



Power Futures market in Serbia

Singidunum University Panel, Belgrade, 29.10.2019.

SEEPEX Strategic partnership

- SEEPEX is the result of strategic partnership between EMS and EPEX SPOT



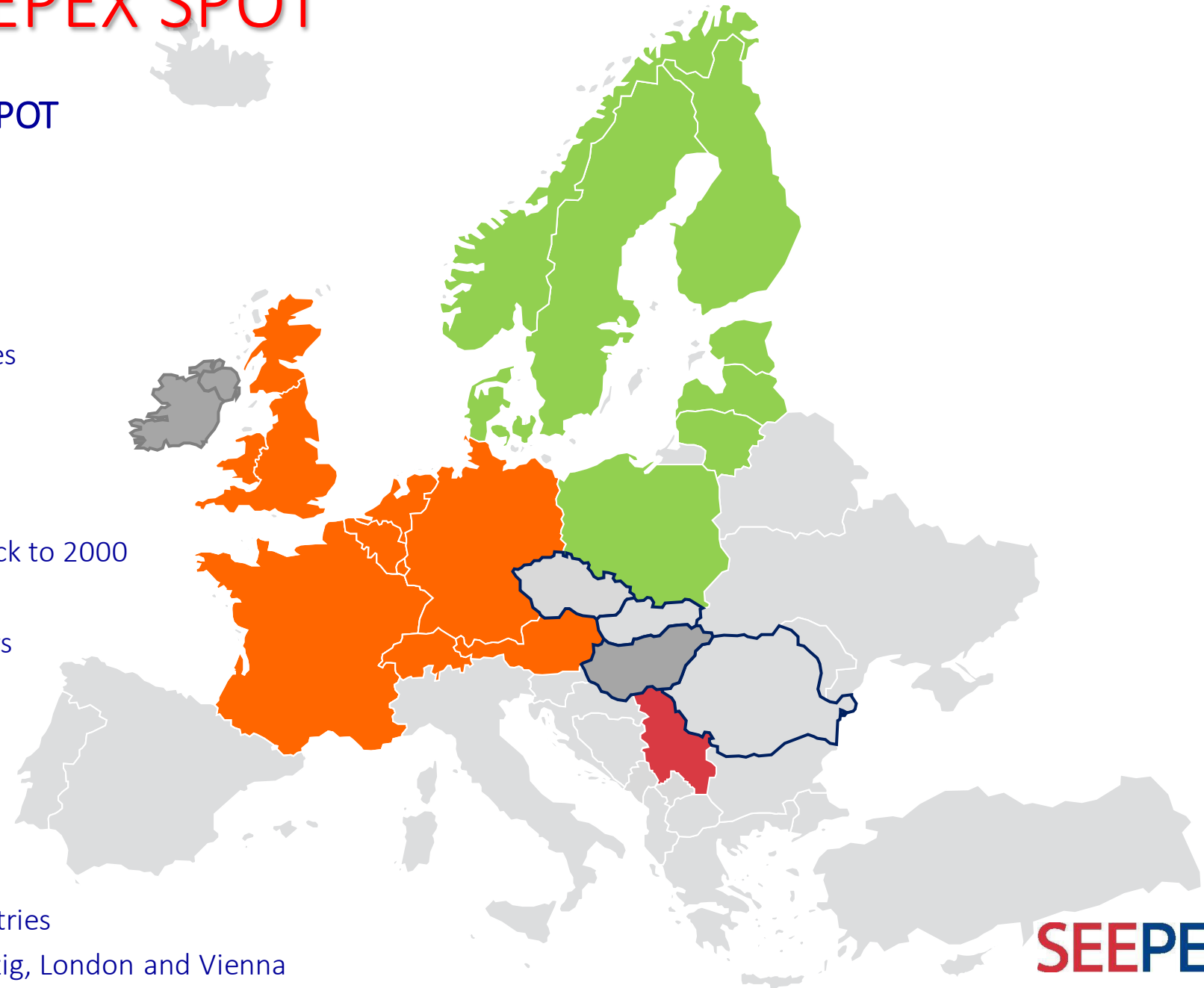
- SEEPEX is fully market driven (non-regulated business)
- SEEPEX is designed to be a customer-oriented company
- SEEPEX relies on EPEX market operation (ETS)
- Best practice in high transparency and surveillance standards
- Clearing services are provided by ECC according to standard model in place in other European countries

SEEPEx partners - EPEX SPOT

Markets and services of the EPEX SPOT (European Power Exchange)

- Current EPEX markets
- Market Expansion
- Market operation services and 25% shares
- Market operation services
- Market coupling services

- EPEX SPOT created in 2008, roots going back to 2000
- Societas Europaea headquartered in Paris
- Area of 1600 TWh consumption, 21 borders
- 535 TWh of traded volumes in 2017
 - ✓ 464 TWh on the Day-ahead market,
 - ✓ 71 TWh on the Intraday market
- 567 TWh of traded volume in 2018
- Over 285 Exchange Members
- Over 160 employees coming from 16 countries
- Offices in Amsterdam, Bern, Brussels, Leipzig, London and Vienna



SEEPEX partners - ECC AG (European Clearing house)

10 Partner Exchanges

- EEX
- EPEX SPOT
- EPEX SPOT Belgium
- HUDEX
- HUPX
- Norexeco
- Powernext
- PXE
- SEEPEX
- CLTX (Singapore)

23 Clearing Members

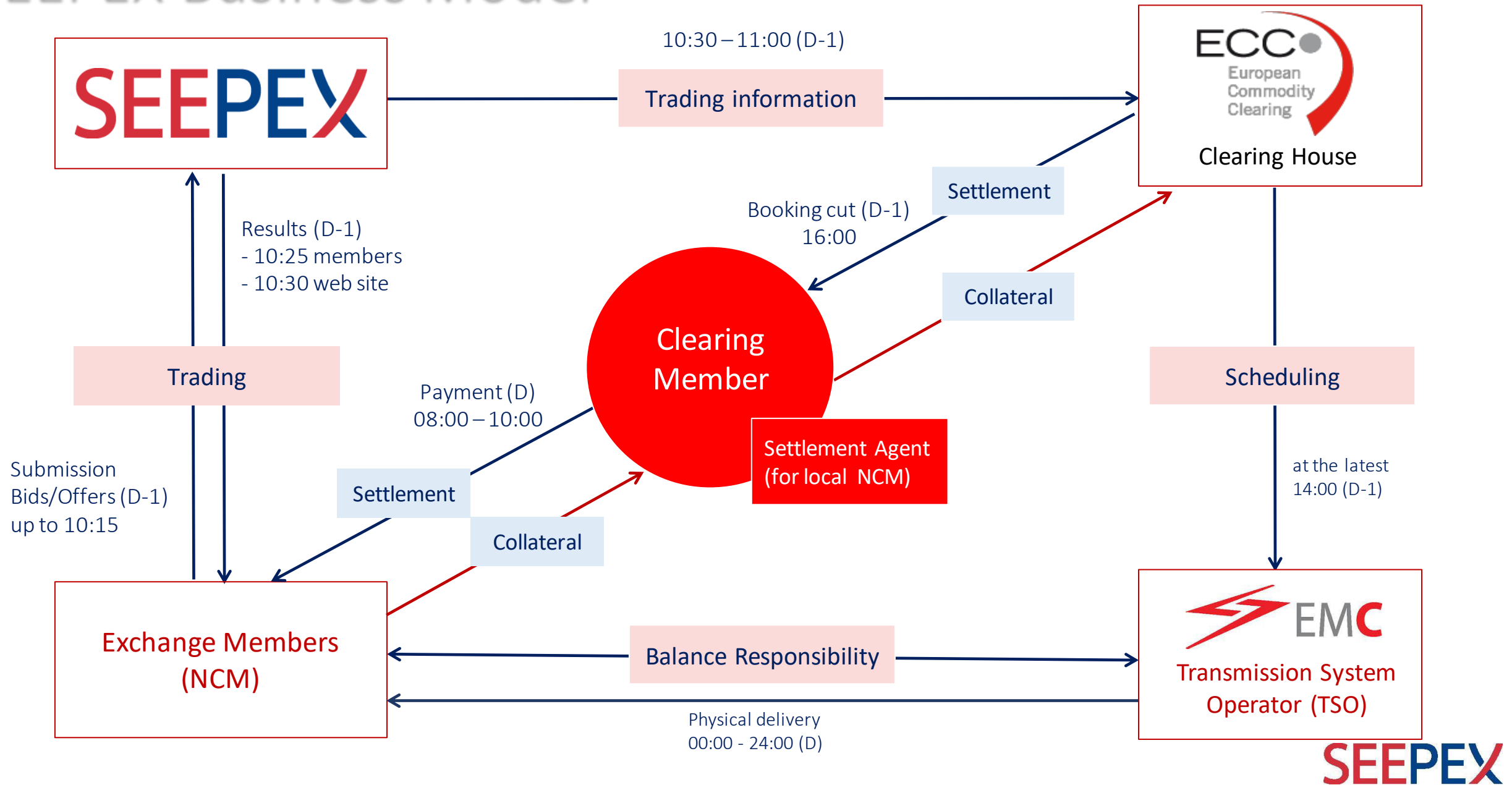
454 Non-Clearing Members



European Commodity Clearing AG performs the role of the Central Counterparty for SEEPEX

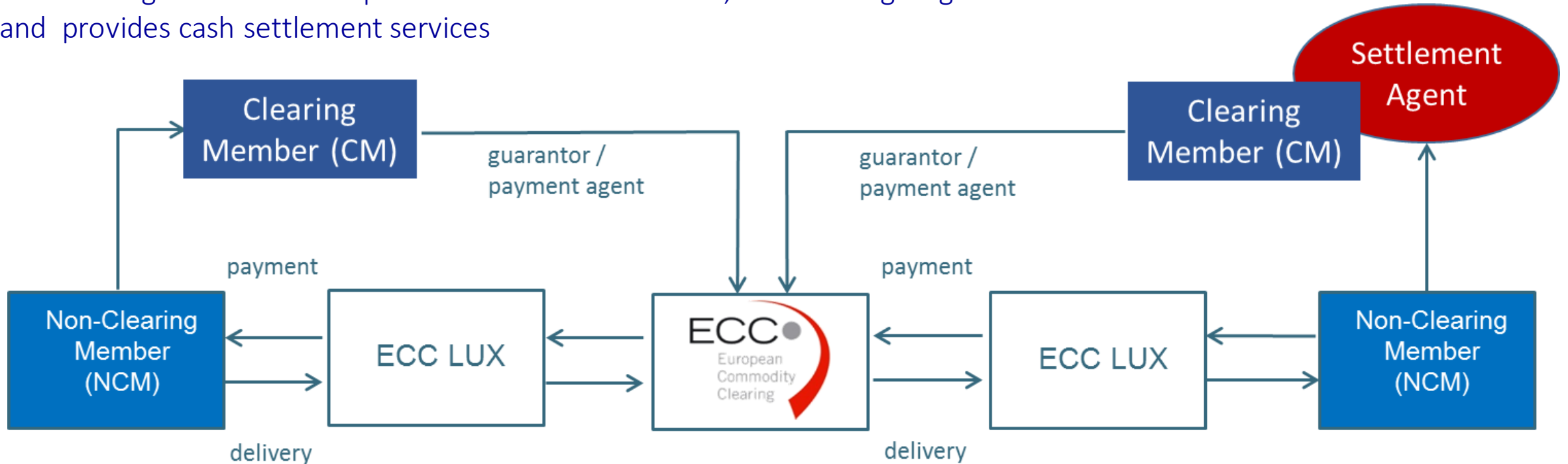
SEEPEX

SEEPEx Business Model



SEEPEX Clearing Model

- Foreign SEEPEX members - already existing NCMs at ECC
- Local SEEPEX members - new NCMs at ECC
- All transactions are settled in Euro – standard financial settlement procedures are applied
- Inclusion of ECC Lux in delivery chain
- ECC guarantees the fulfillment of the transactions in its role as CCP
- The Clearing Member is not part of the contractual chain, but is acting as guarantor for the transactions and provides cash settlement services



ECC - European Commodity Clearing
CM - Clearing Members
NCM - Non - Clearing Members

SEEPEX main figures

SEEPEX members

- Initial members: 6
- Current members: 18



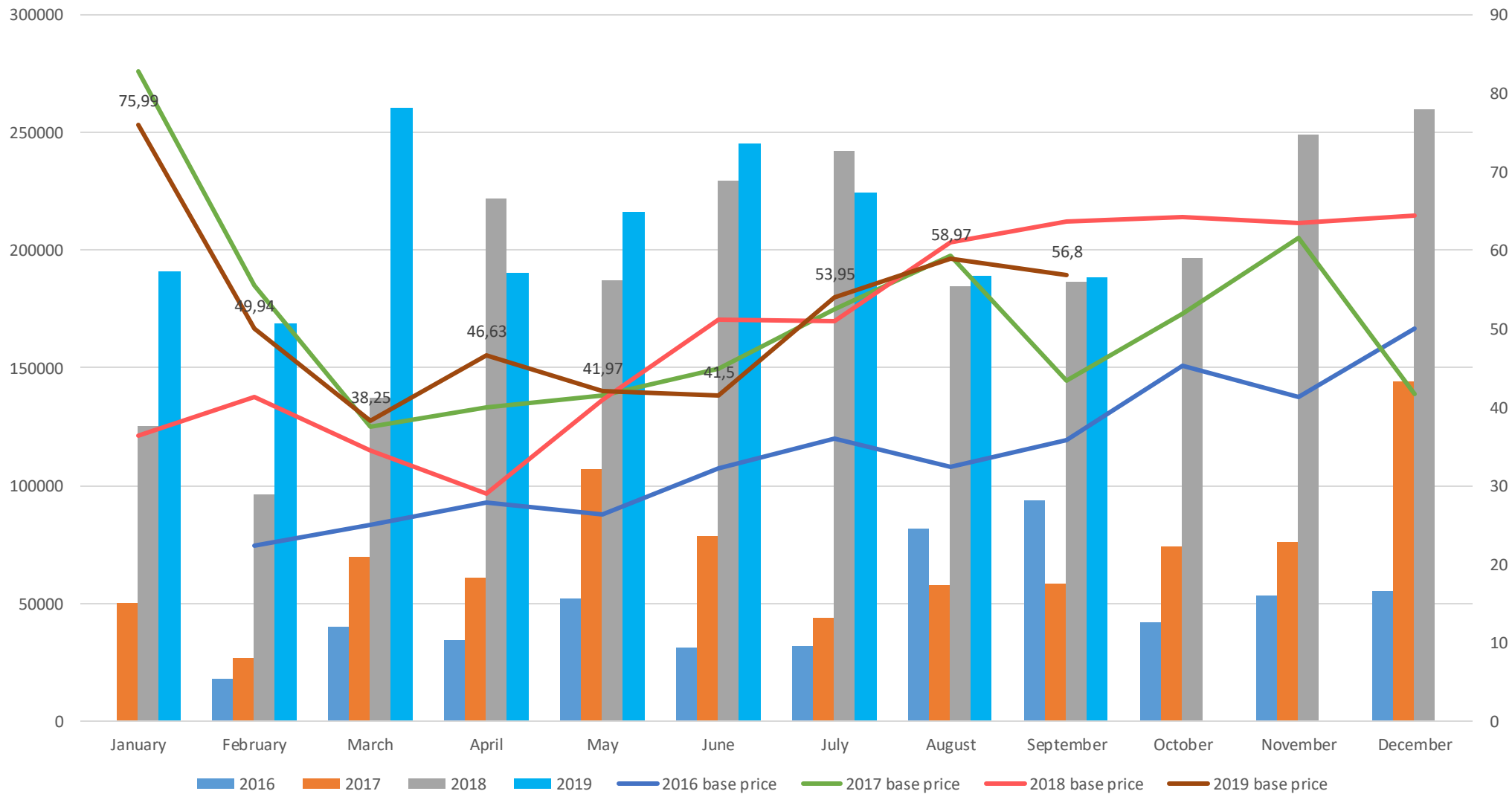
Main figures

- Yearly volume in 2018: 2,4 TWh
- Maximum monthly volume: 260 515,8 MWh (March 2019)
- Maximum daily volume: 13 483 MWh on 11.03.2019.
- Maximum hourly volume: 846 MWh on 24.04.2018. (8th trading hour)
- Starting from February 2016: avg. daily volume 4222 MWh, avg. price 46,99 €/MWh
- In 2019: avg. daily volume 6868 MWh, avg. price 51,6 €/MWh

1. GEN-I
2. Energy Financing Team AG
3. Interenergo d.o.o.
4. JP Elektroprivreda Srbije
5. Alpiq Energy SE
6. HEP d.d.
7. MVM Partner Serbia d.o.o. Beograd
8. Statkraft Markets GmbH
9. EMS a.d.
10. Holding Slovenske Elektrarne d.o.o.
11. Elektroprivreda Republike Srpske – ERS
12. Petrol d.d Ljubljana
13. Centrica Energy Trading A/S
14. Danske Commodities
15. Energy Supply
16. NIS a.d.
17. Freepoint
18. Energi Danmark A/S

SEEPEx results

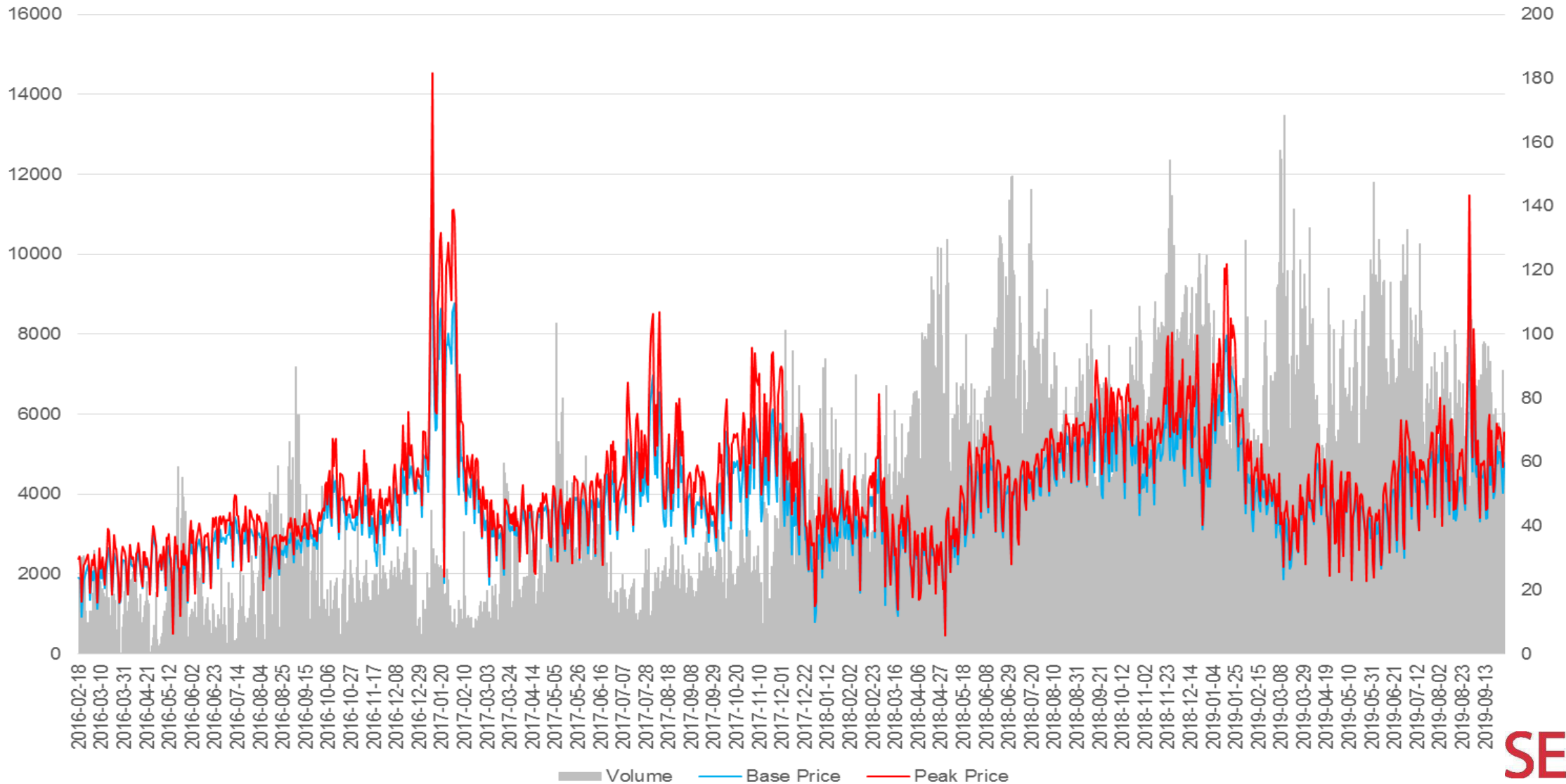
Volume/price trend



SEEPEx results

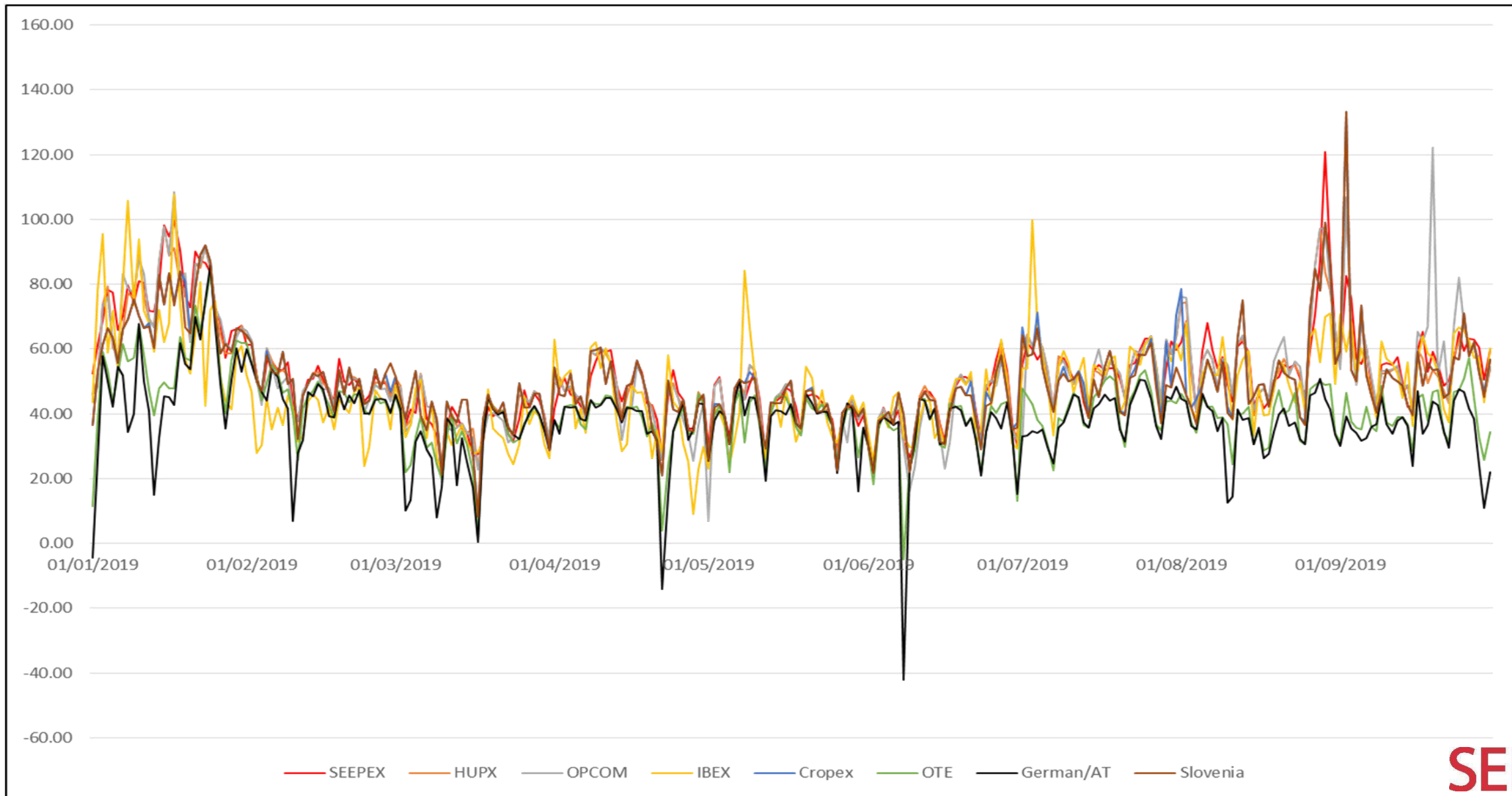
Volume/price trend

Average price: 46,99 €/MWh
Average volume: 4222,2 MWh



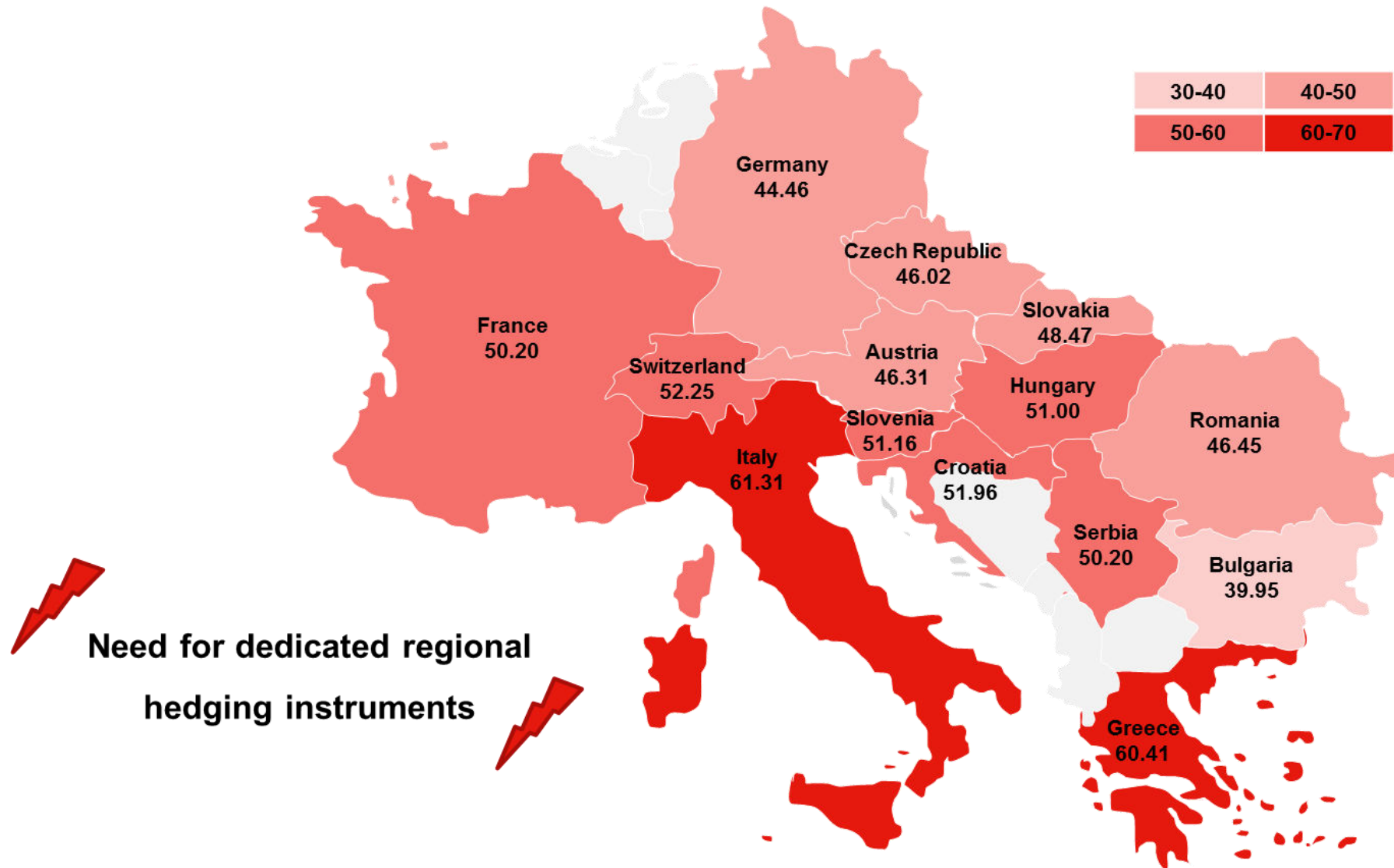
SEEPEx results

Price comparison in 2019



CSEE Power markets

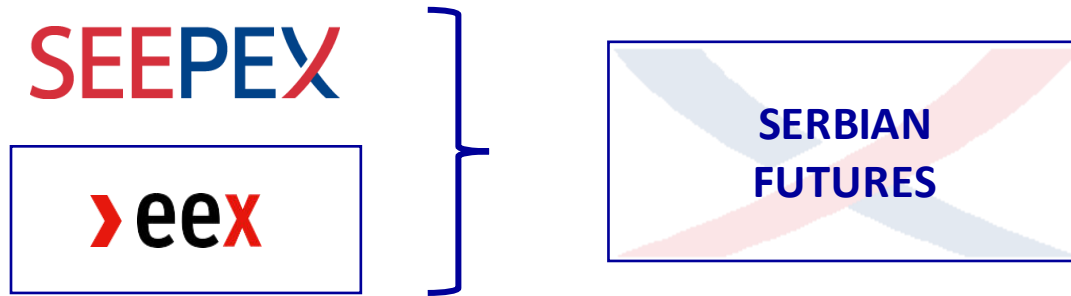
Regional Price differences in 2018



Serbian Financial derivatives

EEX – SEEPEX partnership

- Strategic partnership with a strong and relevant EU partner (best practice and robustness/liquidity to be ensured)



- Reference price and physical delivery are ensured via SEEPEX infrastructure (ETS platform and ECC clearing)
- Clearing services are provided by ECC according to the standard model in place in other European countries
- Serbian Derivatives market setup is fully compliant with European Financial Regulation
- Corresponding services for market participants as well as regulators are provided according to REMIT, EMIR, MIFID II, MIFIR, MAR
- Best practice in high transparency and surveillance standards

Serbian Financial derivatives

EEX – SEEPEX partnership

EEX Power Derivatives Markets – Pan-European market coverage

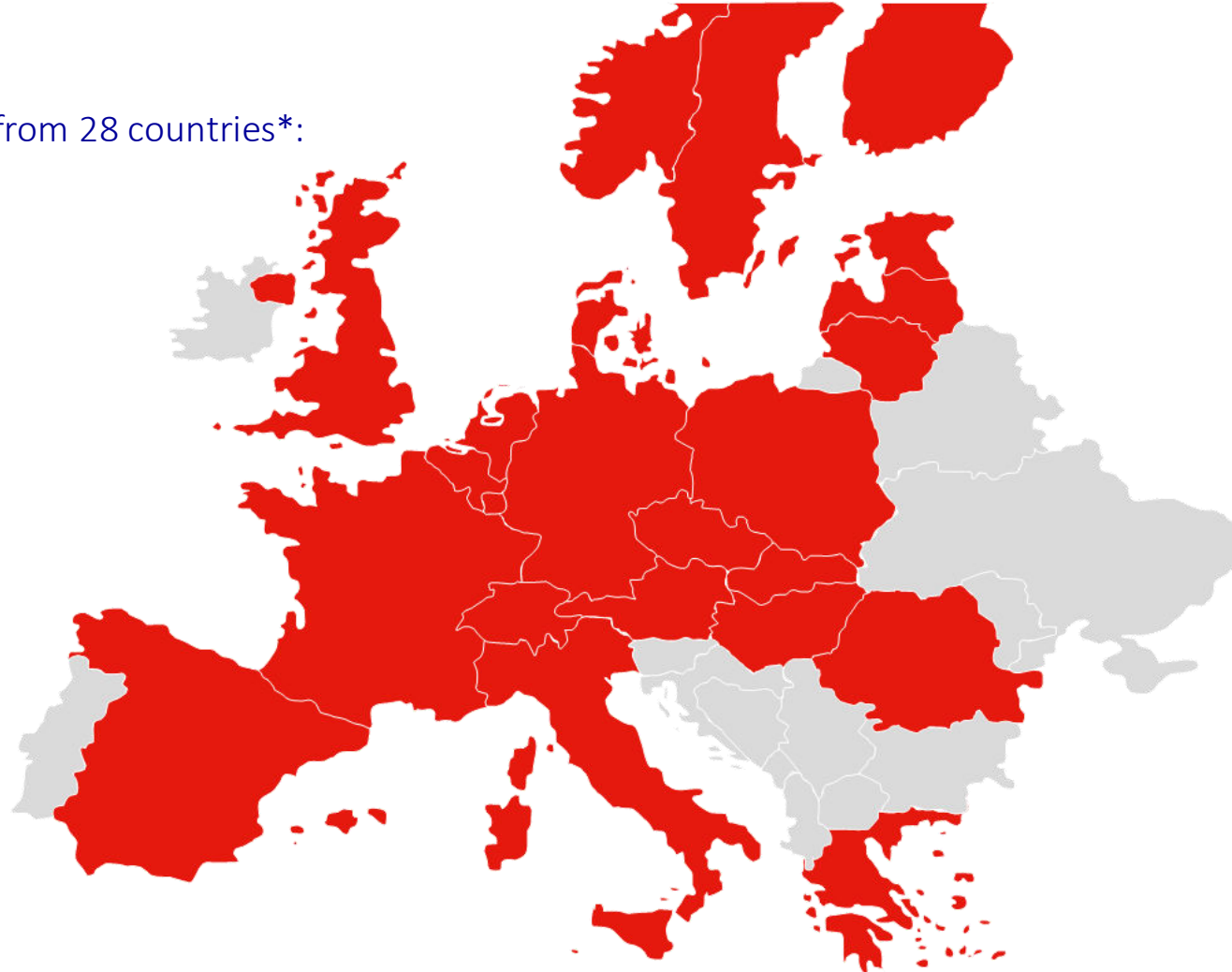
EEX connects 264 trading participants from 28 countries*:

8 Austria	1 Luxembourg
1 Belgium	10 Netherlands
1 Bulgaria	6 Norway
1 Croatia	10 Poland
20 Czech Republic	1 Portugal
7 Denmark	3 Romania
2 Finland	4 Slovakia
13 France	4 Slovenia
57 Germany	14 Spain
2 Greece	3 Sweden
3 Hungary	20 Switzerland
1 Ireland	33 United Kingdom
34 Italy	

5 non-European participants in

Canada, Cayman Islands, USA

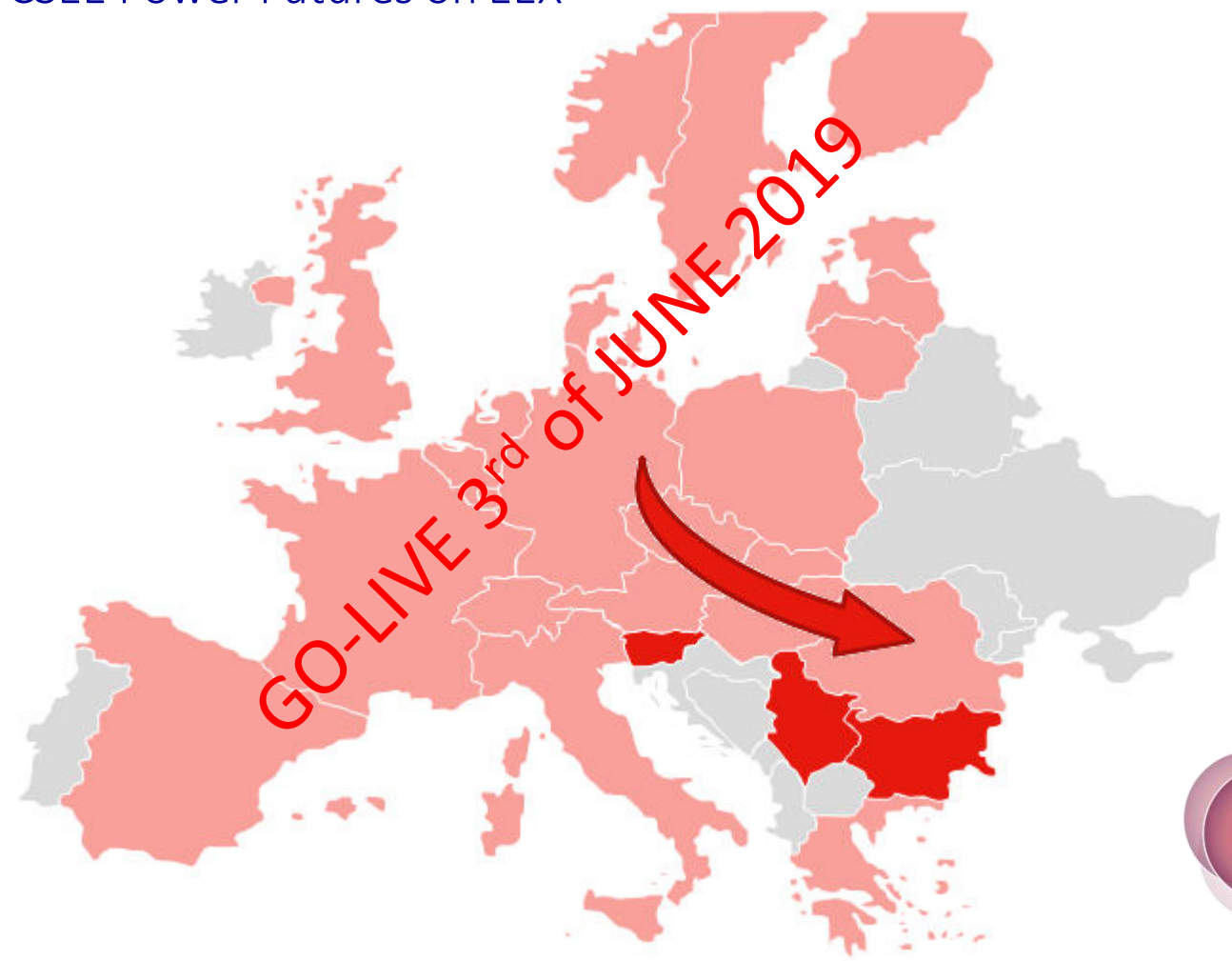
* As of 31 May 2018



Serbian Financial derivatives

EEX – SEEPEX partnership

CSEE Power Futures on EEX



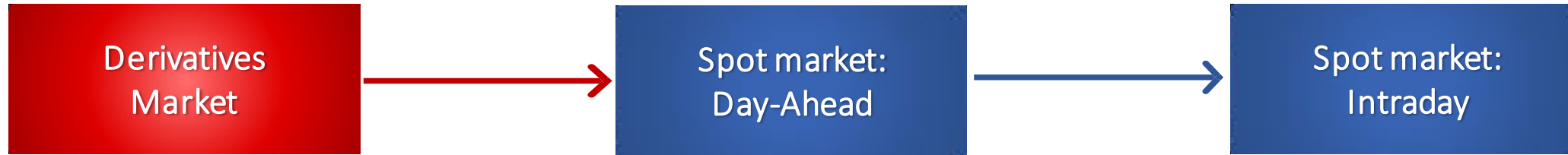
SEEPEX



SEEPEX

Exchange trading

Different markets for different needs



Power Derivatives

- Futures
- Options on Power Futures
- Trading up to six years in to the future
- Long-term reference price (enhancement of an overall investment framework)
- Choice between financial and physical delivery

Power Exchanges

- Day ahead auction
- Intraday (continuous, auction)
- Trading for the following day
- Trading in hours or blocks of hours
- Daily auction at 12:00
- Publication of prices at 12:40
- Trading until 30 minutes before delivery
- Trading in hours, blocks of hours and quarter-hour blocks
- From 15:00, all hours of the following day can be traded

Power Futures

Key Advantages and Benefits



Hedge against price risks in volatile spot markets



Standardized product offering with financial Power Futures denominated in €



Increased number of trading participants thus more liquidity



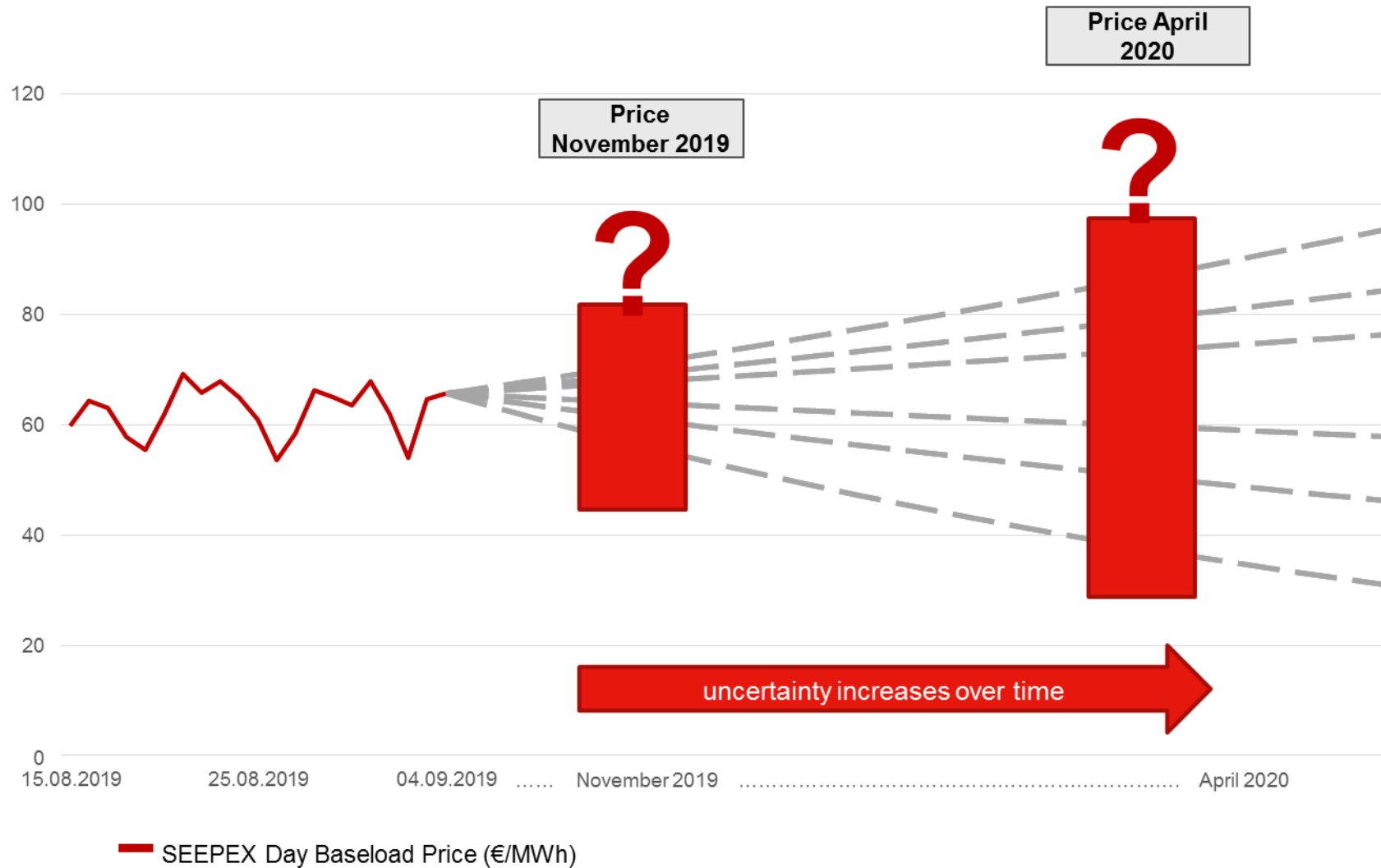
Market transparency and price efficiency due to central trading platform



Counterparty risk mitigation via clearing services of ECC

Hedging of price risks

Future price assessment





Factors influencing the formation of prices on the Derivatives Market

- Price development on the spot DAM
- Economic developments (economic growth)
- Development of other/ related markets (oil price, coal price, gas price, price of CO₂ emission allowances)
- Special events/incidents (e. g. nuclear power plant moratorium)
- Political framework

Price Risk mitigation via EEX Power Derivatives

Physical vs Financial Power Futures

Physical Power Futures	Financial Power Future		
<p data-bbox="155 436 448 594">Power Month Future April 2020</p> <p data-bbox="137 605 486 736">€ & ⏻</p> 	<p data-bbox="550 405 919 694">Agreement on the <u>price and the delivery</u> of specific amount of electricity in the future.</p> <p data-bbox="550 758 741 836">=> Physical Settlement</p>	<p data-bbox="1014 436 1302 594">Power Month Future April 2020</p> <p data-bbox="1116 648 1192 743">€</p> 	<p data-bbox="1391 405 1760 594">Agreement on the <u>price</u> of a specific amount of electricity in the future.</p> <p data-bbox="1391 708 1722 736">=> Cash Settlement</p>

Cash settlement

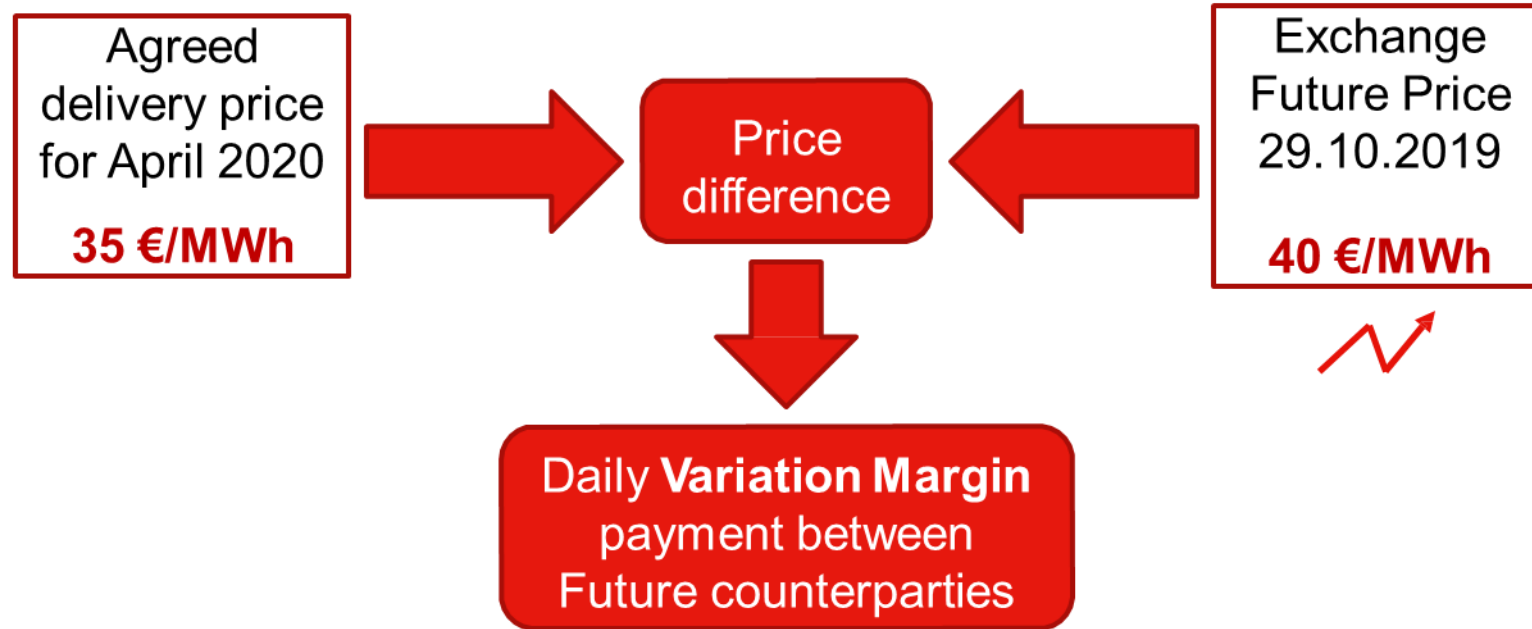
Instead of a physical delivery, **financial settlement** takes place against the underlying spot market price. Buyer/Seller receives the difference between the Future and the spot market price as **financial compensation**.

Price Risk mitigation via EEX Power Derivatives

Payment obligations: Variation Margin

When entering into a financial future agreement, the difference between the agreed delivery price and the Future price (settlement price), will be calculated on daily basis.

Based on this price difference, the calculation of each trading participant's **variation margin** takes place.

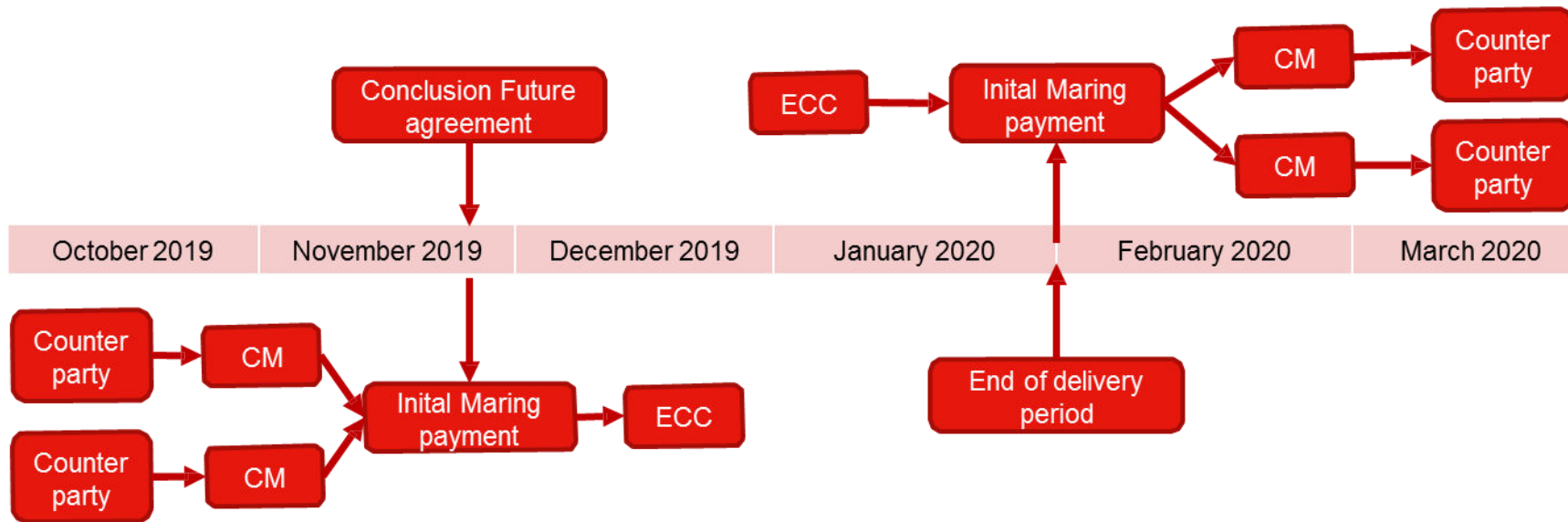


Price Risk mitigation via EEX Power Derivatives

Payment obligations: Initial Margin

In addition to the daily variation margin, the **Initial Margin** must be provided upon conclusion of the Future agreement.

The Initial Margin is a **security deposit** to be provided to ECC to reduce the possible default risk.



The amount of the Initial Margin is based on the contract size and volatility parameters of this contracts, determined by ECC.

The Initial Margin will be reimbursed to the counterparties at the end of the delivery period of the Future contract.

Price Risk mitigation via EEX Power Derivatives

Margin Settlement

All transactions concluded **until 18:00:00 CET** (booking cut) will be financially settled at the next TARGET2 day as follows:

Trades concluded on	Thursday	Friday	Saturday	Sunday	Monday	Tuesday
Thursday	T P BC	M				
Friday		T P BC			M	
Saturday			T		P BC	M
Sunday				T	P BC	M
Monday					T P BC	M

ECC will provide daily including position, margin and payment information across all commodities and the respective single transactions.

The payment amounts will be uploaded into the EUREX system for further processing.

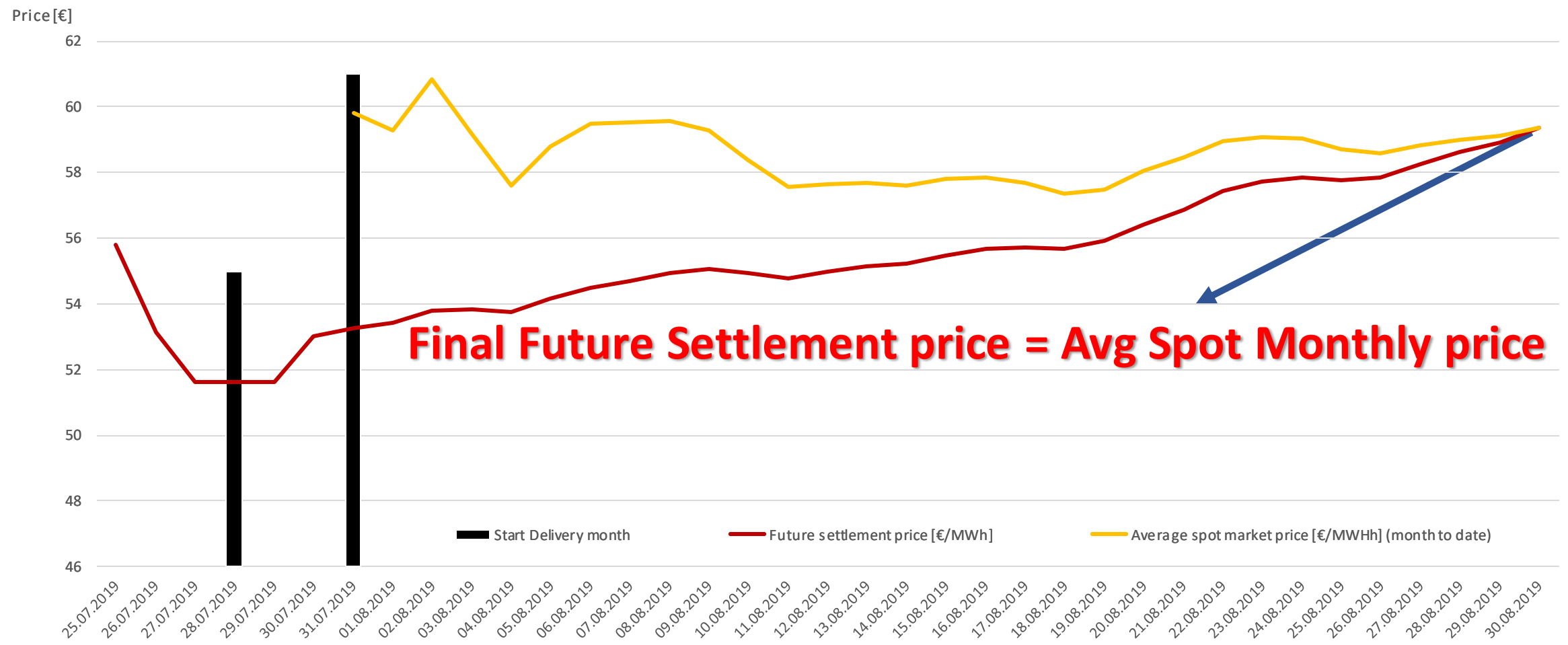
T Trade Report **P** Payment Report **BC** Booking Cut **M** Margin Settlement

EEX Power Future Contracts

Settlement Prices

Future August 2019 at 35 €/MWh = position value for 1MW contract is 26,040 €

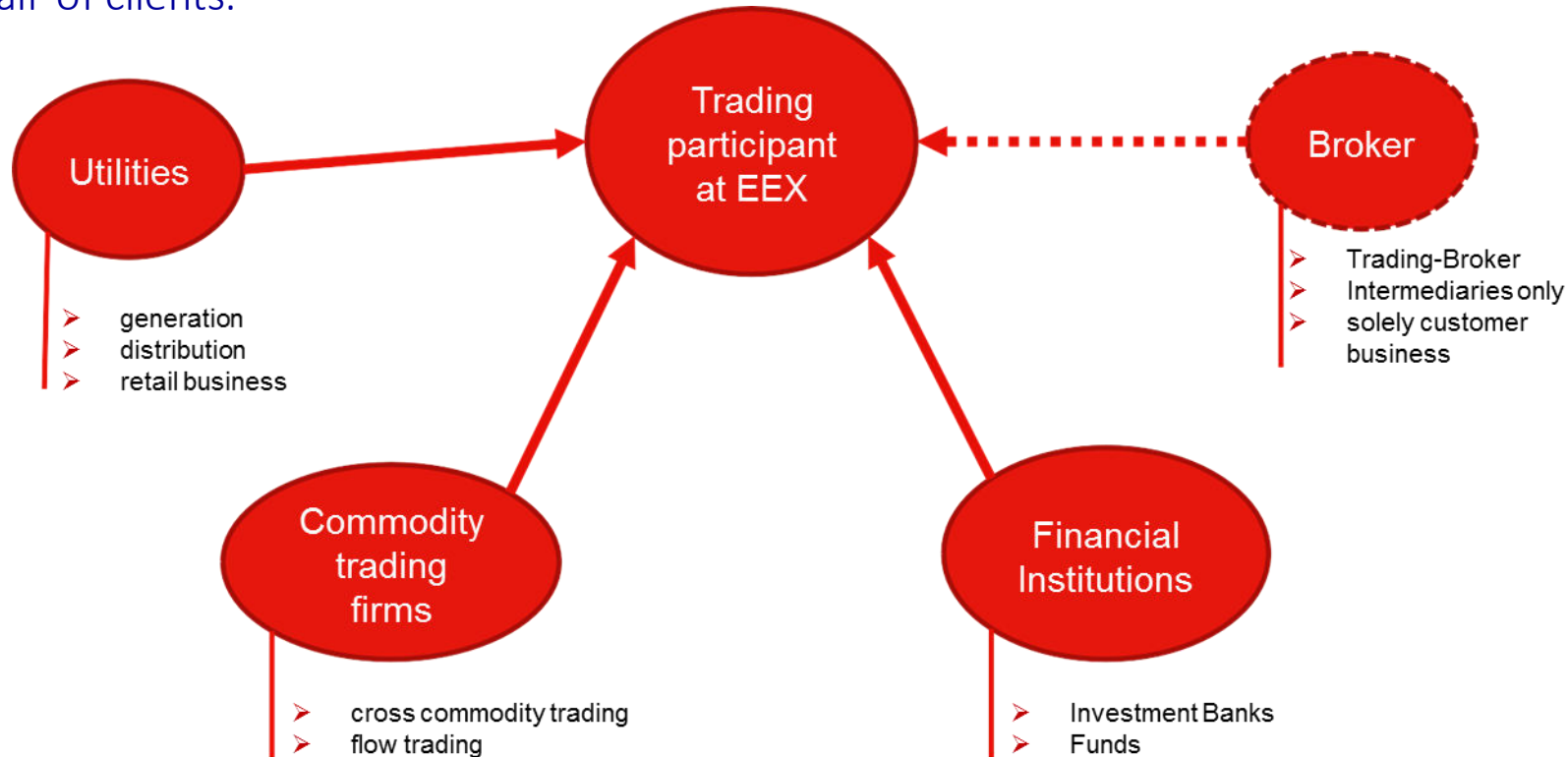
Future Position Value	26,040.00 €
Purchase price in spot auction	44,162.10 €
Variation margin profit/loss	18,122.10 €
Result	26,040.00 €



EEX Power Future Contracts

Access and membership

On EEX different member types are admitted as trading members to trade either on own account or on behalf of clients.



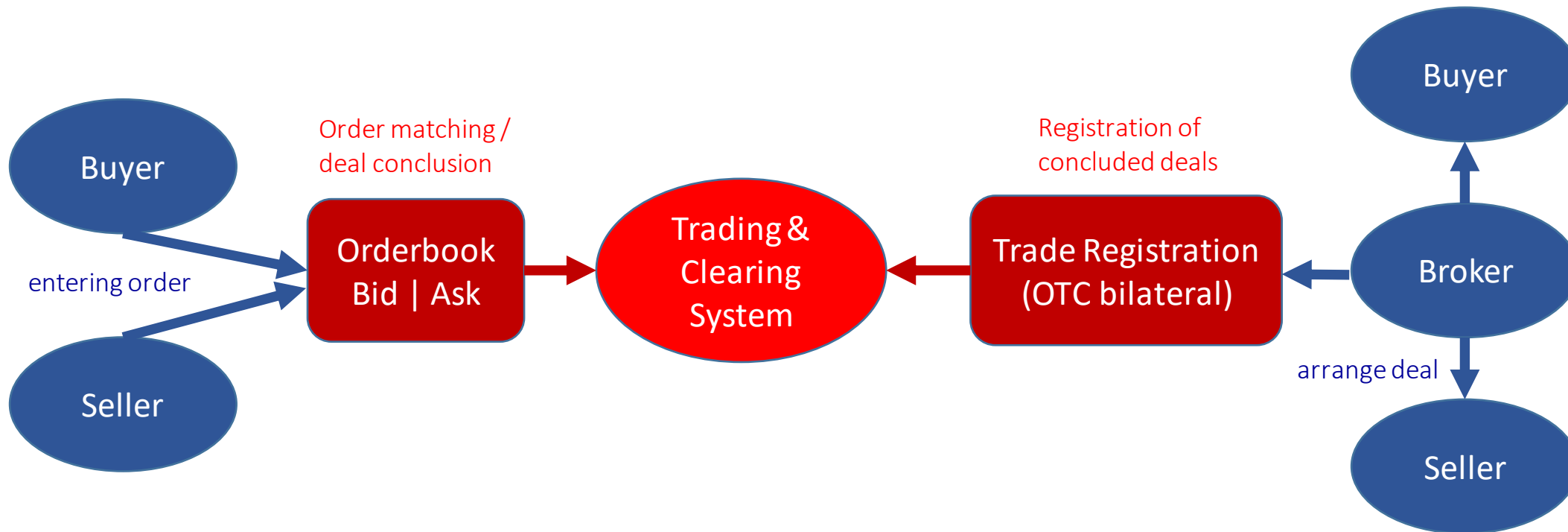
EEX Power Future Contracts

Access and trade

Two access streams are available for the conclusion and the clearing of trades:

a) by entering orders in the **Orderbook** or

b) by registration of already concluded OTC deals via the **Trade Registration interface**.



EEX Power Future Contracts

Reporting obligations

EEX and its trading participant are subject to various different reporting obligations.

Spot Power, Natural Gas	Spot Emission Allowances	Derivatives Physical delivery		Derivatives Financial delivery	
		Power, Natural Gas	Other commodities	Power, Natural Gas	Other commodities
REMIT ²	MiFIR ³	EMIR ¹		EMIR ¹	
		REMIT ²	-	REMIT ²	-
		MiFID II/MiFIR ³		MiFID II/MiFIR ³	

¹ companies based in the EU

² for products with delivery in EU


³ for financial products traded at EU marketplace

Serbian Financial derivatives








EEX – SEEPEX partnership


GO-LIVE 3 jun 2019.

- First deal in July 2019. godine

2019-07-09  Week **Month** Quarter Year

Baseload

Name	Last Price	Last Volume	Settlement Price	Volume Exchange	Volume Trade Registration	Open Interest	
Jul/19	-	-	52.84	-	-	10	
Aug/19	-	-	53.70	-	-	0	
Sep/19	-	-	-	-	-	0	
Oct/19	-	-	-	-	-	0	
Nov/19	-	-	-	-	-	0	
Dec/19	-	-	-	-	-	0	
Jan/20	-	-	-	-	-	0	





Energy will belong to everyone...

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