

Designing auctions for CO₂ Emission Allowances

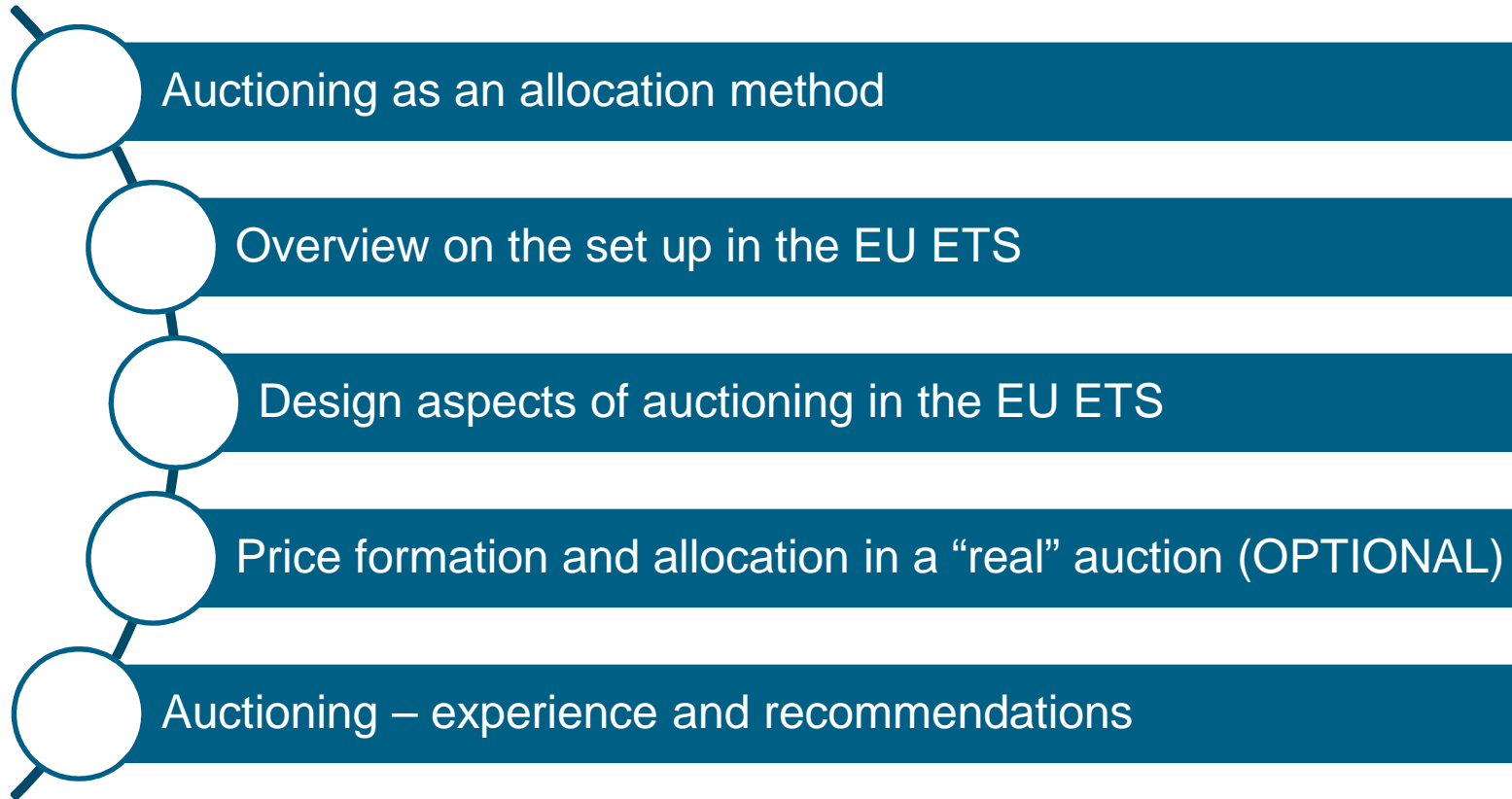


Auctioning in the EU ETS – Overview and lessons learnt –

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Outline



Auctioning as an allocation method

Auctioning as allocation method

What are the advantages of auctioning?

1. Complies with the **polluter pays principle** and creates the clearest incentive for efficient, private abatement decisions.
2. **Avoids “wind-fall profits”**: The market value of free of charge allocation is passed through to the customer.
3. Auction revenues create **new opportunities for public funding** of climate protection measures.
4. Auctioning guarantees a **transparent** allocation process with a **low level of complexity and cost**.

Overview on the set up in the EU ETS

Auctioning in the EU ETS

Overview and the general setting – third trading period (2013-2020)

- Around **50% of the total cap is dedicated to auctions**. No free allocation for energy and decreasing allocation for industrial products.
- EU Auction Regulation applies to all auctions in the EU ETS and guarantees a **harmonised and non-discriminatory** primary market.
- Use of existing market infrastructure (exchange platforms, market surveillance and supervision) guarantees **cost efficiency** for all parties.
- **DEHSt is the competent authority** in Germany: coordinates the overall process, procures the platform, acts as auctioneer and reports to the public.

Development of auctioning in EU ETS at a glance

2005 – 2007

EU ETS 1st Phase

- Only optional auctioning (up to 5% of Cap)
- Development of the secondary market

2008 – 2012

EU ETS 2nd Phase

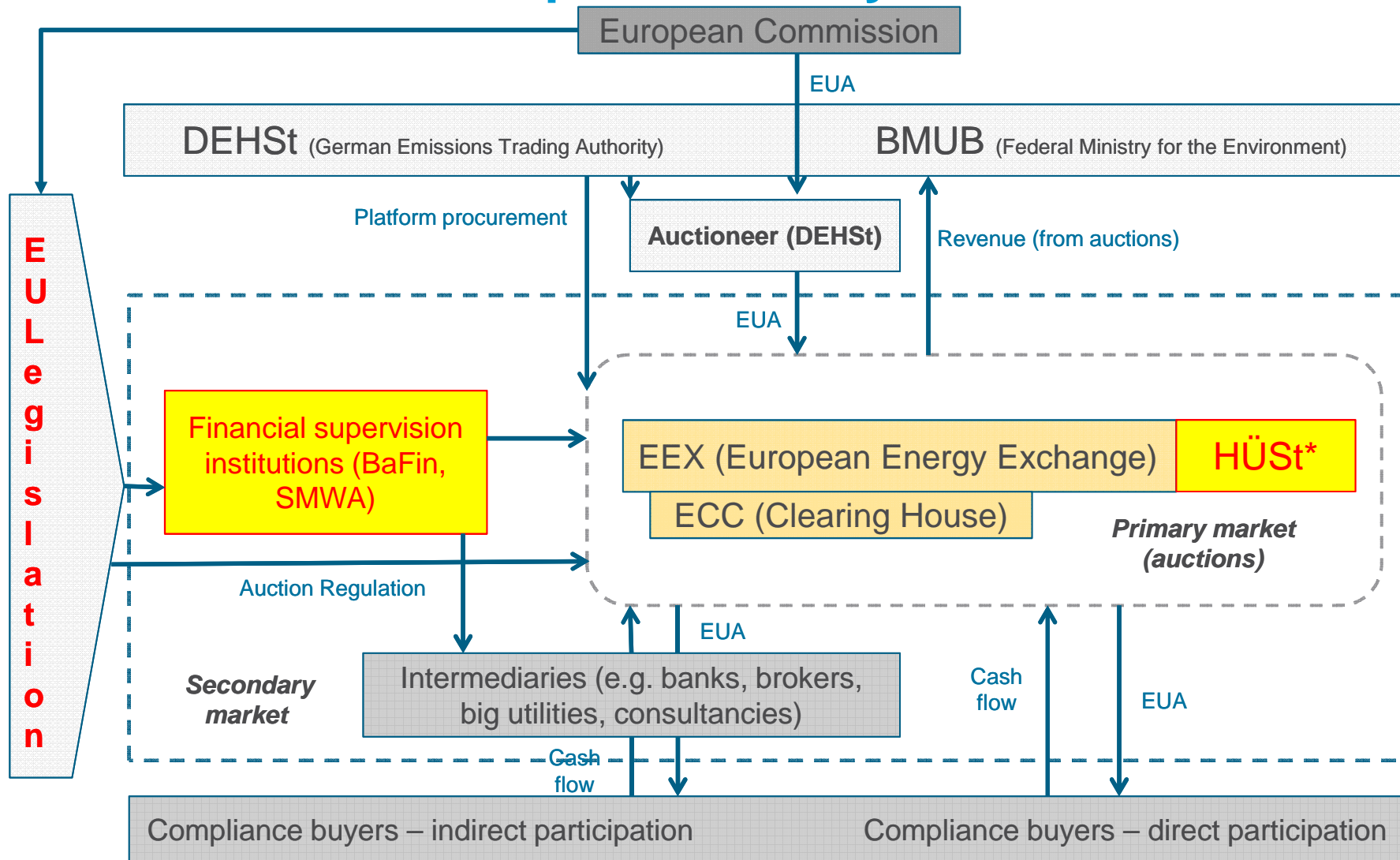
- Only optional auctioning (up to 10% of Cap)
- Germany and UK start large scale auctions

2013 and beyond

EU ETS 3rd Phase

- Mandatory auctioning (basic principle of allocation)
- EU harmonised rules
- Introduction of MSR (from 2019)

Institutional set-up in Germany



* Independent supervision body directly located at the exchange

Auctioning set up

– Volumes and Timing –

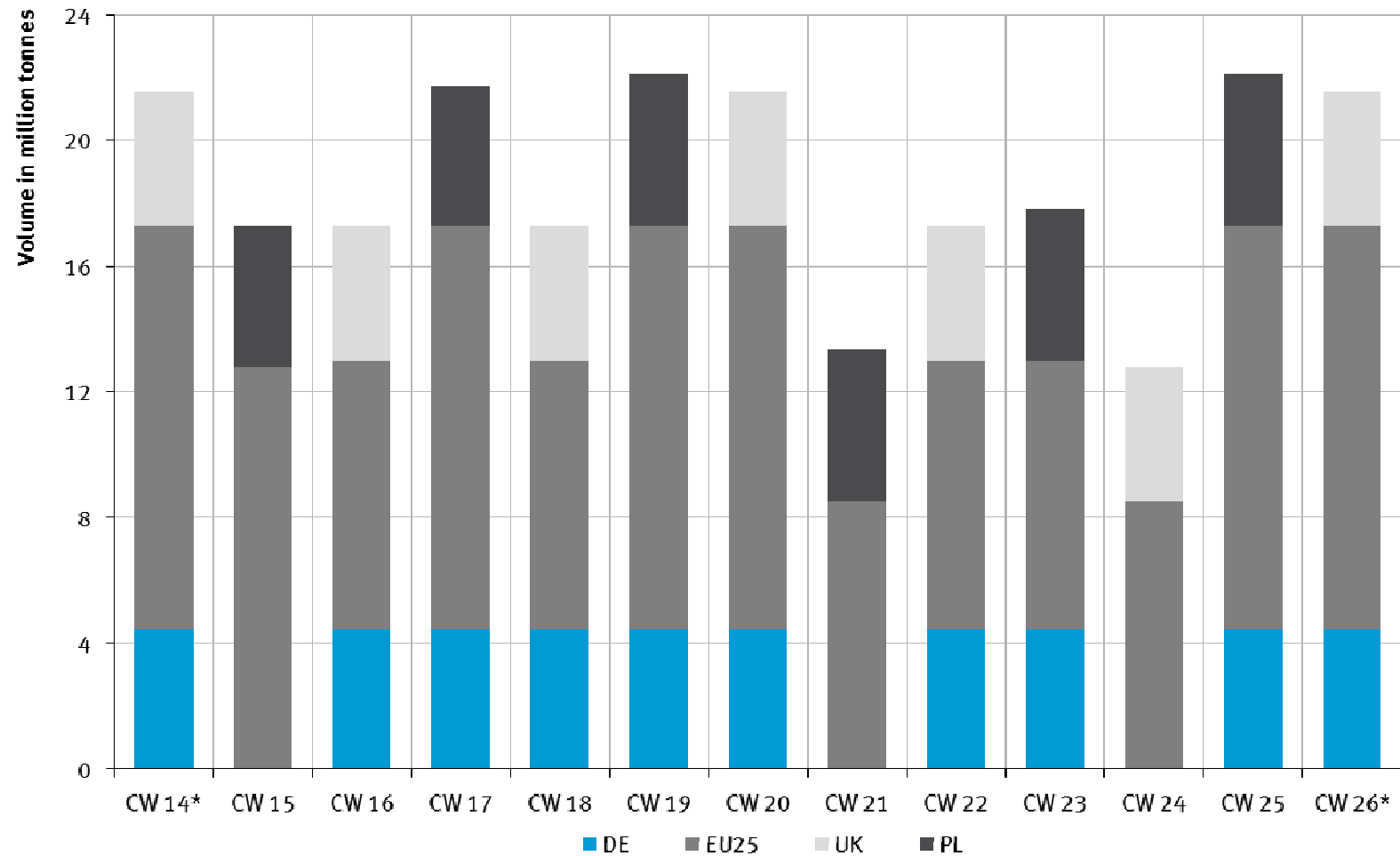
Volumes and timing

- Overall volume for the trading period is determined by the Commission in line with the ETS-Directive:
 - Around 50% of the cap is dedicated to auctions.
 - Annual volumes are fix (under revision due to the MSR)
 - Calendars are determined by the platforms/Member States in line with the Auction Regulation and are coordinated by the Commission:
 - Auctions have to be distributed evenly over the year
 - Bidding window of a least 2 hours
- **Auction share and frequency depend of your system**

characteristics

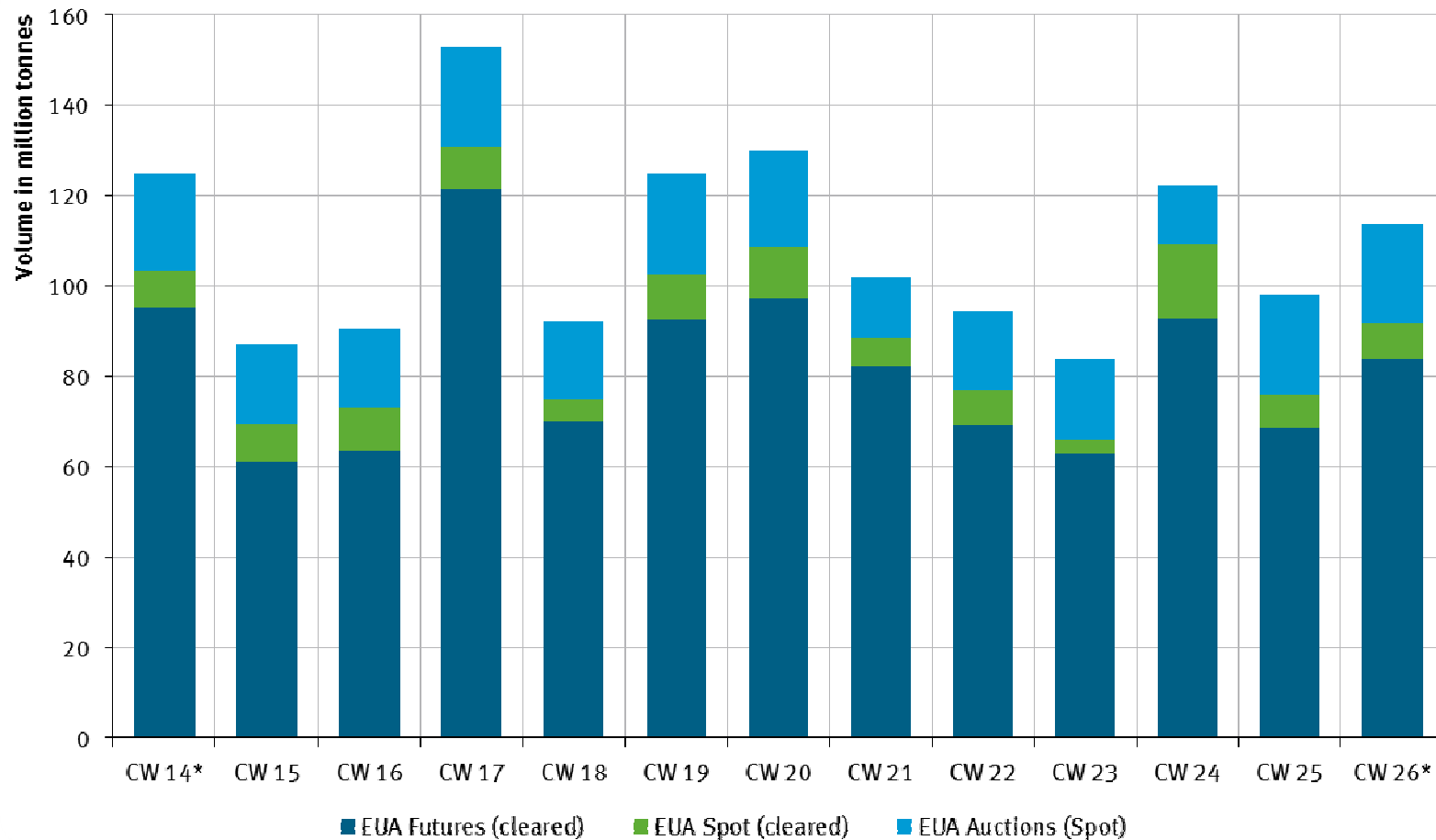
Auction volumes in Q2 2017

Weekly volumes are distributed via 4-5 auctions (09:00-11:00 CET)



Total market volumes in Q2 2017

Total market is dominated by the secondary market segment (turnover 31 billion euro in 2016)



Auctioning set up

– Access –

Access to the primary market

Decentralised platform system

- Bidders can choose between platforms, i.e. participants are free to make their best choice fitting their specific requirements
- Less distortion of secondary market competition, i.e. different platforms guarantees that distortion of competition for secondary market activities can be reduced to a minimum level
- Reduced technical interference
- **Less important/cost efficient for smaller systems. However well proved for EU ETS.**

Access to the primary market

Access modalities at the EEX

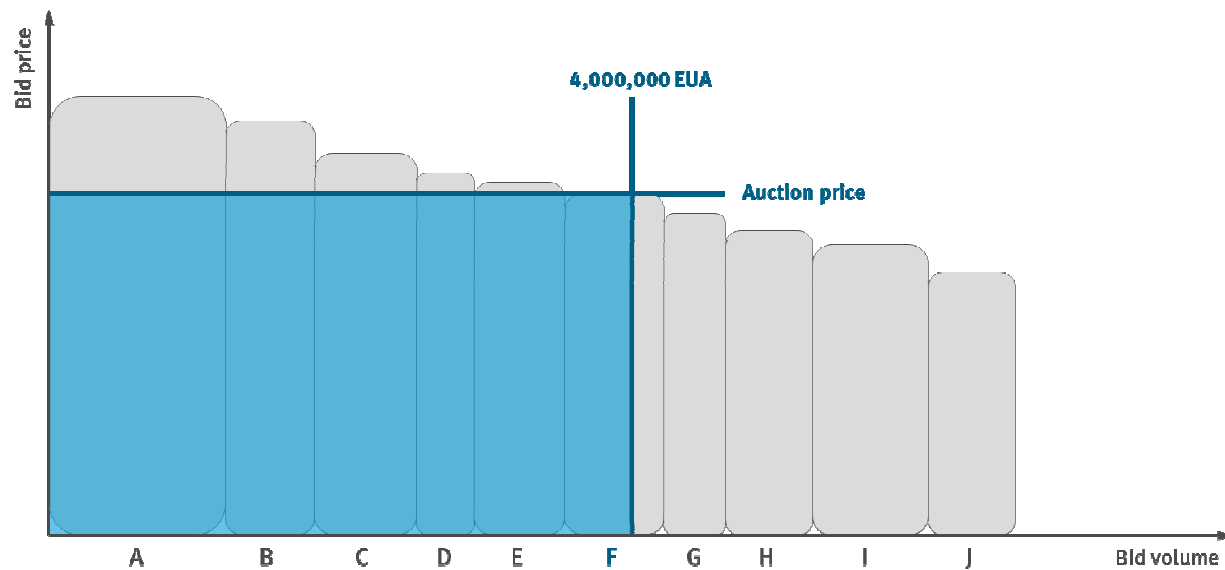
- Participation is subject to eligibility criteria laid down in the Auctioning Regulation (operators but also intermediaries)
 - Participation is possible directly or indirectly via intermediaries
 - Participation of intermediaries is one key recommendation in order to facilitate market activities of small companies
- Two alternatives to directly access for new clients:
 - Combined access to auctions and secondary market
 - Access to auctions („Auction Only“)
- **Bidders are free to make their best choice fitting their specific requirements**

Auctioning set up – price formation –

Uniform Price Method

Price formation works as follows:

- At the end of the bidding window, bids are sorted in order of the maximum bid price.
- Bid volumes are cumulated, the bid which matches or exceeds the auctioned volume determines the clearing price for all successful bidders (here: bid F).
- All bids with a price \geq the clearing price are successful (if more than one bid = clearing price; random decision).



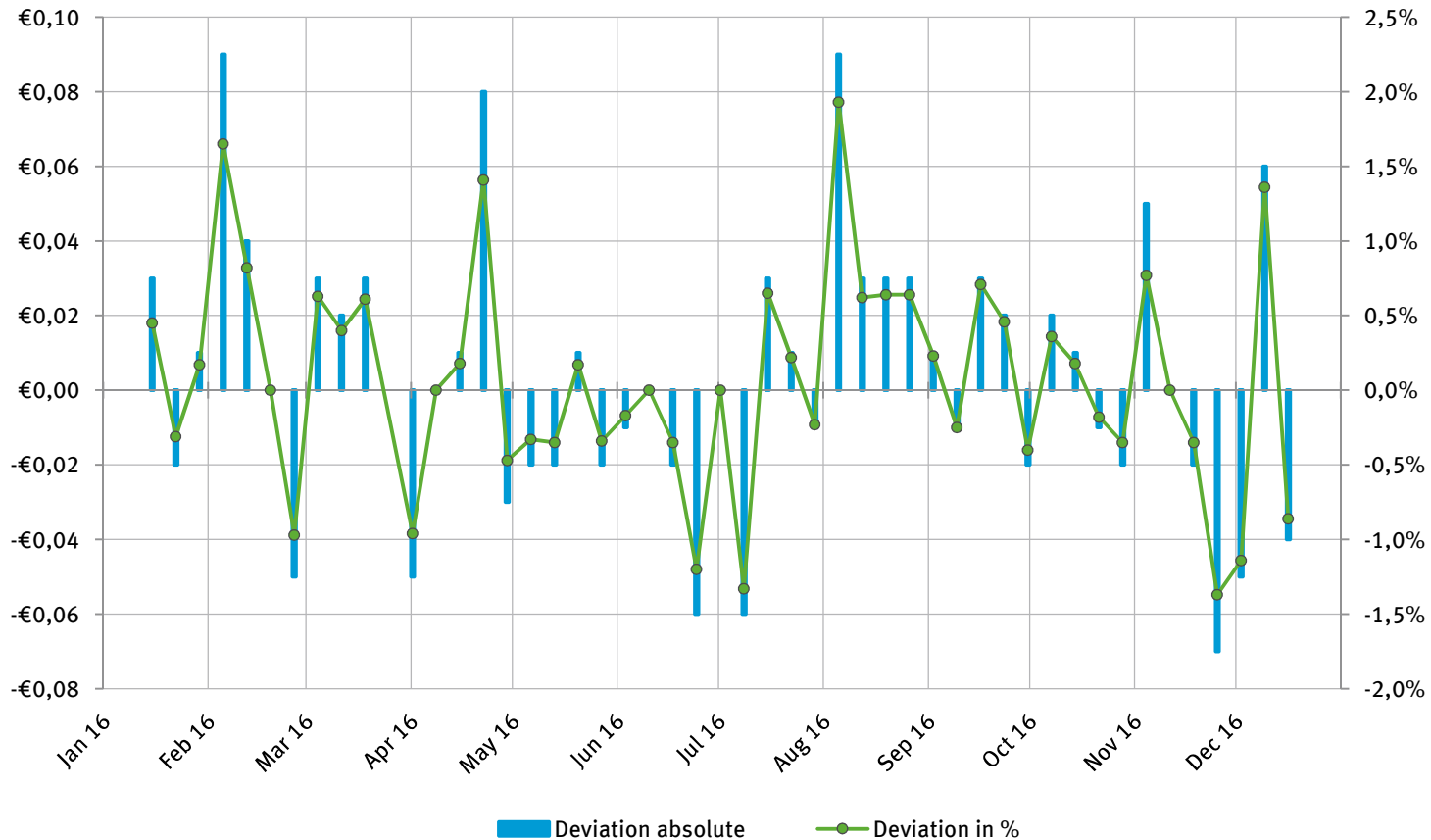
Price Formation

Auction prices are almost in line with secondary market prices

- Price deviation between both market segments is close to zero.
 - Bidders have no interest in paying higher prices compared to the market.
 - Reserve price avoids that auctions clear well under the market price.
- Auctioning in the EU ETS is basically an allocation with market prices and no “classical” price detection instrument.
 - This requires a matured and functioning secondary market.
 - Facilitating trading activity between the private actors is one key recommendation in order to have liquidity in the market and efficient price formation

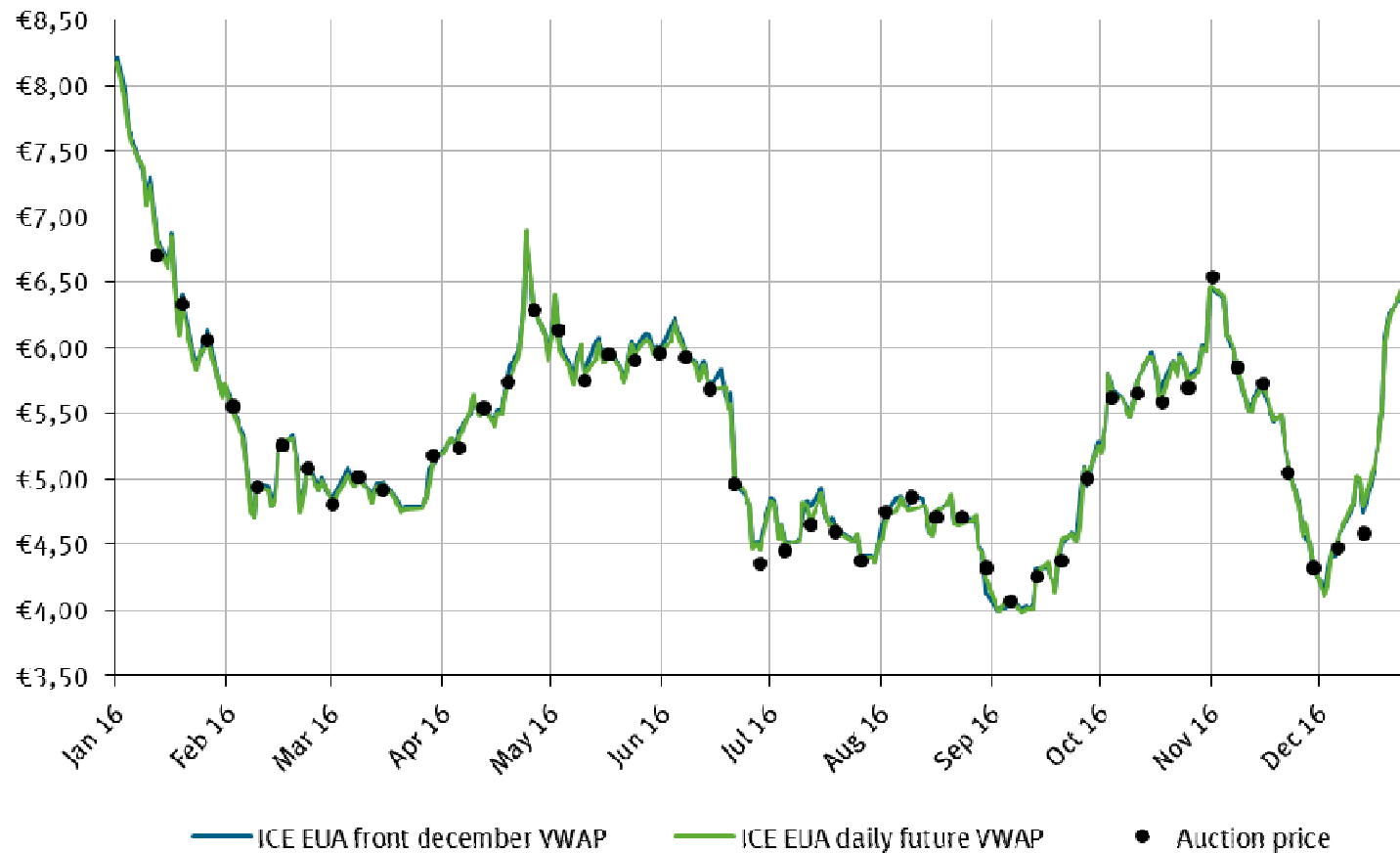
Deviation of auction clearing prices and secondary market prices

German auction prices in 2016



EEX auction clearing prices and ICE secondary market prices

German auction prices in 2016



Auctioning set up

– Why is participation –

Auctioning in the EU ETS

Why is participation in the auction favorable?

- Participation in the primary market is associated with relatively low direct costs:
 - Annual fee starts at 0 Euro (auction only)
 - Transaction fee is 3 Euro per 1,000 tons
- Complex trading strategy no precondition for participation as deviations to secondary market prices are negligible
- Bidders can buy relative big volumes at the market price with one single trade (low transaction cost)

Auction Game

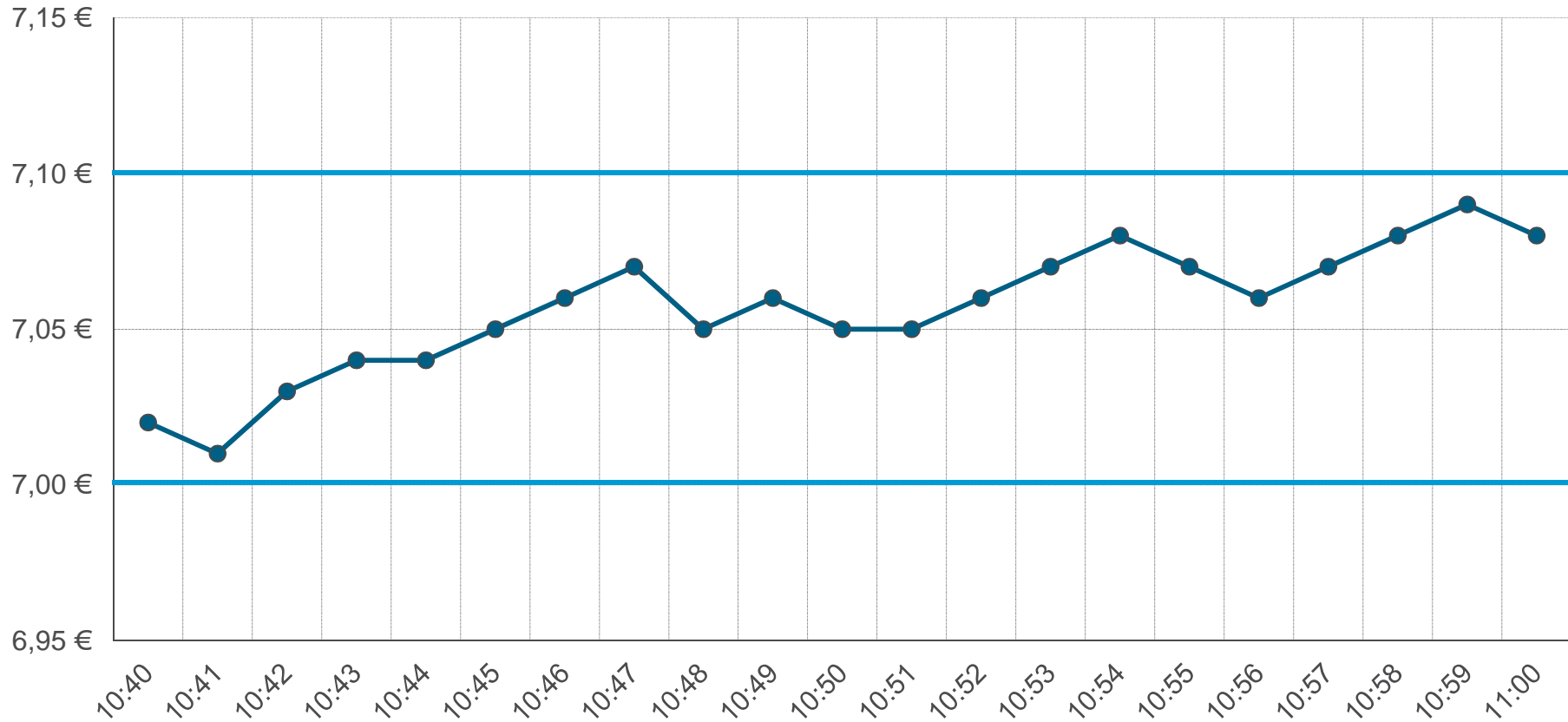
Rules and general setting

- The government auctions a total amount of **1 million allowances (supply)**
- Overall **demand** in the auction is most likely higher as the total supply in the auction (**> 1 million**)
- Bids can be submitted during the 2h **bidding window (5 min)**
- Every bidder can submit **one bid (maximum price and volume)**
- You know only your individual bids (**closed order book**)
- It is forbidden to interact with other bidders (**no collusion**)
- Cancellation if the clearing price is well under the price on the secondary market during the bidding window taking into account the short term volatility (exact **reserve price** is confidential)

Guidance for your bidding strategy

- Secondary-market-price formation during the auction is most likely in line with the general market development before the bidding window (**stable market**)
 - Short term price fluctuation was **between 7.00 and 7.10 euro**.
- An **auction clearing price**:
 - **well above the secondary market price** level means that your purchase was too expensive
 - **on the level of the secondary market price** means that your purchase was economically reasonable
 - **well under the secondary market price** is not possible due to the reserve price
- Try to **meet your full demand** in the auction **at a fair price**

EUA price development on the secondary market



Source: DEHSt

Key recommendations

Experience and lessons learnt in Germany/Europe

Don't reinvent the wheel – use and adapt existing infrastructure

- **Build up your secondary market infrastructure**
 - Adapt existing infrastructure from energy/commodity/financial markets
 - In the EU existing market and surveillance infrastructure proved to be reliable for the ETS with no significant additional cost
 - Facilitate trading between private players and allow intermediaries to enter the market => liquidity, stable and efficient price formation and adequate and cost efficient access for operators

- **Build up your primary market infrastructure**
 - Make use to the greatest possible extent of ETS secondary market infrastructure (familiar to all players; cost efficient)

Useful DEHSt reports

Analysis and Assessment of Market Structure, Trading Activities and Further Developments in the EU ETS

https://www.dehst.de/SharedDocs/downloads/EN/auctioning/UFOPlan_Handelsaktivitaeten.pdf?__blob=publicationFile&v=2

Purchase channels for German Installation Operators in the EU ETS

https://www.dehst.de/SharedDocs/downloads/EN/auctioning/Purchase-channels.pdf?__blob=publicationFile&v=1

Periodical Reports on the Auctioning of Emission Allowances in Germany

<https://www.dehst.de/EN/understanding-emissions-trading/auctioning/reports/reports-node.html>

Evaluation and background of five years' sales and auctioning upon transition to the third trading period of the EU Emissions Trading System

https://www.dehst.de/SharedDocs/downloads/EN/auctioning/Auctioning_5-years.pdf?__blob=publicationFile&v=1

Thank you!

Jan Weiß

This presentation is based on a speech held by the German Emissions Trading Authority (DEHSt) and is not clear for publication. Check against delivery. References and quotations from the presentation must at all times be approved in written form by the DEHSt.