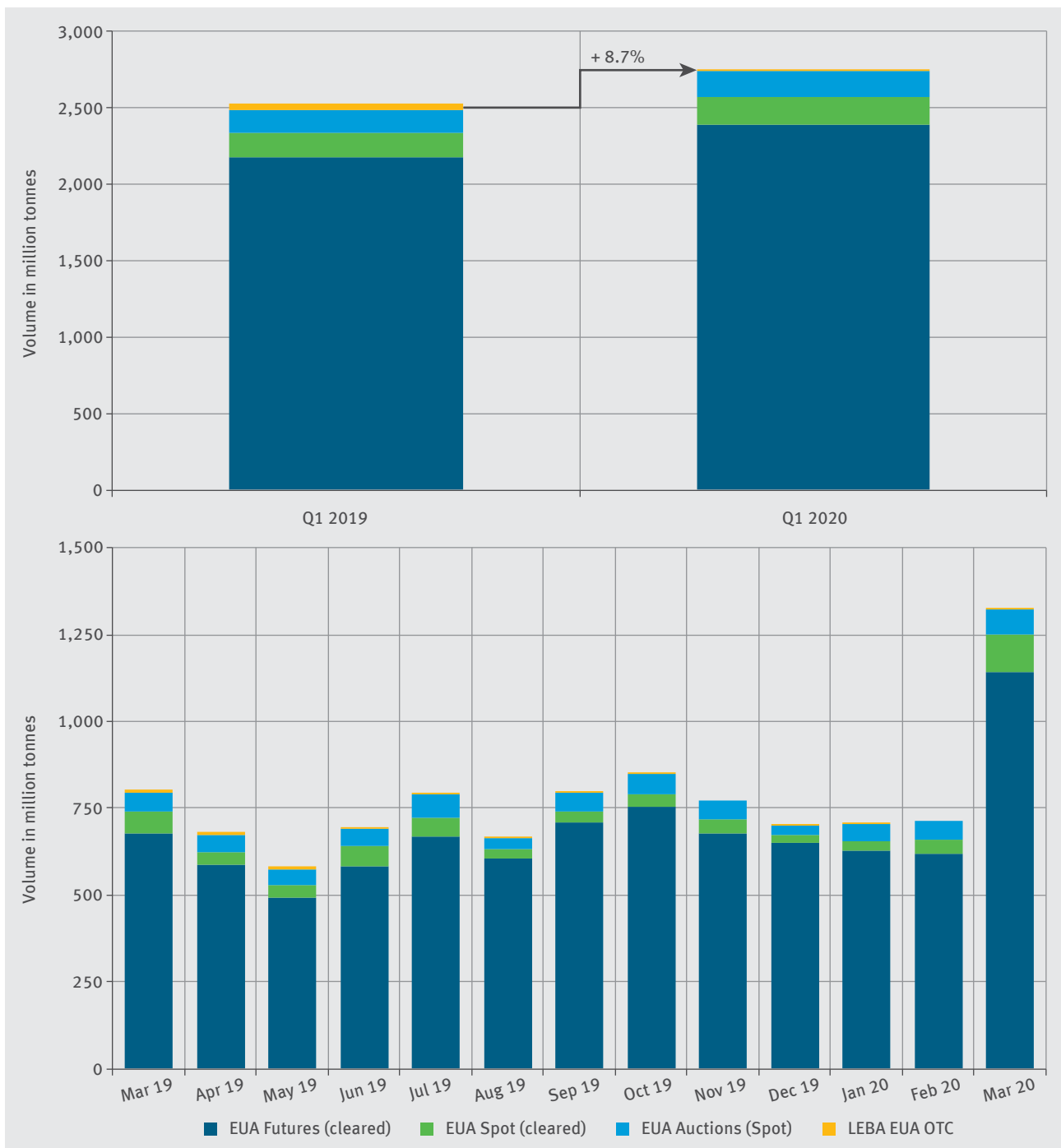
The figure below shows the auction volumes on the primary market per calendar week (CW). In addition to the German auctions, auction volumes of other EU Member States and the United Kingdom are also included in the figure.



Source: ICE, EEX, Refinitiv Eikon, DEHSt
 DE = Germany, UK = United Kingdom, PL = Poland, EU25 = EU-Commission on behalf of other member states
 * CW 1: 02/01/2020–03/01/2020; CW 13: 23/03/2020–27/03/2020

Figure 6: Auction volumes on the primary market in the first Quarter of 2020 (EUA)

The following chart shows the development of the monthly EUA trading volumes on the primary and secondary market over the past 12 months before the current reporting month. In the first Quarter of year 2020, the total market volume of about 2.74 billion EUA was 9 percent above the previous year's level (Q1 2019: 2.52 billion EUA).



Source: ICE, EEX, Nasdaq OMX, Refinitiv Eikon, LEBA, DEHSt

Abbildung 7: 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 | | Mar 2020 | Feb 2020 | Q1 2020 | Q1 2019 |
|------------------|-----------------------|----------|----------|---------|---------|
| Primary market | EUA-Auctions (Spot) | 5.3% | 7.4% | 6.3% | 5.8% |
| | EUA-Futures (cleared) | 86.5% | 86.5% | 87.1% | 86.1% |
| Secondary market | EUA-Spot (cleared) | 8.2% | 6.2% | 6.6% | 6.5% |
| | LEBA EUA OTC | < 0.1% | – | < 0.1% | 1.6% |

Source: ICE, EEX, Nasdaq OMX, Refinitiv Eikon, LEBA, DEHSt

3.2 Trading Volume EUAA

In the first Quarter of 2020, about one million aviation allowances (EUAA) were traded on the secondary market⁵. During the reporting period, about 1.6 million EUAA were auctioned by the EU Member States (EU25) on the primary market. Further information on the EUAA auction calendars is available on the website of the [European Commission](#).

3.3 Auction 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).

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 € -0.17 (-1.03 percent) and € +0.11 (+0.47 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 € 0.06 or 0.30 percent averaged over all dates.

⁵ 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.

Table 4: Auctions and deviations from secondary market prices in the first Quarter of 2020 (EUA)

| Date | Contract | Auction price | Deviation from secondary market | |
|--------------------------------|-----------------------------|---------------|---------------------------------|--------------|
| | | | Absolute | % |
| 10/01/2020 | EUA Spot 3 rd TP | € 24.48 | * € -0.03 | * -0.12% |
| 17/01/2020 | EUA Spot 3 rd TP | € 25.01 | * € 0.10 | * 0.40% |
| 24/01/2020 | EUA Spot 3 rd TP | € 24.48 | * € -0.09 | * -0.37% |
| 31/01/2020 | EUA Spot 3 rd TP | € 23.48 | * € -0.05 | * -0.21% |
| 07/02/2020 | EUA Spot 3 rd TP | € 23.17 | *€ -0.02 | *-0.09% |
| 14/02/2020 | EUA Spot 3 rd TP | € 24.27 | *€ 0.02 | *0.08% |
| 21/02/2020 | EUA Spot 3 rd TP | € 25.15 | *€ -0.09 | *-0.36% |
| 28/02/2020 | EUA Spot 3 rd TP | € 23.46 | *€ 0.11 | *0.47% |
| 06/03/2020 | EUA Spot 3 rd TP | € 23.36 | *€ -0.05 | *-0.21% |
| 13/03/2020 | EUA Spot 3 rd TP | € 22.78 | *€ 0.00 | *0.00% |
| 20/03/2020 | EUA Spot 3 rd TP | € 16.35 | **€ -0.17 | ** -1.03% |
| 27/03/2020 | EUA Spot 3 rd TP | € 16.55 | *€ 0.04 | *0.24% |
| Mean absolute deviation | | | € 0.06 | 0.30% |

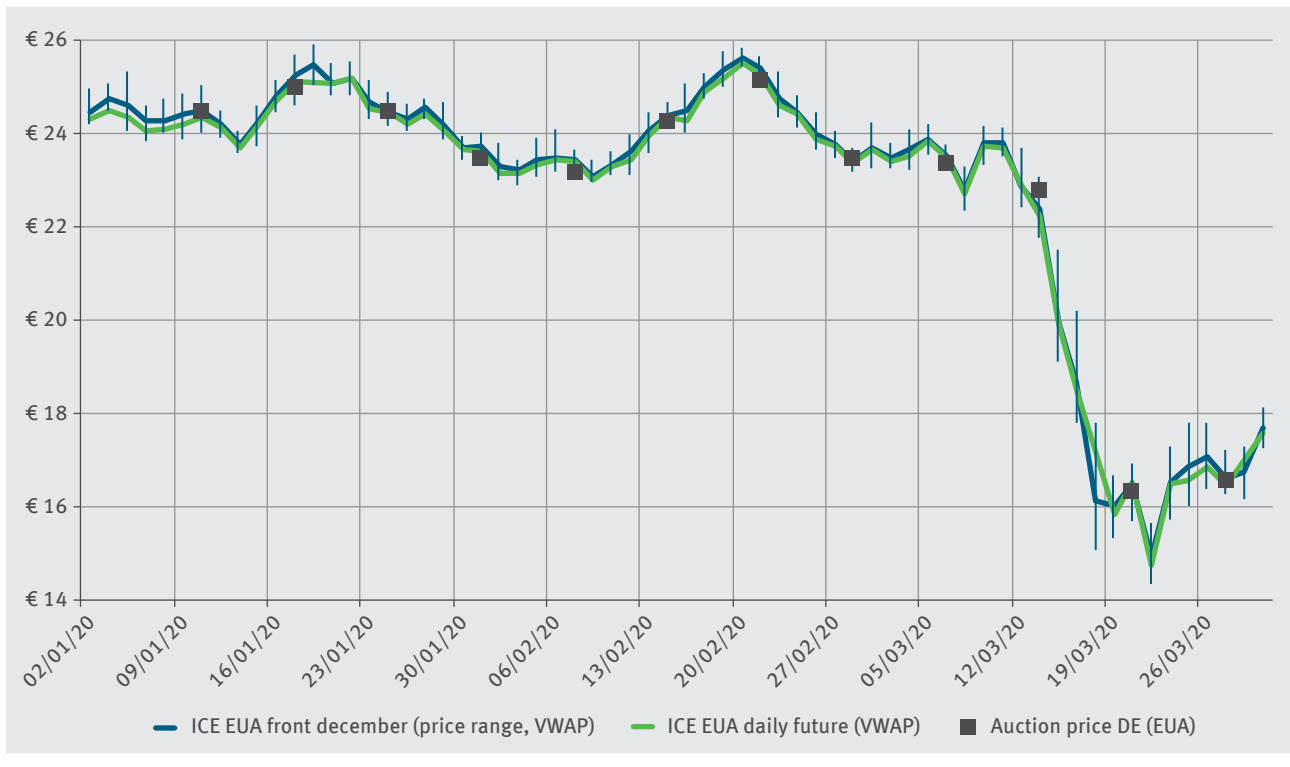
Source: ICE, EEX, Refinitiv Eikon, DEHSt
 * best bid ICE Daily Future
 ** last trade ICE Daily Future

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”).⁶ Rather than following the common practice of considering only settlement prices, our analysis takes into account all trades completed at the exchanges.⁷ The following graphic is based on volume-weighted daily average trading prices (VWAP). In addition, the daily trading range of the front-december contract is also shown in the chart (vertical price line). In the first Quarter of 2020 the price fluctuated within an interval between € 14.34 and € 25.86.⁸ On 23rd March, the lowest level since June 2018 was reached. The price decrease for EUA is a consequence of the economic impact of the Covid 19 pandemic.

⁶ ICE EUA Dec20 contract expires on 14/12/2020.

⁷ 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.

⁸ The volume-weighted average prices (VWAP) for the ICE EUA front-December future and the ICE daily future contract is based on data from Refinitiv Eikon.



Source: ICE, EEX, Refinitiv Eikon, DEHSt
DE = Germany

Figure 8: ICE secondary market prices and EEX auction clearing prices (EUA)

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 the first Quarter of 2020 as follows (excerpt):

“Within their surveillance for the auctioning of emission allowances on behalf of the German Environment Agency at the EEX in the first Quarter of 2020 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 to 18:00 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 \(Regulations\)](#).

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