

ENERGY BUSINESS MOTION



Foreword



A handwritten signature in blue ink, appearing to read 'Péter Tóth', with a stylized flourish at the end.

Péter Tóth, CEO, HUPX
Chairman of Supervisory Board, CEEGEX
Chairman of Executive Board, HUDEX

Dear Reader,

I am delighted to present HUPX Group, the Hungarian Power Exchange (HUPX), the Central Eastern European Gas Exchange (CEEGEX) and the Hungarian Derivative Energy Exchange (HUDEX).

As an important part of the liberalization of the electricity market in Hungary, HUPX started operating as a subsidiary of MAVIR Ltd., in July 2010. Fulfilling its mission, it takes an appreciated, leading place in Hungary and the Balkan region.

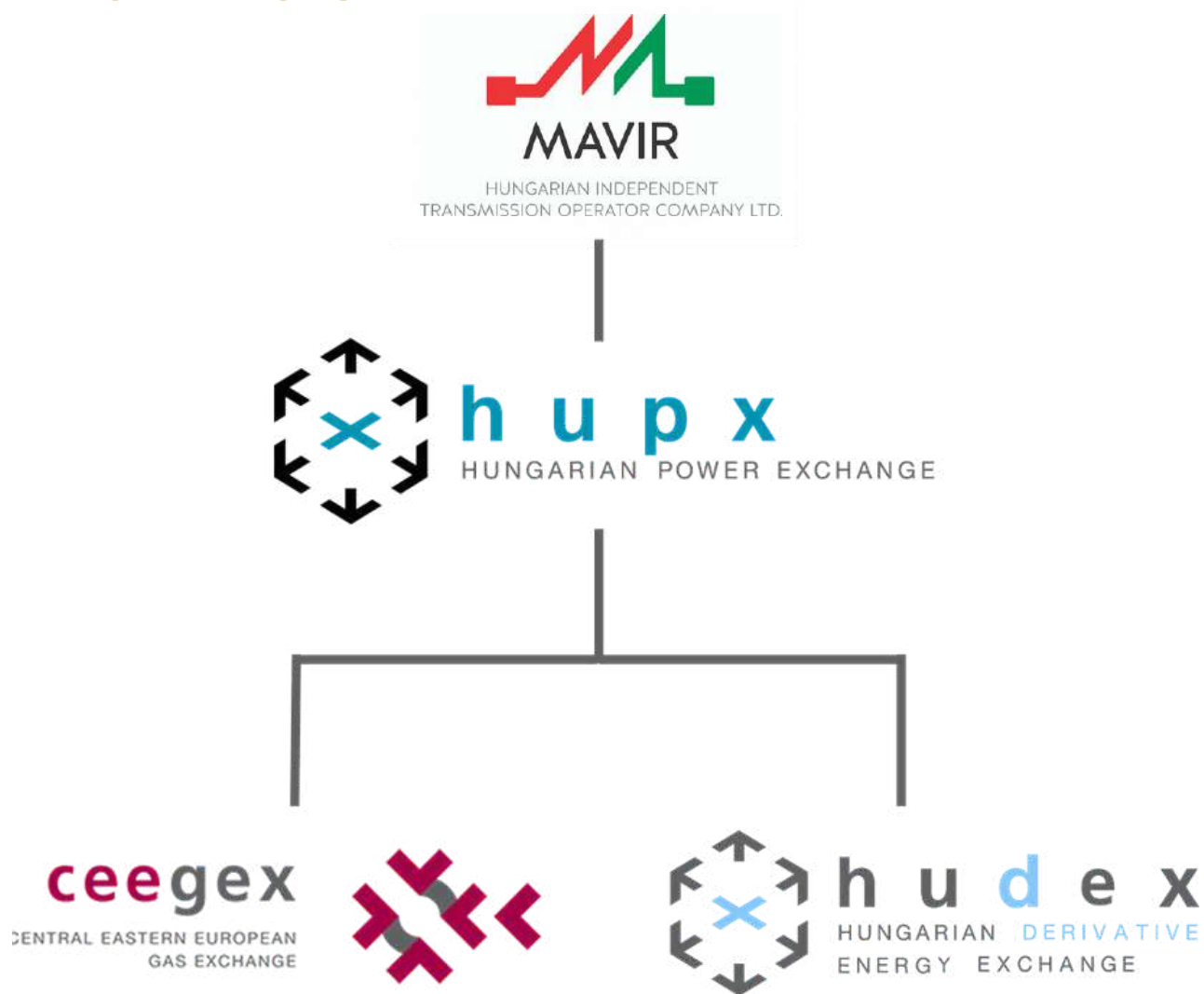
In 2013 - within the framework of HUPX Group - an organized market for natural gas opened its platform. CEEGEX is keen on utilizing Hungary's unique geographical capabilities and its already existing and planned cross-border capacities while providing cooperation opportunities in the Central Eastern European region.

In January 2018, the first Hungarian financial energy exchange, HUDEX started its operations as the newest member of the Group. HUDEX is supporting the Group's primary objective to offer a trading platform for Hungarian electricity and gas futures products.

Transparent, standardized market mechanism and liberalized market operation serves the safety of domestic power and gas supply, the cost efficiency of trading and the upswing of developments, investments in the energy industry.

I sincerely hope that our achievements convince you and I will have the opportunity to welcome you join our markets.

HUPX GROUP: POWER, GAS AND DERIVATIVE EXCHANGES



MILESTONES

2010 Jul

HUPX Day-Ahead Market

2011 Jul

HUPX Physical Futures

2012 Sep

CZ-SK-HU Market Coupling

2013 Jan - CEEGEX

2014 Nov - 4M Market Coupling

2016 March

HUPX Intraday Market

2016 Oct - CEEGEX Within-Day

2018 Jan - HUDEX

2019 Nov

XBID: European Single Intraday
Coupling (SIDC)

HUPX GROUP

Intraday, Day-Ahead, Futures Power&Gas products are tradable within one company group, discounts available for being a member on all markets

Non-discriminative trading - equal treatment, equal accessibility to information, anonymous trading

Indicative reference price - market transparency

Settlement services - managed counterparty risks, prompt completion

Utilization of market resources



ADVANTAGES OF HUPX GROUP

Simple administration
(scheduling, invoicing)

High liquidity

Market coupling - optimal utilization of cross border links

Well-known IT solution - compatibility with other exchanges

Central counterparty ensures financial security for all transactions

REMIT reporting

HUPX POWER DAY-AHEAD MARKET

Market coupling, and the continuous development of the HUPX Day-ahead Market have increased the interest towards organized electricity trading in Hungary. This is visible in the continuously growing trading volumes.



WHAT DO WE OFFER?

Daily auction through the year

Products: hourly and block

Gate closure: 11:00 am CET

Market coupling with Czech Republic, Slovakia and Romania

Liquid market with a high number of active trading participants

HUPX DAY-AHEAD MARKET MEMBERS

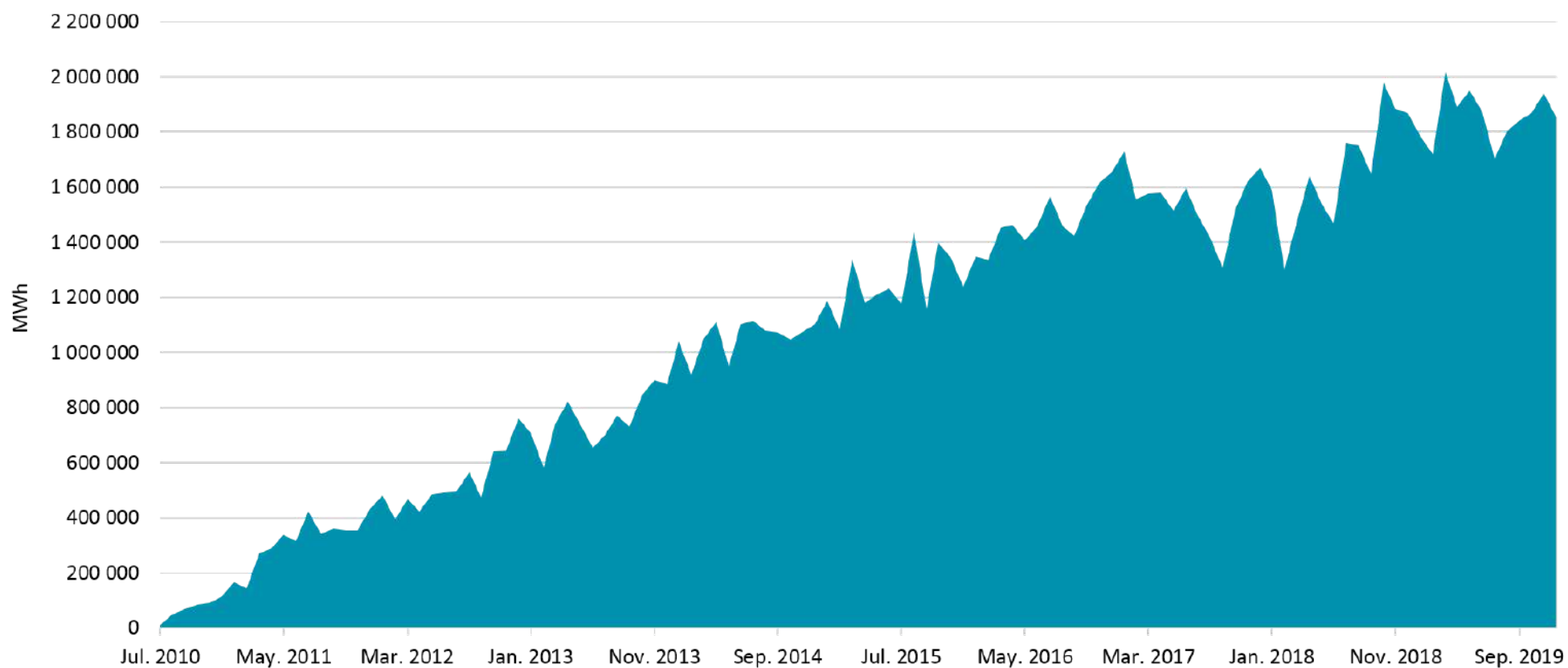


59 MEMBERS

HUPX DAY-AHEAD MARKET MONTHLY VOLUMES SINCE LAUNCH

HUPX DAM's total traded volume in 2019 reached 22 243 GWh, thus achieving a 11.7% increase from the 19 908 GWh realized in 2018.

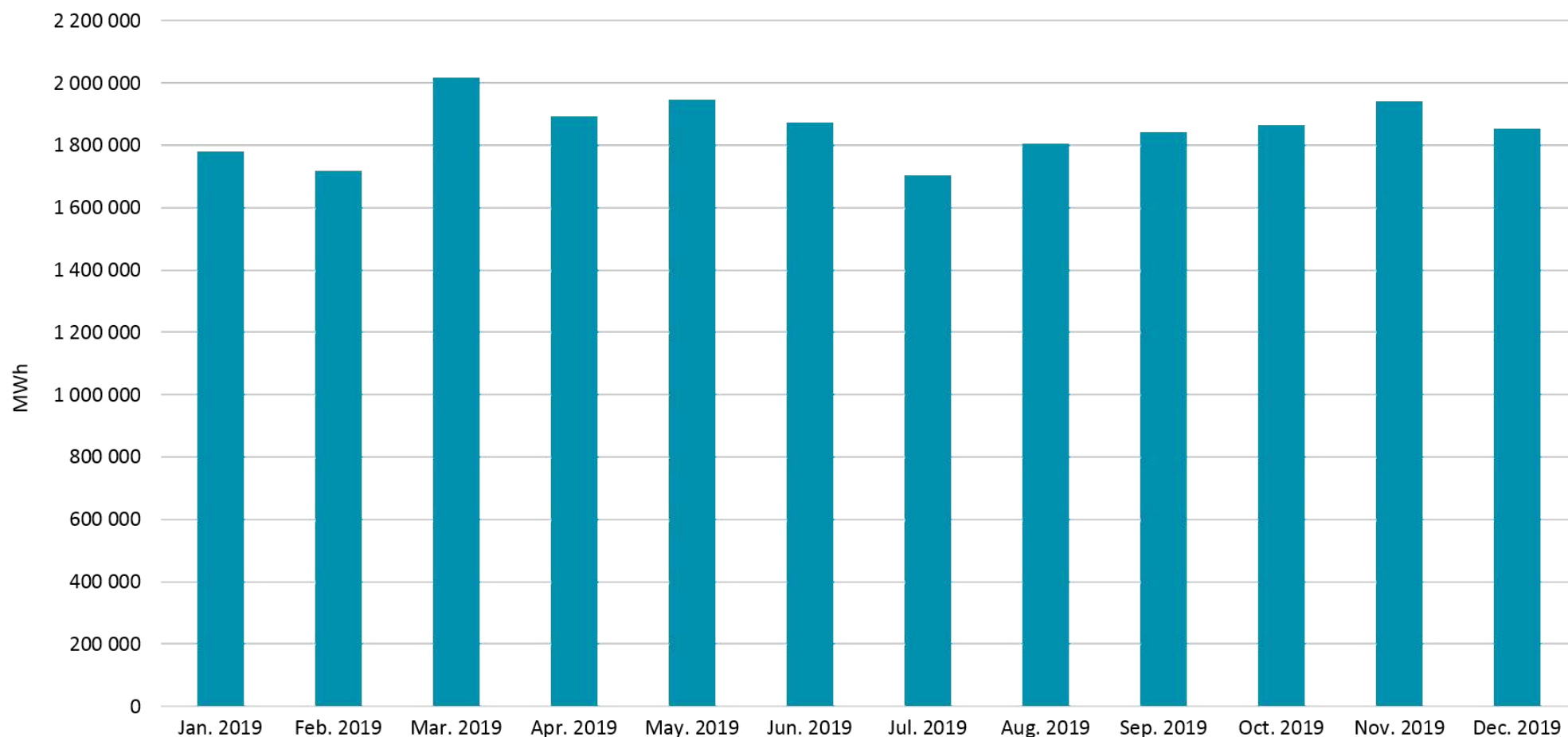
The highest ever daily traded volume in HUPX's history was accomplished on delivery day of 27th February 2019 with 77 811 MWh.



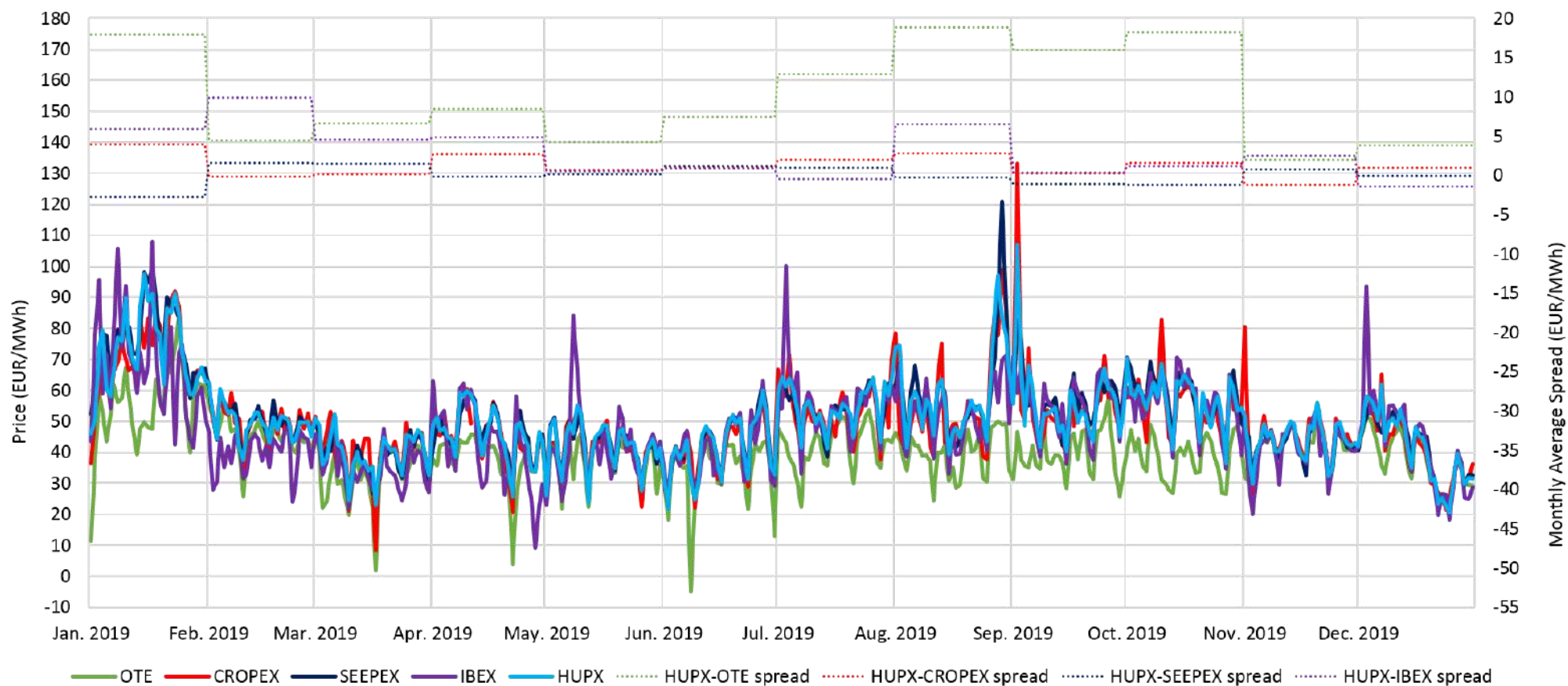
HUPX DAY-AHEAD MARKET TRADED VOLUMES

The most successful month in the Day-ahead Market's operation was March when it reached record heights in trading with a total volume of 2 016 GWh.

HUPX DAM's total traded volume in 2019 also reached record heights with 22 243 GWh.

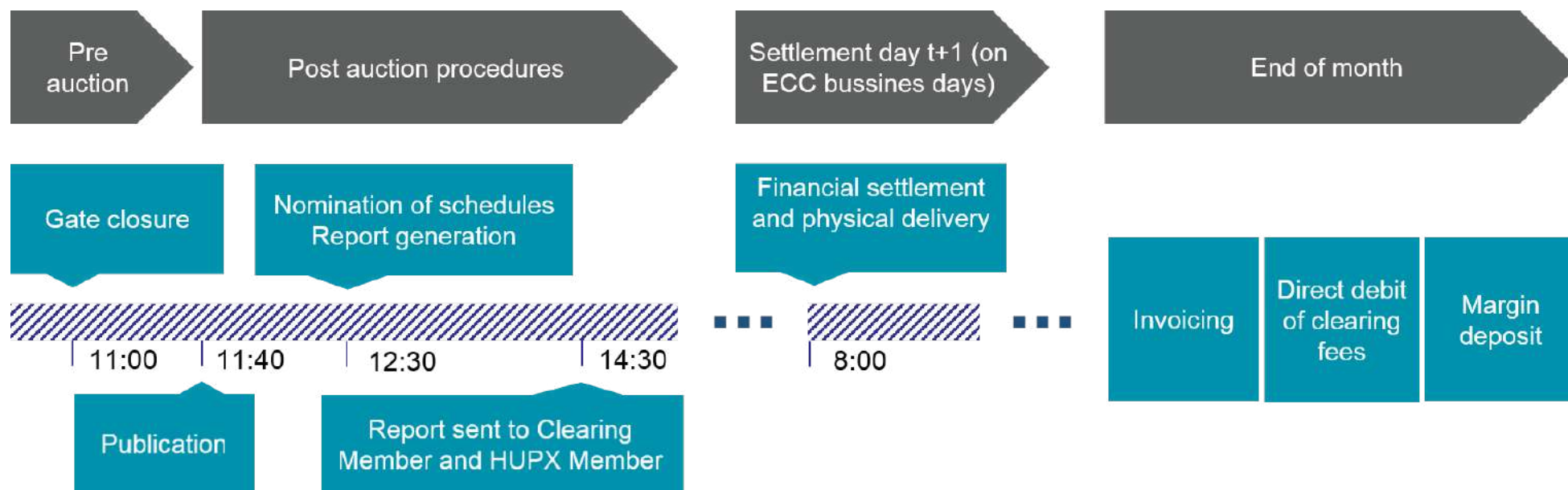


REGIONAL DAY-AHEAD MARKET AVERAGE HOURLY PRICES



Source: www.hupx.hu and ENTSOE

HUPX DAY-AHEAD MARKET TRADING PROCESS



HUPX POWER INTRADAY MARKET

HUPX Intraday Market provides more opportunities for its Members to reduce their need for imbalance energy, to optimize power generation closer in time to delivery and to manage forecast errors or unforeseen power plant outages.

Trading System: Deutsche Börse M7 trading platform

Cross border trading for hourly contracts and blocks

OTC (Over-the-counter) clearing registration for local products

Trading is possible through trading platform and API



ACHIEVEMENTS

XBID project - European Single Intraday Coupling (SIDC) project: Hungary joined in the 2nd wave in November of 2019, resulting in record breaking volumes and significant liquidity

HUPX introduced shorter lead time: 60 minutes

AutoTRADER solutions available for intraday trading: Trayport VisoTech GmbH with Periotheus; Inercomp GmbH with PowerBot; Likron GmbH with Likron Automatic Execution Service

HUPX INTRADAY MARKET MEMBERS

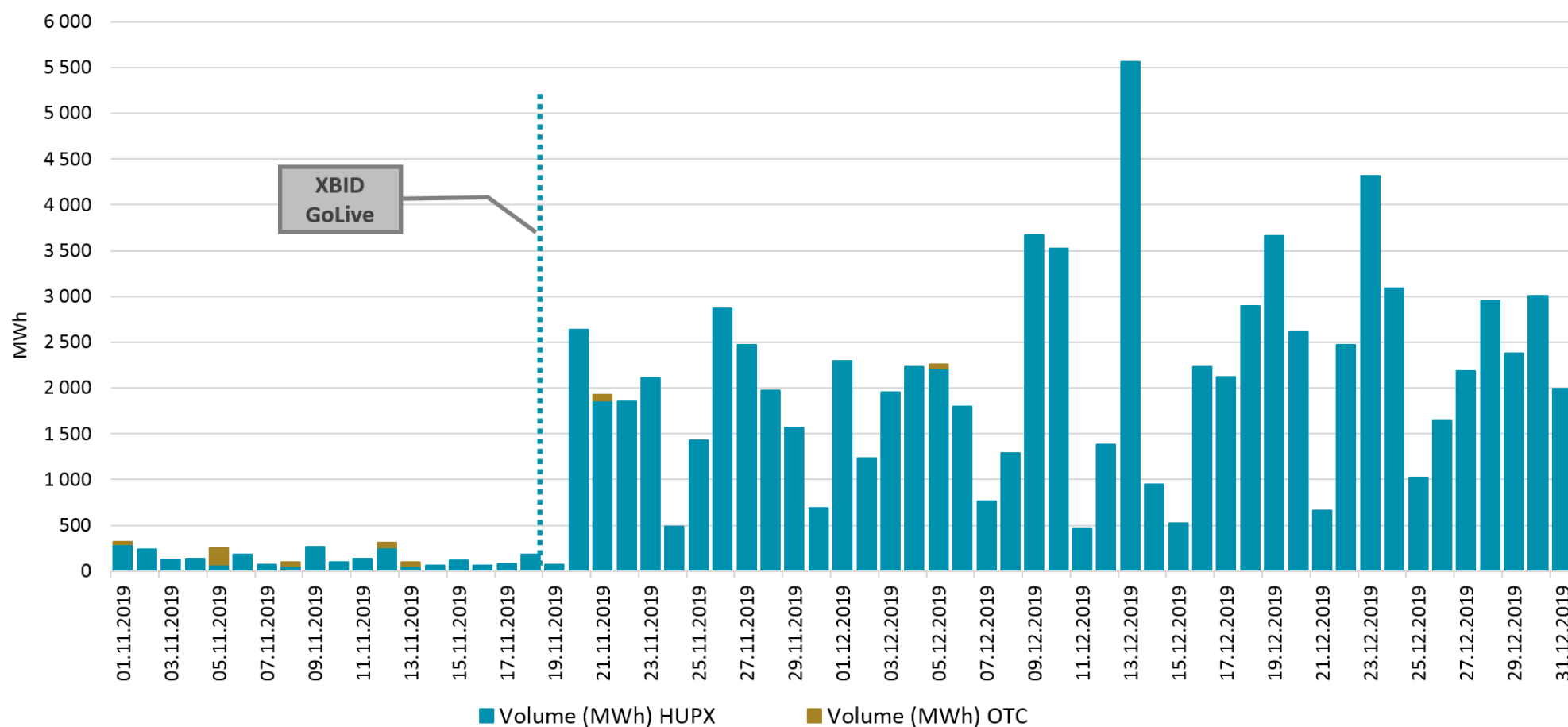


36 MEMBERS

Number of members admitted by 01.01.2020

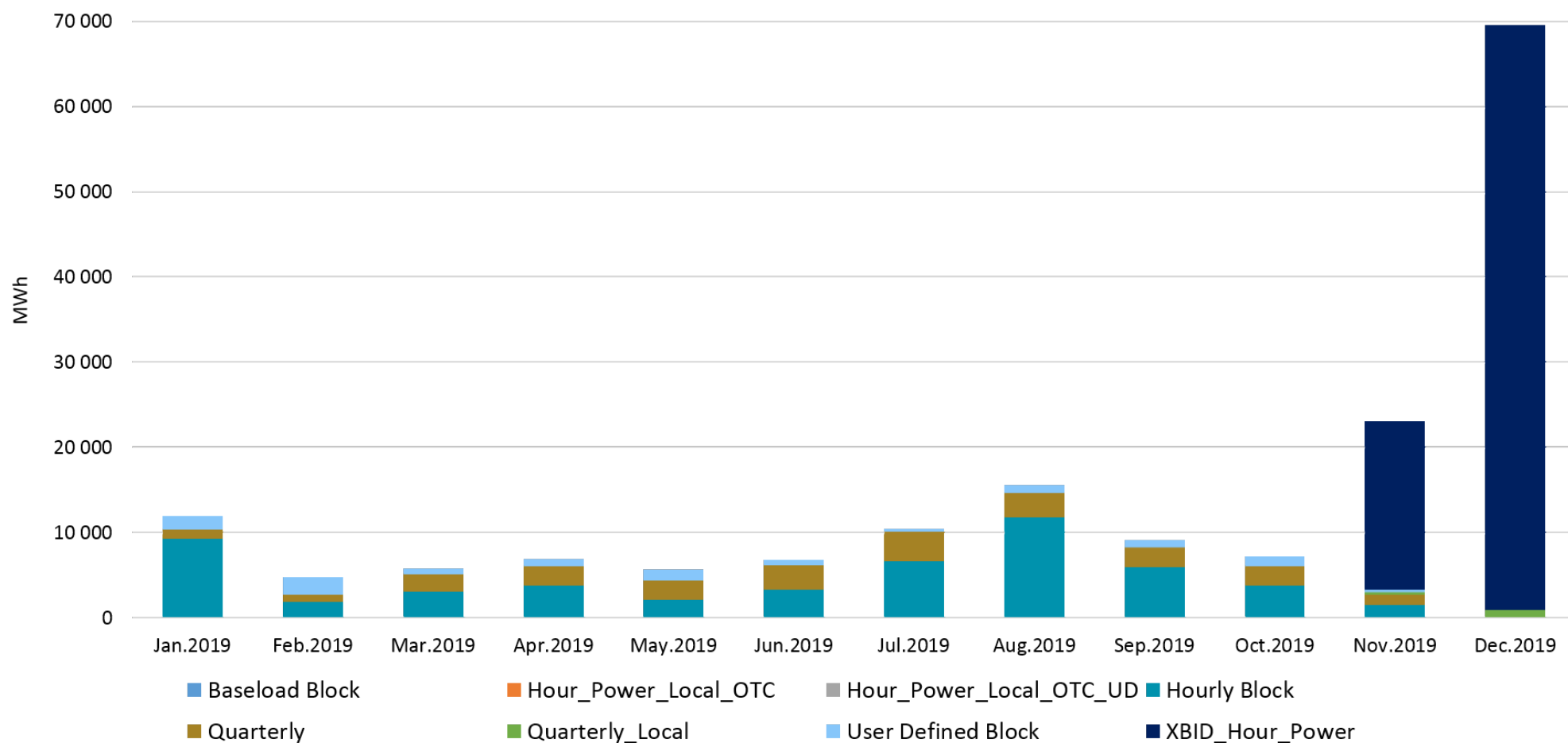
HUPX INTRADAY MARKET TRADED VOLUMES IN NOVEMBER-DECEMBER 2019

HUPX experienced great growth in the intraday volumes in the end of 2019 thanks to going live with XBID on November 19. The highest daily traded volume was 5 565 MWh achieved on 13th December, 2019 on HUPX's IDM.



HUPX INTRADAY MARKET TRADED VOLUMES

On the intraday market the total 155 788 MWh traded volume of 2019 was nearly 3 times higher than in 2018, when 55 093 MWh was traded on the ID market.



HUPX INTRADAY MARKET TRADING PROCESS

Non-stop trading

24/7, all year round

With IT and operational support

Order book opening

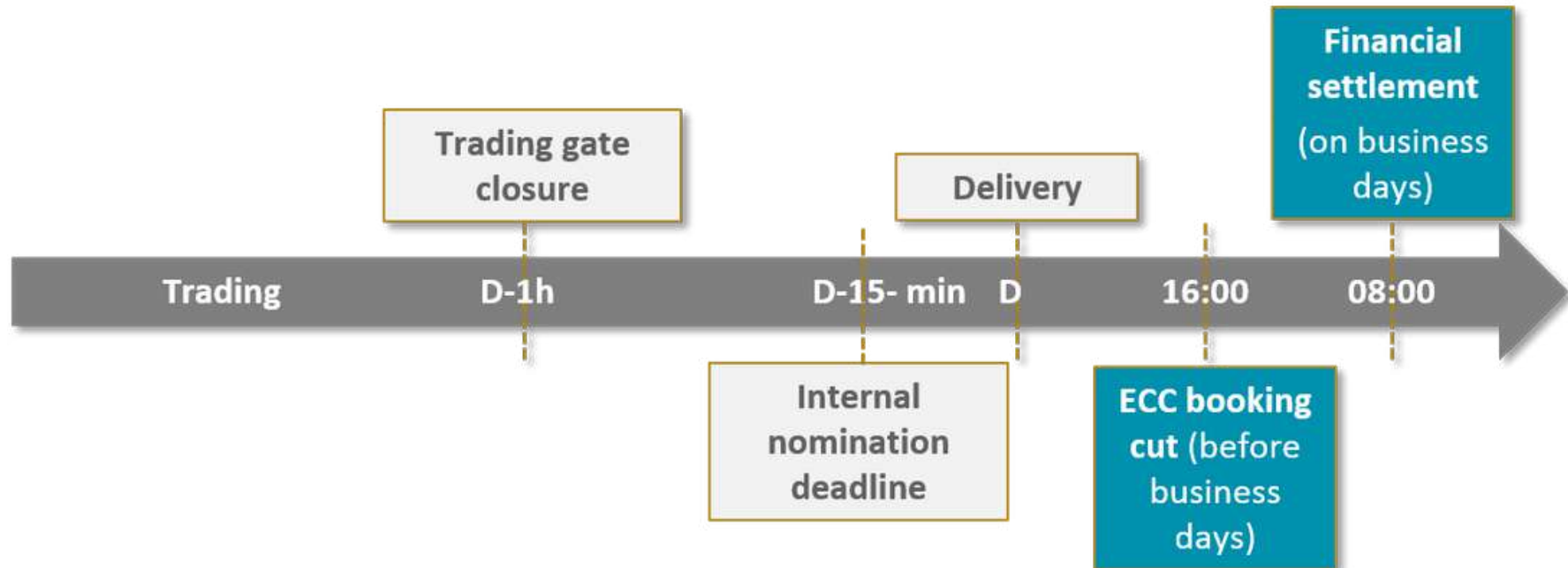
IDM trading session opens D-1 at 15:00 with 96 quarterly contracts, 24 hourly contracts and blocks

Pre-trade financial limit

Limit set by the Clearing Members of the traders through ECC (European Commodity Clearing)

Possibility of changing the available limit on a daily basis

Daily limit reset at 16:00 CET on ECC business days
Open positions accumulate on Weekends and Holidays until booking cut with financial settlement (next business day)

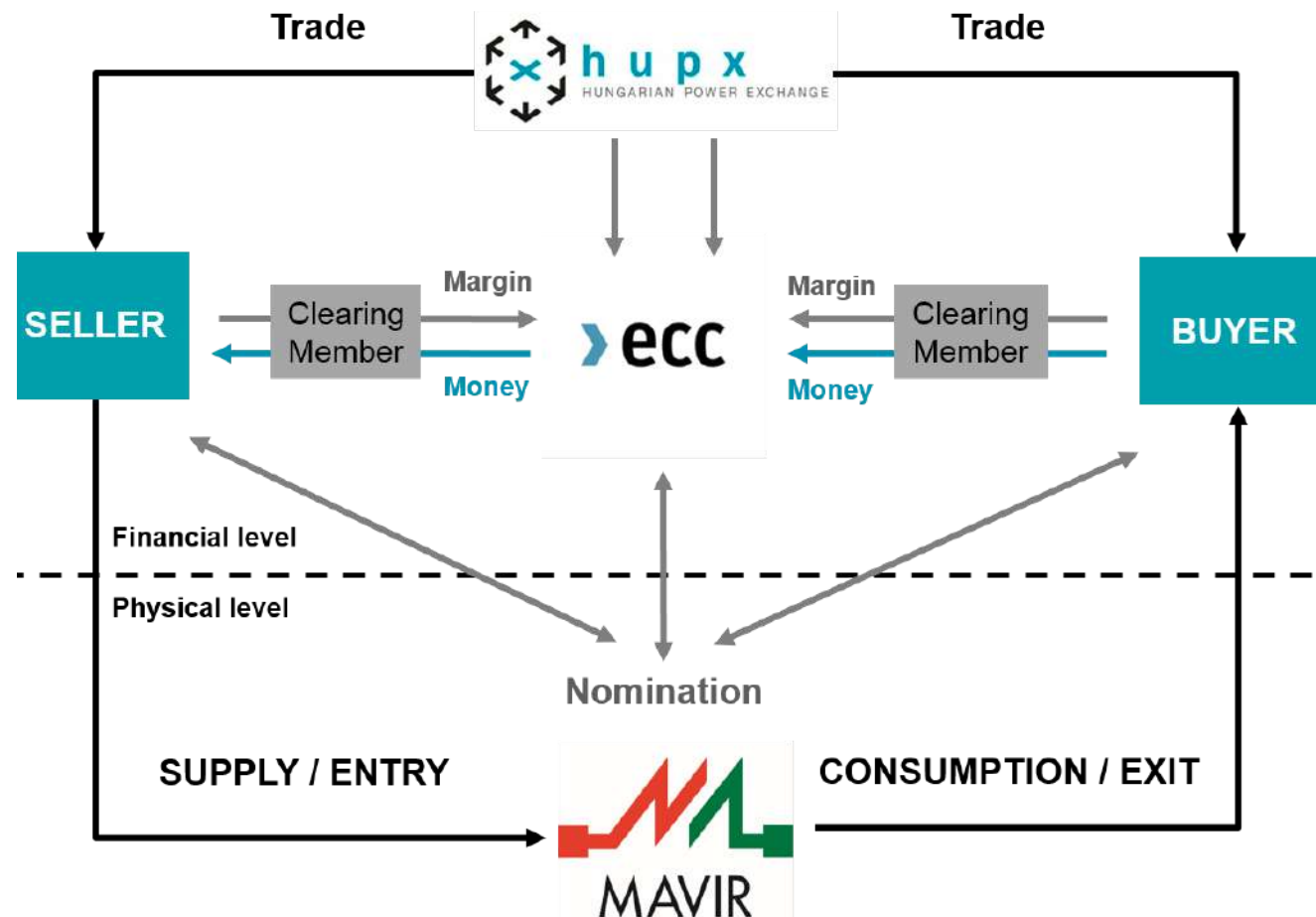


HUPX DAY-AHEAD MARKET AND HUPX INTRADAY MARKET CLEARING AND SETTLEMENT

ECC ensures financial security for all transactions by acting as a central counterparty between buyers and sellers and by setting up guarantee mechanisms such as security requirements. This way counterparty risk is eliminated.

Energy trading companies become Non-clearing members of ECC and the Clearing Members, which are banks being responsible for account maintenance and settlements. Clearing rules are described in ECC Clearing Conditions.

ECC nominates all transactions to MAVIR, who is then responsible for the physical settlement.



CEEGEX

CEEGEX is keen on utilizing Hungary's unique geographical capabilities and cross-border capacities by establishing a liquid regional gas market.

Its objectives are to support efficient portfolio management, provide new supplementary sources and offer advanced risk management options on the Hungarian natural gas market.

What do we offer?

Physical Within-day and Day-ahead Market

Trading on Hungarian Virtual Point (MGP) and on locational points

Continuous trading session 24/7

Continuous bid-ask prices provided by market makers



ceegex
CENTRAL EASTERN EUROPEAN
GAS EXCHANGE



ACHIEVEMENTS

With 34 338 GWh total traded volume in 2019 the traded volume of 2018 has been exceeded 4 times.

Reaching 5.23 TWh record spot traded volume in August

Increasing spot traded volumes:

Total spot volume of 2017:
2 014 GWh

Total spot volume of 2018:
8 405 GWh

Total spot volume of 2019:
34 338 GWh

5 new members in 2019

Introduction of pre-trade limit check

Extended tradability of spot gas products

CEEGEX MEMBERS



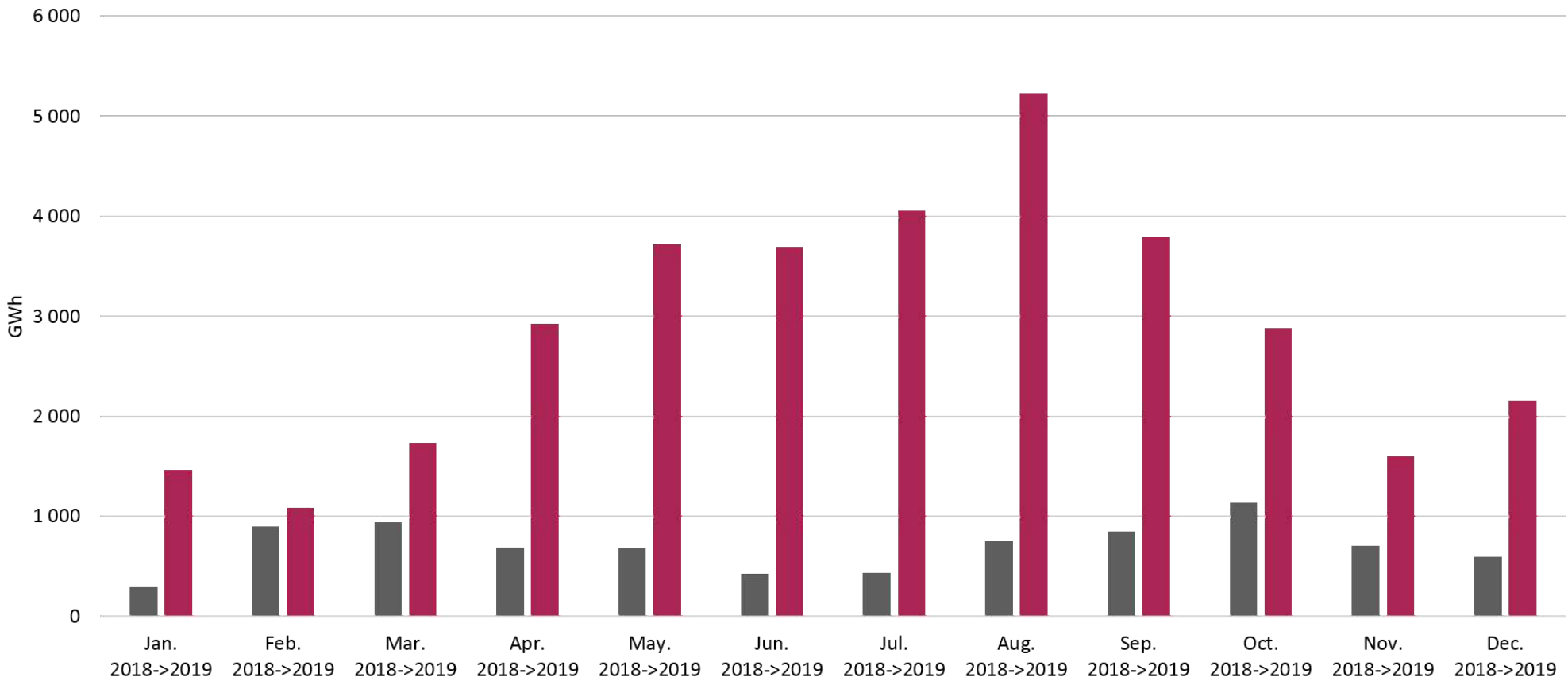
37 MEMBERS

2 MARKET MAKERS

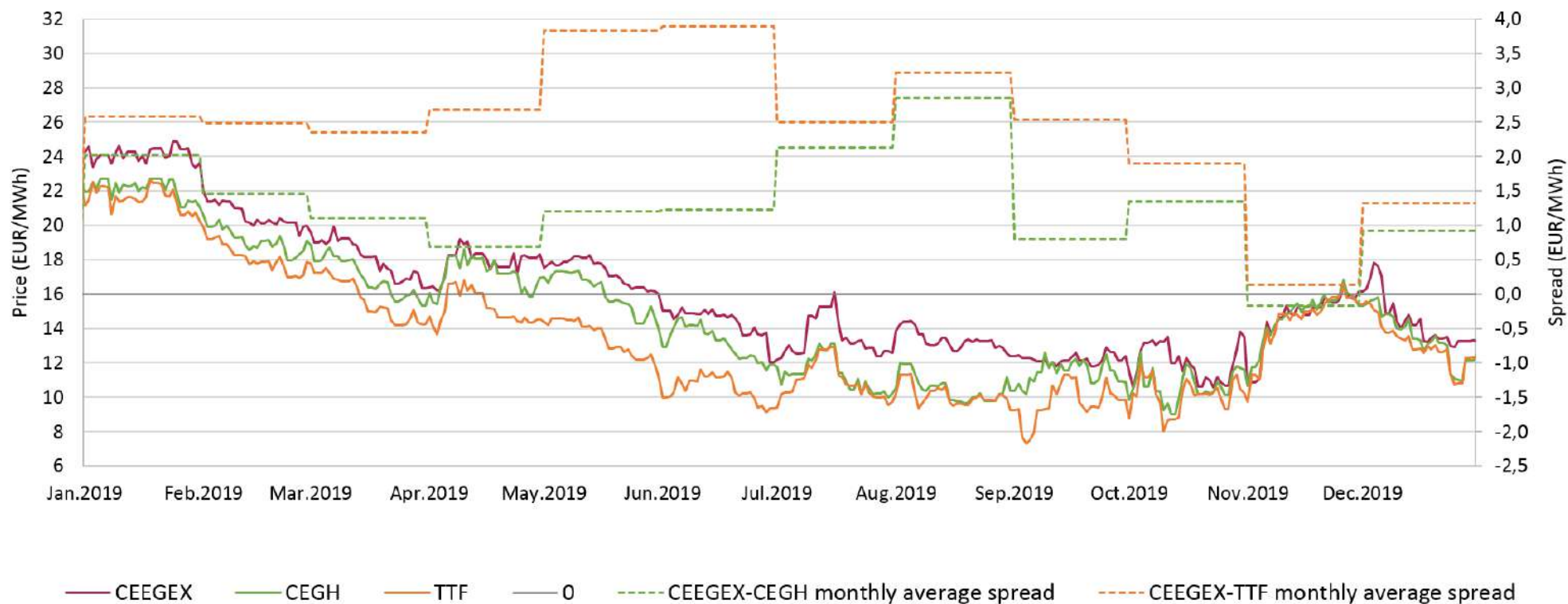
Number of members admitted by 01.01.2020

CEEGEX TRADED VOLUMES

CEEGEX reached new heights in 2019 with a traded volume of 34 338 GWh which accounts as a fourfold increase compared to the previous year 2018 with 8 405 GWh.

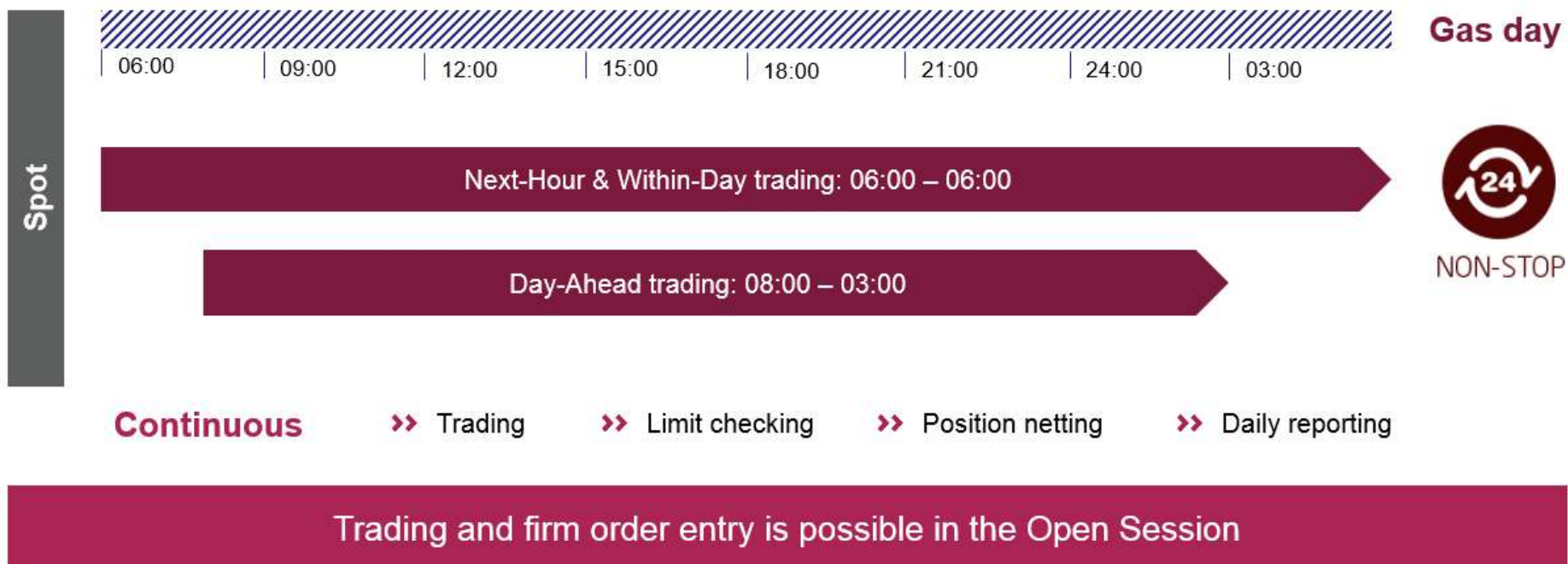


CEGH – CEEGEX DAY-AHEAD MARKET PRICES



Source: www.ceegex.hu and Thomson Reuters Eikon

DAILY OPERATION OF CEEGEX MARKETS

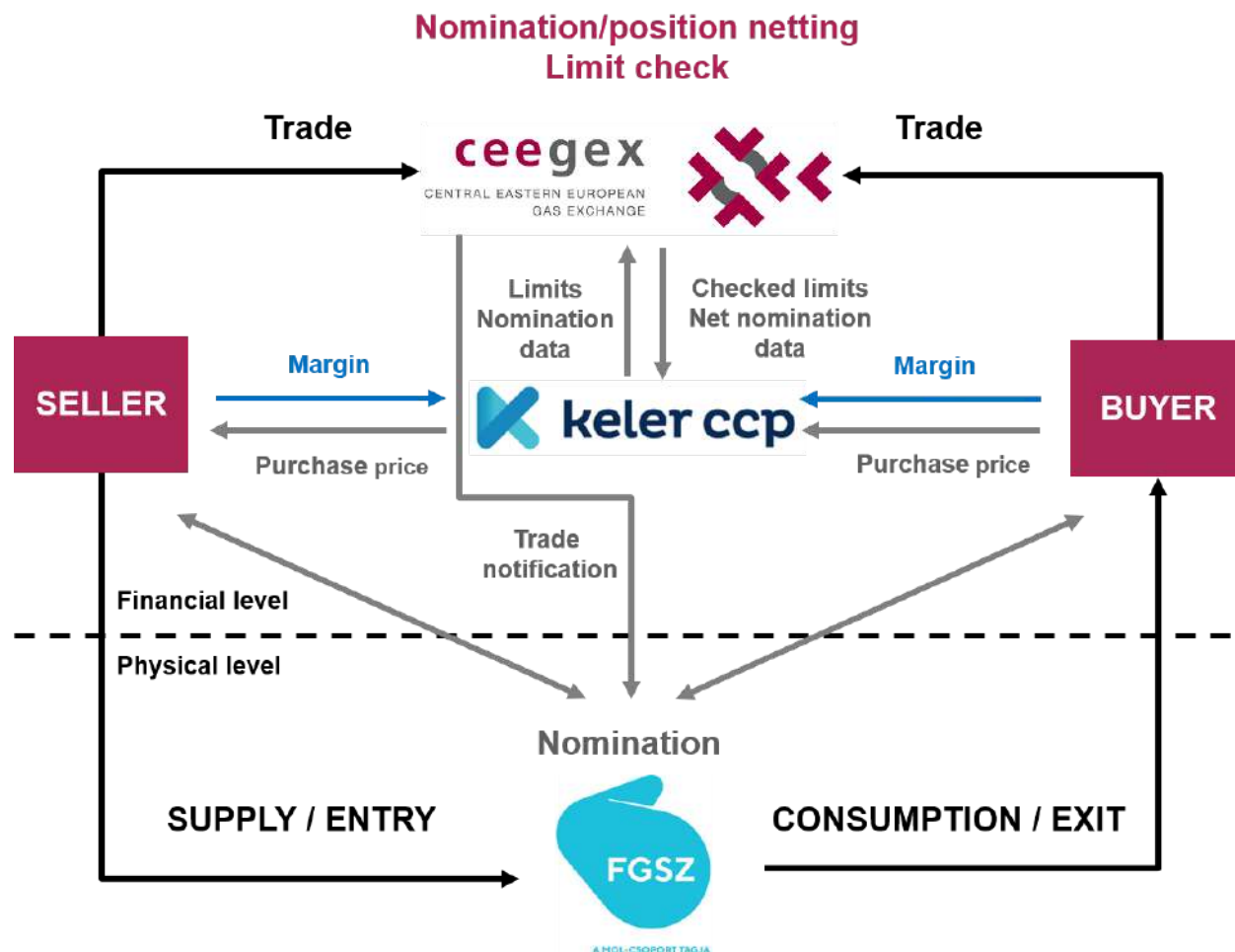


CLEARING AND SETTLEMENT ON CEEGEX MARKETS

KELER CCP ensures financial security for all transactions by acting as a central counterparty between buyers and sellers and by setting up guarantee mechanisms such as security requirements. This way counterparty risk is eliminated.

Energy trading companies become Clearing members of KELER CCP and they open their bank account at KELER to conduct the daily financial transactions. Clearing rules are described in KELER CCP General Business Rules.

CEEGEX nominates all transactions to FGSZ, who is then responsible for the physical settlement.



WHY JOIN HUDEX

Both Hungarian Power and Gas Futures contracts are available with one HUDEX membership

Membership available for Power Futures contracts for non-EU companies as well

Financial trading with possibility of optional physical delivery on HUPX DAM for Power Products

No transaction fee as an initiator on HUDEX power trading

Growing liquidity and market makers

Elimination of Counterparty Risk

Anonym Market



ACHIEVEMENTS

Two Market Makers on HUDEX Gas Segment: RWE and MFGK

New Market Maker on HUDEX Power Segment from June 2019

New financial products on HUDEX power segment:
baseload day product,
baseload weekend product

New financial products on HUDEX gas segment:
BoM, Seasonal, Yearly products

STP (Straight Through Processing) for the clearing registration of OTC trades on Power Segment

HUDEX MEMBERS

POWER

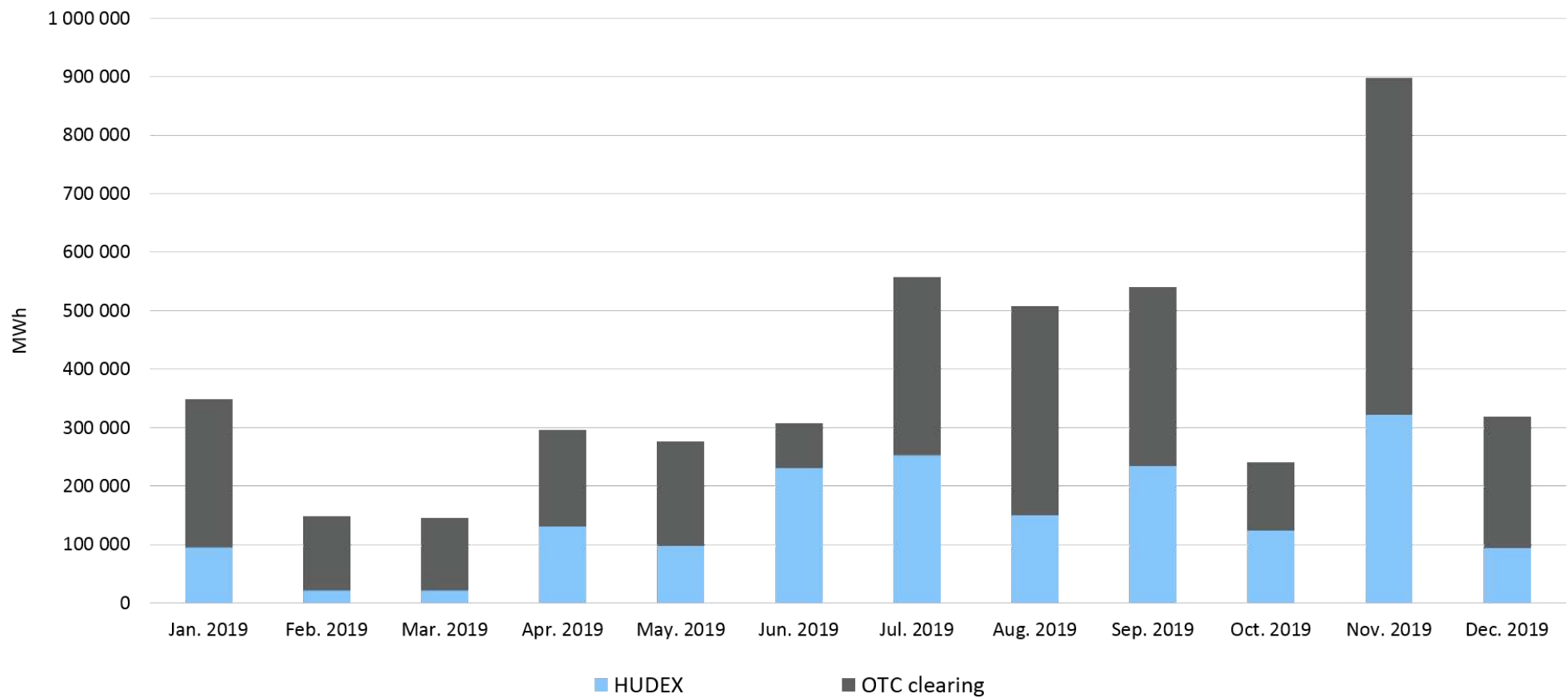
GAS



37 MEMBERS

3 MARKET MAKERS

HUDEX TRADED VOLUMES - POWER SEGMENT



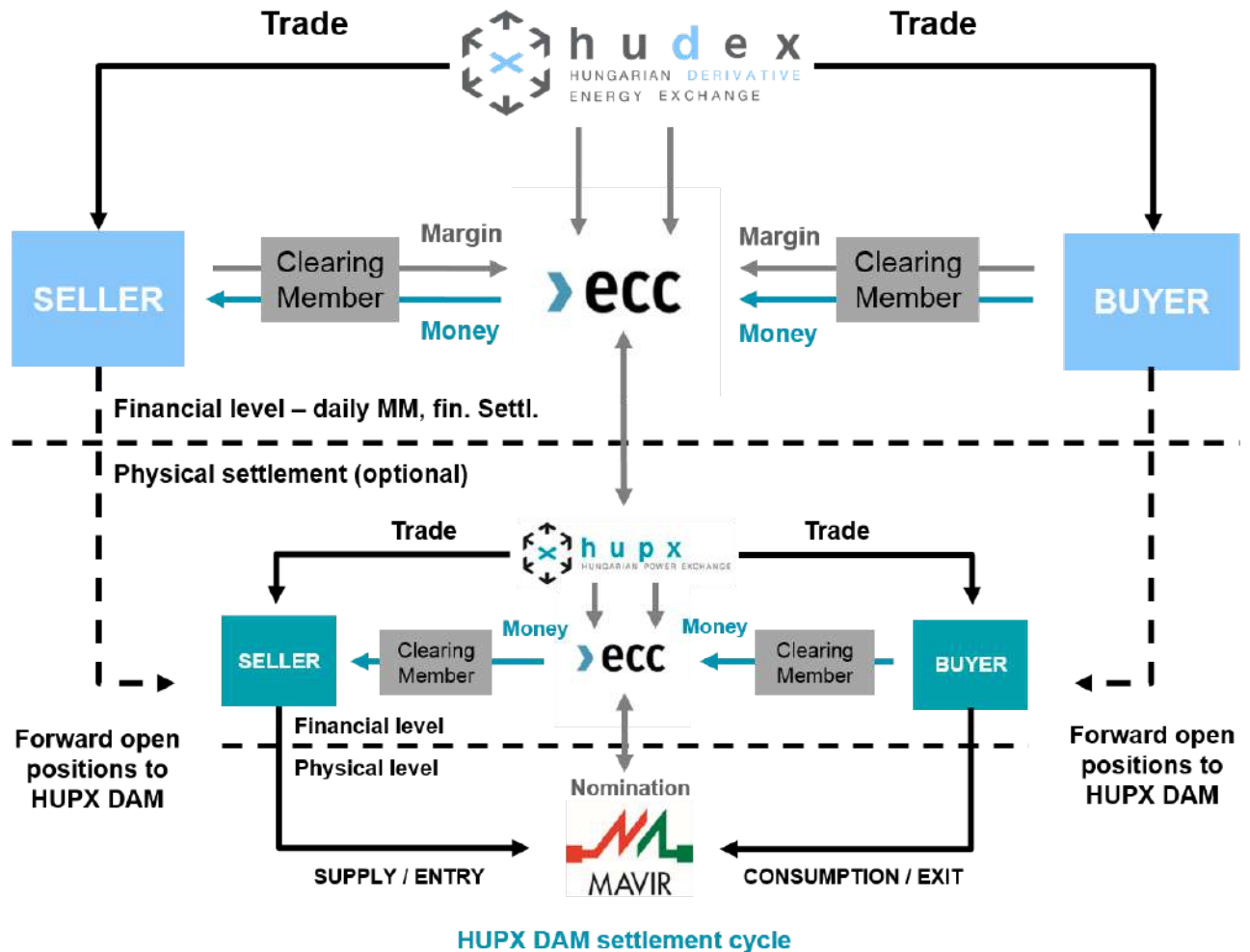
CLEARING SYSTEM- POWER SEGMENT

On HUDEX Power segment all transactions are centrally cleared by the European Commodity Clearing AG.

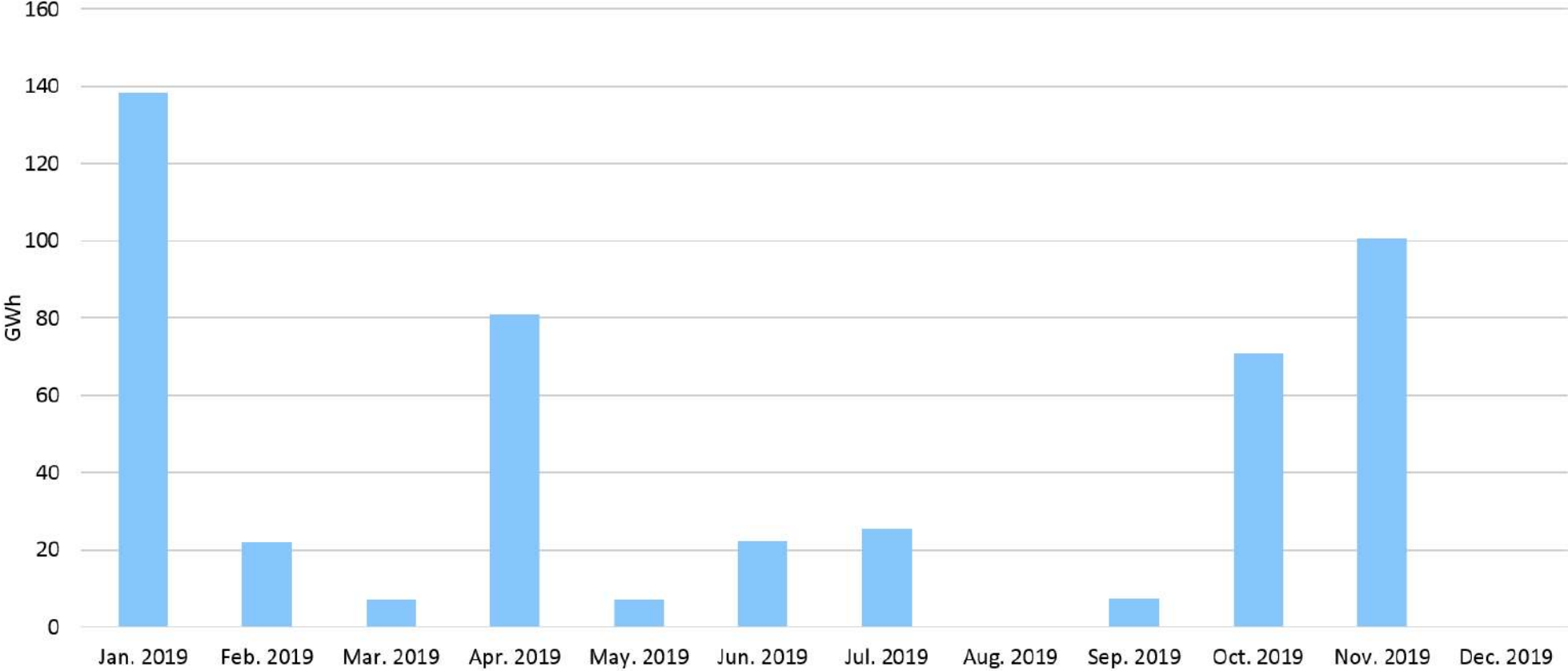
Financial settlement referenced to HUPX Day-Ahead Market index. HUDEX offers optional physical delivery (weekly and monthly contracts) through the HUPX Day-Ahead Market.

The clearing house of HUPX DAM is ECC AG who nominates the net positions to the Hungarian transmission system operator (MAVIR Zrt.) on behalf of HUPX.

Default physical delivery can be requested during the admission process.



HUDEX TRADED VOLUMES - GAS SEGMENT

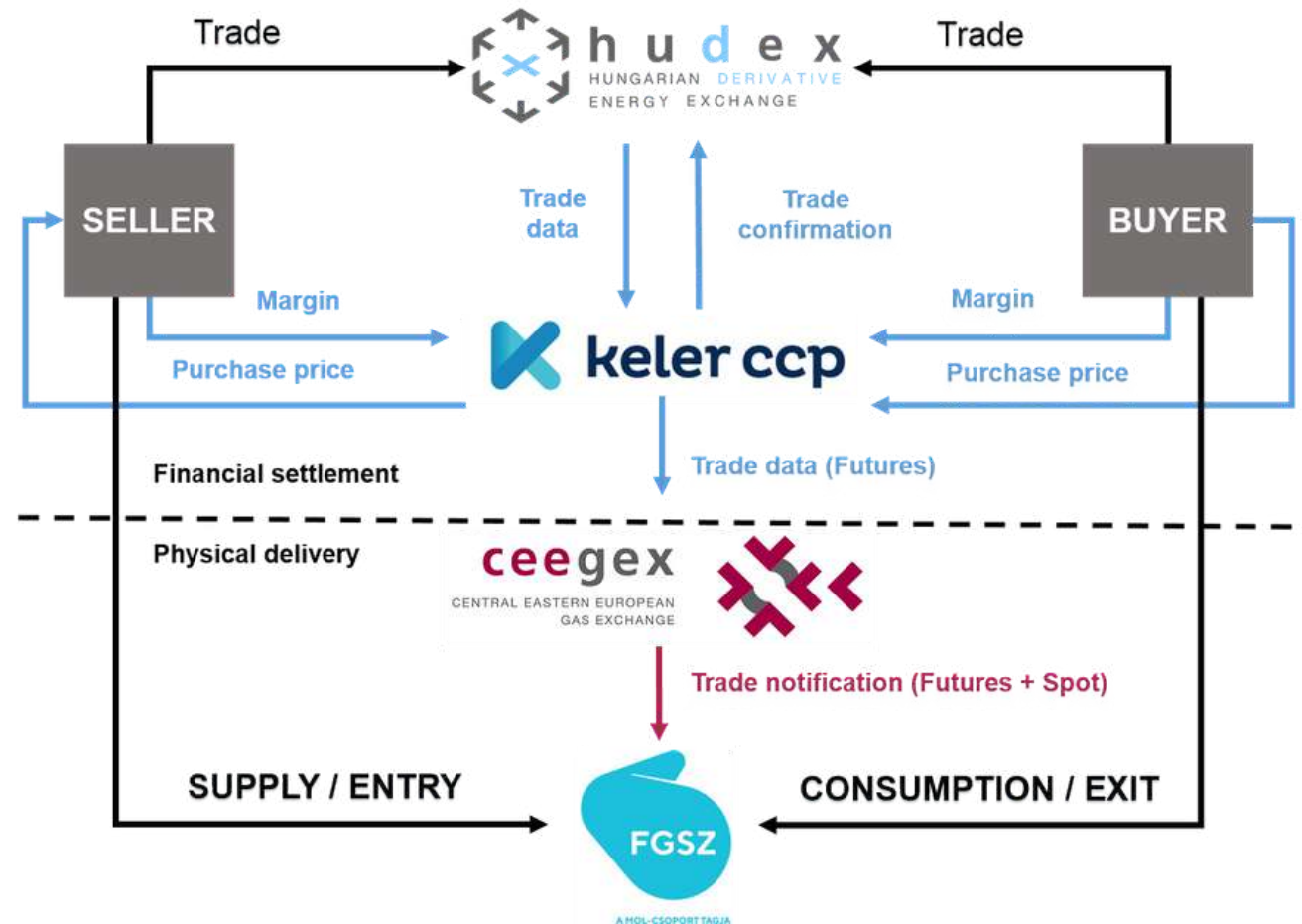


CLEARING SYSTEM - GAS SEGMENT

On HUDEX Gas all transactions are centrally cleared by KELER CCP Ltd.

KELER CCP ensures financial security for all transactions by acting as a central counterparty between buyers and sellers, by setting up and operating a guarantee system through collateral requirements. Clearing rules and conditions are described in KELER CCP's GBRs.

The trade notifications emerging from the positions of the trading participants are sent by CEEGEX to TSO, FGSZ.



DATA REPORTING SERVICE OF HUPX AND CEEGEX UNDER REMIT*

A1 Entrust HUPX/CEEGEX to report their trades and data concluded on HUPX/CEEGEX

A2 Choose another RRM and download the data from the HUPX/CEEGEX SFTP folder

A3 The A2 agreement extended with additional liability, incurring however an annual fee

B Entrust HUPX/CEEGEX to report trades concluded on other venues than HUPX/CEEGEX

* Data reporting under REMIT for HUPX, CEEGEX and HUDEX Members is included in the membership fee

** HUDEX does not own RRM status, HUPX as RRM will provide data reporting services to HUDEX



DATA REPORTING OF HUDEX**

EMIR: Our CCPs (ECC and KELER) can provide reporting service under EMIR.

MAR related issues: Any detection of market abuse has to be reported to MNB

MIFID II: ESMA: Reference data reporting, Non-working days report, weekly position reporting (if necessary)

MIFID II: MNB (NCA of HUDEX): Daily position reporting, Transaction reporting, daily trading information, list of deals and list of orders

DATA SERVICES OF HUPX GROUP: INFO USER, DATA VENDOR

Information package	Historical + End of day data (SFTP)	Live (read-only user)
	Info User Package Fees	
IDM U1	600 EUR / year	-
IDM U2	600 EUR / year	3 000 EUR / year / user
DAM U	600 EUR / year	-
HUDEX U1	600 EUR / year	-
HUDEX U2	600 EUR / year	4 200 EUR / year / user
CEEGEX U1	600 EUR / year	-
CEEGEX U2	600 EUR / year	4 200 EUR / year / user
Data Vendor Package Fees		
IDM V1	6 000 EUR / year	-
IDM V2	6 000 EUR / year	3 000 EUR / year / user
DAM V	6 000 EUR / year	-
HUDEX V1	6 000 EUR / year	-
HUDEX V2	6 000 EUR / year	4 200 EUR / year / user
CEEGEX V1	6 000 EUR / year	-
CEEGEX V2	6 000 EUR / year	4 200 EUR / year / user
The following discounts are available: 15% discount is applied in case of subscribing to 2 Info User Packages or 2 Info Vendor Packages* 20% discount is applied in case of subscribing to 3 Info User Packages or 3 Info Vendor Packages* 30% discount is applied in case of subscribing to 4 Info User Packages or 4 Info Vendor Packages*		

*discounts apply to each information package subscribed, but do not apply to read-only user fees

In line with HUPX's transparency policy customers can subscribe to **power and gas market data** packages available through the **SFTP server and read-only access to the trading system (API)**.

Detailed report specifications are available on our websites.

For more information contact: **data@hupx.hu**

FEES

	HUPX		CEEEX			HUDEX
	ID	DAM	Flexible	Classic	Basic	
Fixed Fees						
Entrance fee	0 €	15 000 €	7 000 €	15 000 €	0 €	0 €
Annual fee ¹	0 €	12 600 €	6 500 €	12 000 €	2 000 €	3 000 € ¹
System fee ³	8 000 €	6 600 €	10 000 €	10 000 €	10 000 €	9 000 € ²
Additional user	3 000 €	3 000 €	6 000 €	6 000 €	6 000 €	4 200 €
Additional portfolio	0 €	2 000 €	0 €	0 €	0 €	0 €
Read only user	3 000 €	3 000 €	6 000 €	6 000 €	6 000 €	4 200 €
Transaction fees						
Transaction fee power products (Initiator)	0,10 €	0,05 €	-	-	-	0 €
Transaction fee power products (Aggressor)	0,10 €	0,05 €	-	-	-	0,025 €
Transaction fee for Virtual Trading Point Gas (*CEEEX Next-Hour, Within Day, Day-ahead) (**HUDEX Monthly, Quarterly, Seasonal, Yearly; Balance of Moth)	-	-	0,09 €	0,01 €/0,01 €/0,005 €* 	1,00 €	0,003 €/0,01 €**
Transaction fee for Locational Point Gas	-	-	0,12 €	0,04 €	1,00 €	-
OTC transaction fee power and gas	0,10 €	-	-	-	-	0,01 €
Delivery fee for power products	-	-	-	-	-	0,02 €

1 If the member is admitted to HUDEX, 3000 € discount is applied to HUPX and CEEEX annual fee

2 If the Member is admitted to CEEEX, the Trading System Fee for HUDEX is 0 €

3 For HUDEX Members Trading System Fee includes: One (1) user for Trayport GlobalVision and for the physical delivery two (2) HUPX DAM ETS Delivery Portfolio (for weekly and monthly products)

HOW TO BECOME A MEMBER

Preconditions

Electricity or gas trading
license* /

Investment Firm license
(HUDEX) /

- Certification of competence (KYC)
- Balancing group Agreement with MAVIR for Power
- Network usage Framework contract with FGSZ for Gas
- Clearing Membership Agreement (ECC / KELER) and pledge of collaterals required by them
- HUPX / CEEGEX / HUDEX Trader Certificate**
- Trading system test (HUDEX)

*Or other license stated in the relevant Market Rules.

**For HUPX Spot, EPEX Spot trader exams are accepted.

HUPX/CEEGEX/HUDEX MEMBERSHIP

PROCESS

1) Submission of the documents

- Forms
- Supporting documents

2) Check & Approval

- The documents are checked by HUPX / CEEGEX / HUDEX and ECC / KELER
- Approval as an Exchange Member of HUPX / CEEGEX / HUDEX

3) Admission

- Connections to the Trading System
- Go-live

Contact:

membership@hupx.hu



CONTACT



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