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Press Release

EPEX SPOT Annual Market Review 2022

Power markets deliver transparent price signals under increased supply pressure

EPEX SPOT accompanies members in tense market situation and launches products for a more sustainable power community

- Successful launch of first pan-European spot auction for Guarantees of Origin
- Go-live of Intraday market in Poland
- Intraday volume reaches new yearly record
- Establishment of new Power Exchange in Central and South-Eastern Europe ADEX

Amsterdam / Berlin / Bern / Brussels / London / Paris / Vienna, 23 January 2023

A total of 611.21 TWh was traded on EPEX SPOT in 2022: 476.6 TWh were traded on the Day-Ahead segment and 134.6 TWh on the EPEX Intraday. The Intraday market surpassed the record of the previous year again and reached an all-time high (2021: 123.3 TWh).

Market participants were under a lot of pressure in 2022, a pivotal year marked by the energy crisis in Europe. This crisis led to higher prices and more volatility on the spot market, mainly caused by a price increase of the gas market - an important fossil fuel for power generation in peak hours - and lower than usual renewable and nuclear generation. The dry weather conditions also had an impact on conventional assets, where low river water levels hindered the transportation of lignite and caused a lack of cooling water for nuclear power plants.

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¹ Please note that all EPEX SPOT traded volumes are calculated by using the common industry standard in electricity and exchange business: For auction trading, the one-sided Market Clearing Volume is listed. Similarly, for continuous trading, the aggregated sell & buy volume is divided by two.

Despite these fundamentals explaining price developments on the spot market, the market itself and its functioning was under severe public scrutiny, as the financial pressure on businesses and end-consumers continues to grow.

Ralph Danielski, Chief Executive Officer of EPEX SPOT, states: "It is absolutely crucial that the vulnerable end-consumers are shielded from the impact of this crisis. However, there is a difference between retail and wholesale prices and their role for the energy system. The wholesale price formation in Europe is essential and one of the most efficient systems in the world. I once again call upon policy-makers: The well-functioning mechanism of establishing the price signal secures supply at the lowest possible cost every day of the year. It also tells us that important investments are necessary to move away from costly fossil fuelled generation and that we have to invest into demand-side flexibility. We should listen to what this price signal tells us rather than throwing overboard a market design built across European countries over the last 20 years, and that creates an annual welfare of 34 billion Euros for all Europeans." In the context of this debate, the European Power Exchange has been very vocal about how to best improve the market design based on collaboration, transparency and investment.

Projects and New Products

Speeding up the energy transition is a central endeavour in overcoming the current crisis. In 2022, EPEX SPOT launched a series of initiatives to contribute to these efforts through market-based solutions. In September 2022, the first pan-European spot auction for Guarantees of Origin (GOs) took place. GOs are today the only way to sustainably track the origin of electricity consumed, and to certify it as renewable. This pan-European auction is the first of its kind, an innovative multi-dimensional market design allows to maximise liquidity through standardised products while taking into account the specific product characteristics needed by market participants. Transactions are cleared via European Energy Clearing (ECC) and traded GOs are delivered via the French registry held by European Energy Exchange (EEX).

Furthermore, EPEX SPOT has started a cooperation with <u>GOPACS to significantly increase the activation of flexible capacity</u> for congestion management in the Netherlands. The efficient use of flexibility is key to tackle costly grid congestions largely caused by the intermittent feed-in of renewable production. In the same vein, the Exchange participates in the <u>European Horizon project ENFLATE</u> agreed to create a concrete use case of a Local Flexibility market in Switzerland. In order to further advance the efficient integration of renewables into the market, <u>EPEX SPOT also launched weather-based power indices in cooperation with Speedwell Climate Limited</u>, a leading provider of weather-related data. These indices allow renewable producers to better manage the risks of their assets.

In the Exchange's ongoing efforts to enhance and expand its product and trading offer, <u>EPEX</u> <u>launched Intraday trading in Poland in February 2022</u>. This brought the highly performant M7 trading system as well as Europe's largest community of automated trading providers to the Polish market. In addition, EPEX has continuously improved the performance and robustness of M7, ensuring a record-

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level system availability during the year, all in a context of steep increase of system load. Following strong demand from trading members, EPEX SPOT increased and harmonised block parameters for all coupled Day-Ahead markets, and Block and Smart Block orders were newly introduced for the GB Intraday auctions coupled with Ireland. Enhanced block parameters allow for an easier optimisation of assets by market participants. Furthermore, the Exchange has launched a <u>new membership model</u> to ease access for a wider and more diverse range of organisations to join.

Jonas Törnquist, Chief Operating Officer of EPEX SPOT, comments: "Especially in the context of the current energy crisis, we take our mission to provide reliable market solutions that cater to the needs of a more sustainable power community in Europe very seriously. Energy supply issues are mainly causing this crisis, and the power market is a key driver out of it. The power market enables investments into renewable capacities and demand side flexibility and focusses the efforts of all of us in the industry to continue to innovate and create a stronger energy system for the future of all Europeans"

Operating power markets in 2022 remained a deeply European endeavour. A project of 16 Transmission System Operators and 10 Power Exchanges introduced <u>flow-based market Coupling in the so-called Core region</u>, optimising cross-border flows between 13 countries. It enhances the European grid's ability to manage fluctuations in the supply of wind, solar and other renewable energy.

With the objective to foster power trading and Market Coupling in Central and South-Eastern Europe, EPEX SPOT along with Slovenian and Serbian TSOs <u>launched ADEX</u>, the <u>Alpine-Adriatic Danube Power Exchange</u>. The main milestones of ADEX will be to deliver the coupling of the pivotal Serbian Day-Ahead market with the pan-European Single Day-Ahead Coupling (SDAC) as soon as possible.

Market Volumes

A total of 611,159.1 GWh was traded on EPEX SPOT in 2022 (2021: 621,544.0 GWh). The Intraday market continued its growth path of the previous years and reached a new all-time high of 134,609.5 GWh (2021: 123,321.0 GWh). Especially in the context of the energy transition, Intraday trading has gained in popularity among market participants allowing them to also implement automated trading strategies. This trend is enabled by the highly performant M7 trading system and state-of-the-art services for Application Programming Interface (API) users and Independent Software Vendors (ISVs). The Day-Ahead segment maintains a healthy activity, reaching 476,549.6 GWh in 2022.

The **Austrian** Day-Ahead market registered a volume of 20,767.1 GWh traded, and the average baseload price was 261.40 €/MWh. The Intraday market reached 5,042.8 GWh, a new record. This includes both continuous trading and the Intraday auction, with the Intraday auction volume increasing by +34.0% on year.

The **Belgian** Day-Ahead market continued the growth path of the previous year and reached 21,238.3 GWh (2021: 20,932.0 GWh), with an average Index of 244.53 €/MWh. The Intraday market registered a volume of 3,881.0 GWh, including both continuous and auction trading. The continuous segment reached a new trading record with 3,847.1 GWh.

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In **France**, power trading volumes on the Day-Ahead market reached 114,969.6 GWh in 2022. Contracts traded at an average of 275.88 €/MWh. Intraday trading registered 13,059.6 GWh. This includes both continuous and auction trading and is a new yearly record.

The **GB** power spot market registered a record on the 30 minute Day-Ahead auction, with 7,170.3 GWh traded (2021: 6,090.3 GWh). Trading activity on the hourly Day-Ahead auction increased by 24.7% and reached 39,603.2 GWh, with an average price of 205.66 £/MWh. The Intraday continuous segment in GB reached a new all-time high as well; with 22,446.4 GWh traded (2021: 20,015.7 GWh). The Intraday auctions, coupled with Ireland, reached a combined volume of 4,898.2 GWh.

The **German/Luxemburg** Intraday market surpassed the record of the previous year and reached 70,402.6 GWh, a new all-time high for both auction and continuous trading. The Day-Ahead market registered a traded volume of 171,530.9 GWh and the average price was 235.45 €/MWh.

Power trading in **the Netherlands** has seen stable volumes on the Day-Ahead market, with 30,273.2 GWh traded at an average of 241.92 €/MWh. The Dutch Intraday market reached a new annual record of 8,314.4 GWh, beating the record of the previous year by +43.1% (2021: 5,812.0 GWh). This covers both Intraday auctions and continuous trading.

In 2022, the **Nordic** short-term markets, covering Denmark, Finland, Norway, and Sweden, reached a combined 46,846.8 GWh (2021: 43,700.7 GWh) in Day-Ahead trading, a +7.2% increase on year. The Intraday segment reached a combined 5,644.9 GWh (2021: 3,260.9 GWh), representing a +73.1% increase on year.

The Day-Ahead market in **Poland** registered a traded volume of 1,644.9 GWh with an average price of 166.72 €/MWh. The Intraday offer in Poland was successfully launched on 2 February 2022 and 199.6 GWh were traded during the year.

In **Switzerland**, the traded volume on the Intraday continuous segment reached its highest value since the decoupling from neighbouring countries in 2018: 594.1 GWh were traded. The Swiss Intraday auctions reached a combined 106.6 GWh and the volume traded on the Swiss Day-Ahead was 22,505.3 GWh. The annual average Swissix was 281.65 €/MWh.

On the newly launched market for Guarantees of Origin, 228.9 GWh were traded in 2022. <u>Since the launch in September</u>, a total of four monthly auctions has taken place. The auction is operated by EPEX SPOT, with settlement by ECC and delivery via the French registry held by EEX.

More details on volumes and prices can be found in the attached market report at the end of the press release.

Membership

334 members were active on the Exchange in 2022, with 45 new members registered – a new record number of newly admitted companies in one year. This dynamic membership development also reflects the diversity of member profiles represented at the Exchange.

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In addition, 26 ISVs have worked in partnership with EPEX SPOT as of December 2022. ISVs develop software solutions compatible with EPEX SPOT trading systems, enabling in particular automated trading, often steered with dedicated algorithms.

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The European Power Exchange EPEX SPOT SE and its affiliates operate physical short-term electricity markets in 13 countries: in Central Western Europe, the United Kingdom, Switzerland, the Nordics and in Poland. Furthermore, EPEX SPOT newly offers local flexibility markets solution and Guarantees of Origin auctions, to foster the integration of renewable energy sources and to enhance the engagement of consumers and producers in the power market. As part of EEX Group, a group of companies serving international commodity markets, EPEX SPOT is committed to the creation of a pan-European power market. Over 300 members trade electricity on EPEX SPOT. 49% of its equity is held by HGRT, a holding of transmission system operators.

For more information, please visit www.epexspot.com.

CONTACT

EPEX SPOT Press

EPEX SPOT SE • 5 boulevard Montmartre • 75002 Paris (France)

Email press@epexspot.com • Tel +33 (0) 1 73 03 61 33

EPEX SPOT – Yearly Digest for 2022

Volumes

Power Spot Volumes	Yearly volume	Yearly volume	
	GWh	previous year - GWh	
Total	611,159.1	621,544.0	
Day-Ahead	476,549.6	498,222.9	
СН	22,505.3	22,568.1	
CWE region (AT, BE, DE/LU, FR, NL)	358,779.1	392,742.3	
GB total	46,773.5	37,842.1	
- GB Day-Ahead auction	39,603.2	31,751.8	
- GB - 30min Day-Ahead auction	7,170.3	6,090.3	
Nordic region (DK, FI, NO, SE)	46,846.8	43,700.7	
PL**	1,644.9	1,369.6	
Intraday	134,609.5	123,321.0	
Intraday continuous	121,058.4	109,001.8	
СН	594.1	578.3	
CWE region (AT, BE, DE/LU, FR, NL)	92,173.4	85,146.9	
GB	22,446.4	20,015.7	
Nordic region (DK, FI, NO, SE)	5,644.9	3,260.9	
PL***	199.6	-	
Intraday auction	13,531.8	14,296.3	
AT - 15min Intraday auction	153.6	114.6	
BE - 15min Intraday auction	33.9	52.8	
CH - 60min Intraday auctions	106.6	713.5	
DE - 15min Intraday auction	8,112.5	7,646.8	
FR - 30min Intraday auction	14.6	47.1	
GB - 30min Intraday auctions	4,898.2	5,531.5	
NL - 15min Intraday auction	212.6	190.0	
OTC Registration	18.1	22.5	

^{**}segment launched on 9 February 2021
***segment launched on 2 February 2022

Guarantees of Origin	Yearly volume	Yearly volume	
Cuaramoso or Cing.ii	GWh	previous year - GWh	
Total*	228.9	-	

^{*}segment launched on 28 September 2022

EPEX Indices

	Price – yearly average Price/MWh		
Day-Ahead	(Base / Peak*)		
Price AT – PHELIX AT	€261.40 / €301.33		
Price BE	€244.53 / €272.37		
Price CH – SWISSIX	€281.65 / €314.64		
Price DE-LU – PHELIX DE	€235.45 / €267.36		
Price DK1	€219.04 / €245.77		
Price DK2	€210.15 / €234.49		
Price FI	€154.04 / €217.21		
Price FR	€275.88 / €317.07		
Price GB	£205.66 / £234.49		
Price GB Half-Hour	£203.50 / £231.96		
Price NL	€241.92 / €265.75		
Price NO1	€192.51 / €213.14		
Price NO2	€211.28 / €232.69		
Price NO3	€41.94 / €50.25		
Price NO4	€24.47 / €30.67		
Price NO5	€192.06 / €211.94		
Price PL	€166.72 / €177.37		
Price SE1	€59.06 / €74.94		
Price SE2	€61.95 / €78.00		
Price SE3	€129.21 / €188.89		
Price SE4	€152.10 / €204.38		

Intraday auction					
AT – 15 min 15:00 auction	•	€253.51 / €292.52			
BE – 15 min 15:00 auction		€244.16 / €276.07			
CH – 60 min 16:30 auction		€284.31 / €314.65			
CH – 60 min 11:15 auction		€530.75 / €470.13			
DE – 15 min 15:00 auction		€234.52 / €265.35			
FR – 30 min 17:00 auction		€284.41 / €320.87			
GB – 30 min 17:30 auction		£202.81 / £230.94			
GB – 30 min 8:00 auction		£218.32 / £227.61			
NL – 15 min 15:00 auction		€241.40 / €266.96			
Intraday continuous	ID Full***	ID3***	ID1***		
AT (60 min)	€254.21	€252.84	€249.72		
BE (60 min)	€247.62	€247.64	€246.73		
CH (60 min)	€280.59	€280.57	€280.91		
DE (60 min)	€235.68	€235.25	€234.35		
DK1 (60 min)	€213.68	€213.48	-		
DK2 (60 min)	€208.06	€207.65	-		
FI (60 min)	€153.36	-	-		
FR (60 min)	€276.40	€276.48	€275.68		
GB (RPD)	£198.11	-	-		
NL (60 min)	€242.46	€242.81	€243.26		
NO1 (60 min)	€182.31	-	-		
NO2 (60 min)	€205.41	-	-		
NO3 (60 min)	€43.41	-	-		

NO4 (60 min)	€24.94	-	-
NO5 (60 min)	€191.36	-	-
PL (60 min)**	€171.96		
SE1 (60 min)	€60.55	-	-
SE2 (60 min)	€65.33	-	-
SE3 (60 min)	€129.50	-	-
SE4 (60 min)	€150.62	-	-

^{*} Peak excl. weekend

^{**} average since launch on 2 February 2022 until 31 December 2022

^{***} ID Full = weighted average price of all continuous trades executed during the full trading session of any EPEX SPOT continuous contract.

ID3 = weighted average price of all continuous trades executed within the last 3 trading hours of a contract ID1 = weighted average price of all continuous trades executed within the last trading hour of a contract

For more information on Index calculation please click here.