part of eex group



Press Release

EPEX SPOT Annual Market Review 2023

All-time high volumes: Growth in spot power markets illustrate trust of trading participants

Price signals reveal decreasing supply pressure across Europe

- Day-Ahead grows by 14%, Intraday by 30% on year
- New market for Guarantees of Origin gains traction
- Member community grows further and becomes even more diverse

Amsterdam / Berlin / Bern / Brussels / London / Paris / Vienna, 23 January 2024. A total of 717.8¹ TWh was traded on EPEX SPOT in 2023: 542.1 TWh were traded on the Day-Ahead segment and 175.7 TWh on the Intraday segment, reaching both an all-time record. The substantial growth on the Day-Ahead market (+14%; 2022: 476.5 TWh) illustrates the trust of market participants in EPEX SPOT's capabilities and cross margining benefits. The Intraday market surpassed the record of the previous year by 30% and recorded an all-time high (2022: 134.6 TWh). In 2023, EPEX SPOT remained the number one power spot exchange in Europe in terms of volumes.

After a 2022 defined by pressure on market participants and end-consumers through the energy crisis in Europe, 2023 marked a first step back to normality. While 2022 brought record price levels and higher volatility, 2023 began with the European Commission's endeavour to strengthen affordability, investment predictability and security of supply with the reform of the Electricity Market Design (EMD). These emergency measures have enabled consumers to experience a shift towards a more predictable and secure energy environment, by mitigating extreme price levels and volatility.

Ralph Danielski, Chief Executive Officer of EPEX SPOT, states: "In response to last year's energy crisis, characterised by record-high energy prices and challenges, the European Union engaged in discussions regarding the reform of the Electricity Market Design (EMD), to better withstand crises and promote affordability. EPEX SPOT, together with other stakeholders, played a key role in advocating

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 <u>one-sided</u> Market Clearing Volume is listed. Similarly, for continuous trading, the aggregated <u>sell & buy volume is divided by two</u>. EPEX' total double-sided volumes for 2023 would reach 1,258.0 TWh.

for the necessary changes, as well as actively participated in shaping the reform's direction. By operating the spot power markets in 13 countries with extremely high reliability and robustness, EPEX SPOT contributed to the overall goal of enhancing the security of electricity supply and making power more affordable."

Jonas Törnquist, Chief Operating Officer of EPEX SPOT, adds: "2023 has been full of successful innovations and new partnerships, which have enabled EPEX SPOT to continue shaping the future of power spot markets. With the implementation of our local flexibility market solution EPEX Localflex in different countries, we aim at efficiently managing grid congestion and secure energy flexibility trading. Furthermore, our pan-European market for Guarantees of Origin has in its first full year seen substantial growth in volumes and members. EPEX also expanded biomass as our fourth technology, helping to cement the use of GOs as a key facilitator of green power, and we want to invest much more in this growing pillar of our energy sector."

Projects and New Products

2023 has been a year with full focus on the ongoing energy transition and the race to net zero through the 3D's: decarbonisation, digitisation, and decentralisation. EPEX SPOT supported the process through numerous initiatives over the course of the year.

First of all, the auction market for Guarantees of Origin (GOs) saw a healthy growth during 2023, as 5,534.6 GWh were traded. Launched in September 2022, it is the first real pan-European auction market for GOs. It saw tremendous growth of the customer base within only a bit more than a year; the 2023 volumes underline the importance of a reliable price signal in the secondary market that this market provides as one of the first solutions in Europe.

On 22 May 2023, EPEX SPOT successfully extended 15-minute contracts to the local Intraday continuous segments in Denmark, Finland, and Sweden. 15-minute contracts are key to integrating renewables more efficiently into the market. Over the past years, the importance of these contracts has constantly grown, and in 2022 over 15% of the volume traded on the EPEX Intraday continuous were traded via 15-minute contracts, making them a cornerstone of the energy transition.

In May, EPEX SPOT and Speedwell Climate expanded their Renewable Quanto Indices by one new technology, solar, with four new countries covered. Renewable Quanto Indices provide an innovative way to manage the risk associated with renewable energy production. The indices are benchmarks that combine renewable energy generation – wind and solar – with spot price fluctuations over a period of time (month, quarter, season, etc.). In so doing, they allow users to hedge against risks associated with the growth in similar renewable assets and their impact on market prices, in particular. Such indices are relevant to renewable energy producers, PPA buyers and sellers, asset holders and investors alike, to ensure stability of revenues, secure their financing and support the development of renewables in the market.

On 27 June 2023, the connection between the EPEX local flexibility market solution and the Dutch Grid Operator Platform for Congestion Solution (GOPACS) platform went live effectively. Especially in the context of more renewable generation in the power system, efficient use of flexible generation can help to decrease the cost of the energy transition, also for the benefit of the European end-consumer. By connecting with GOPACS, EPEX Localflex contributes enhanced functionalities and expands the reach of GOPACS to a wider network of participants.

In July, EPEX SPOT announced a strategic partnership with GE Digital, an energy software leader. The collaboration will help customers with flexible assets speed up the integration of renewables and more seamlessly contribute to resolving costly congestions throughout the grid. GE Digital and EPEX SPOT are aligning their software solutions to enable better interoperability. By connecting these two solutions, GE Digital's GridOS® DERMS and EPEX SPOT's Localflex seek to empower DSOs to procure flexibility more seamlessly at scale, advance toward decarbonisation goals, and reduce the cost of network reinforcement via more economic market solutions. These markets enable SOs to procure flexibility to physically solve grid congestion.

At the end of the year, EPEX SPOT closed a partnership with UK Power Networks Distribution System Operator (DSO) to host their flexibility market – a significant step towards the implementation of flex markets across the continent.

Market Volumes

A total of 717,780.5 GWh was traded on EPEX SPOT in 2023 (2022: 611,159.1 GWh). The Day-Ahead segment also recorded a new all-time high, reaching 542,061.7 GWh in 2023 (2022: 476,549.6 GWh). The Intraday market continued its growth path of the previous years and jumped to another new all-time high of 175,718.8 GWh (2022: 134,609.5 GWh). As an effect of the ongoing energy transition, Intraday trading has further gained in popularity. Furthermore, market participants continue to implement automated trading strategies. This trend is enabled by EPEX SPOT's M7 trading system which reached very high availability figures over the year 2023. State-of-the-art services for Application Programming Interface (API) users and Independent Software Vendors (ISVs) further support the growth on the Intraday markets.

The **Austrian** Day-Ahead market registered a volume of 18,863.7 GWh traded (2022: 20,767.1 GWh), and the average baseload price was 102.14 €/MWh. The Intraday market reached 6,694.8 GWh (2022: 4,889.2 GWh), a new record. This includes both continuous trading and the Intraday auction, with the Intraday auction volume increasing 61.6% on year.

The **Belgian** Day-Ahead market reached 17,691.8 GWh (2022: 21,238.3 GWh), with an average baseload price of 97.27 €/MWh. The Intraday market registered a volume of 6,133.6 GWh (2022: 3,881.0 GWh), including both continuous and auction trading. The continuous segment reached a new trading record with 6,114.8 GWh (2022: 3,847.1 GWh), a jump by 58.9% on year.

In **France**, power trading volumes on the Day-Ahead market reached 111,741.0 GWh in 2023 (2022: 114,969.6 GWh). Contracts traded at an average of 96.86 €/MWh. Intraday trading registered 19,020.5 GWh (2022: 13,059.1 GWh). This includes both continuous and auction trading and is a new yearly record.

The **Great Britain** power spot market registered a record on the 30-minute Day-Ahead auction, with 8,346.2 GWh traded (2022: 7,170.3 GWh). Trading activity on the hourly Day-Ahead auction reached 39,408.2 GWh (2022: 39,603.2 GWh), with an average price of 94.00 £/MWh. The Intraday continuous segment in GB reached a new all-time high as well; with 28,596.5 GWh traded (2022: 22,446.4 GWh). The Intraday auctions, coupled with Ireland, reached a combined volume of 7,320.8 GWh (2022: 4,898.2 GWh), an increase of 49.5% on year and a new yearly record.

The **German/Luxemburg** Day-Ahead market registered a new all-time high with 233,897.7 GWh of traded volume (2022: 171,530.9 GWh); the average price was 95.18 €/MWh. The Intraday market surpassed the record of the previous year once more and reached 85,115.2 GWh (2022: 70,402.6 GWh), with a new all-time high for both auction and continuous trading.

Power trading in **the Netherlands** on the Day-Ahead market grew to 37,060.1 GWh (2022: 30,273.2 GWh) traded at an average of 95.82 €/MWh. The Dutch Intraday market reached a new annual record of 12,229.4 GWh, beating the record of the previous year by +47.1% (2022: 8,314.4 GWh). This covers both Intraday auctions and continuous trading.

In 2023, the **Nordic** short-term markets, covering Denmark, Finland, Norway, and Sweden, reached a combined 47,394.3 GWh (2022: 46,846.8 GWh) in Day-Ahead trading. The Intraday segment reached a combined 9,017.3 GWh (2022: 5,644.9 GWh), a +59.7% increase on year. Both Day-Ahead and Intraday trading in the Nordics reached new all-time highs.

The Day-Ahead market in **Poland** registered a traded volume of 2,229.2 GWh (2022: 1,644.9 GWh) with an average price of 111.65 €/MWh. On the Intraday market, 974.5 GWh were traded during the first full year (2022: 199.6 GWh). On both Day-Ahead and Intraday segments, these volumes marked new records.

In **Switzerland**, the volume traded on the Swiss Day-Ahead was 25,429.5 GWh (2022: 22,505.3 GWh); meanwhile, the traded volume on the Intraday continuous segment reached 555.0 GWh (2022: 594.1 GWh). The Swiss Intraday auctions reached a combined 61.2 GWh (2022: 106.6 GWh). The annual average Swissix was 107.47 €/MWh.

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

Membership

383 members were active on the Exchange in 2023, with 60 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.

In addition, 32 ISVs have worked in partnership with EPEX SPOT as of December 2023. ISVs develop software solutions compatible with EPEX SPOT trading systems, enabling in particular automated trading, often steered with dedicated algorithms.

-ENDS

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 380 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 2023

Volumes

Power Spot Volumes	Yearly volume	Yearly volume
	GWh	previous year - GWh
Total	717,780.5	611,159.1
Day-Ahead	542,061.7	476,549.6
СН	25,429.5	22,505.3
CWE region (AT, BE, DE/LU, FR, NL)	419,254.3	358,779.1
GB total	47,754.4	46,773.5
- GB Day-Ahead auction	39,408.2	39,603.2
- GB - 30min Day-Ahead auction	8,346.2	7,170.3
Nordic region (DK, FI, NO, SE)	47,394.3	46,846.8
PL	2,229.2	1,644.9
Intraday	175,718.8	134,609.5
Intraday continuous	158,984.0	121,058.4
СН	555.0	594.1
CWE region (AT, BE, DE/LU, FR, NL)	119,840.7	92,173.4
GB	28,596.5	22,446.4
Nordic region (DK, FI, NO, SE)	9,017.3	5,644.9
PL*	974.5	199.6
Intraday auction	16,734.8	13,531.8
AT - 15min Intraday auction	248.2	153.6
BE - 15min Intraday auction	18.8	33.9
CH - 60min Intraday auctions	61.2	106.6
DE - 15min Intraday auction	8,745.5	8,112.5
FR - 30min Intraday auction	7.4	14.6
GB - 30min Intraday auctions	7,320.8	4,898.2
NL - 15min Intraday auction	332.8	212.6
OTC Registration	4.3	18.1

* segment launched on 2 February 2022

Guarantees of Origin	Yearly volume GWh	Yearly volume previous year - GWh
Total**	5534.6	228.9

** segment launched on 28 September 2022

EPEX Indices

	Price – yearly average Price/MWh
Day-Ahead	(Base / Peak*)
AT – PHELIX AT	€102.14 / €115.52
BE	€97.27 / €109.34
CH – SWISSIX	€107.47 / €118.38
DE-LU – PHELIX DE	€95.18 / €106.24
DK1	€86.83 / €94.83
DK2	€81.25 / €92.54
FI	€56.47 / €76.02
FR	€96.86 / €109.64
GB	£94.00 / £104.87
GB Half-Hour	£94.83 / 105.31
NL	€95.82 / €105.71
NO1	€66.95 / €75.69
NO2	€79.45 / €87.08
NO3	€38.55 / €46.39
NO4	€29.95 / €35.60
NO5	€67.05 / €74.77
PL	€111.65 / €124.82
SE1	€39.97 / €49.74
SE2	€39.98 / €49.74
SE3	€51.70 / €69.24
SE4	€64.88 / €83.10

Intraday auction				
AT – 15 min 15:00 auction	€92.72 / €108.55			
BE – 15 min 15:00 auction	€101.51 / €111.19			
CH – 60 min 16:30 auction	€118.83 / €118.40			
CH – 60 min 11:15 auction	€719.52 / €619.89			
DE – 15 min 15:00 auction	€96.16 / €107.19			
FR – 30 min 17:00 auction	€108.65 / €119.61			
GB – 30 min 17:30 auction	£95.41 / £105.68			
GB – 30 min 8:00 auction	£102.06 / £102.48			
NL – 15 min 15:00 auction	€95.10 / €105.74			
Intraday continuous	ID Full**	ID3**	ID1**	
AT (60 min)	€99.32	€98.67	€98.69	
BE (60 min)	€98.40	€98.51	€98.69	
CH (60 min)	€107.91	€107.85	€107.79	
DE (60 min)	€97.43	€97.18	€96.94	
DK1 (60 min)	€85.88	€97.08	-	
DK2 (60 min)	€82.75	€82.96	-	
FI (60 min)	€58.36	-	-	
FR (60 min)	€98.42	€98.43	€99.38	
GB (RPD)	£93.52	-	-	
NL (60 min)	€96.84	€97.36	€100.18	
NO1 (60 min)	€64.94	-	-	
NO2 (60 min)	€78.87	-	-	
NO3 (60 min)	€38.34	-	-	

NO4 (60 min)	€30.37	-	-
NO5 (60 min)	€66.32	-	-
PL (60 min)	€111.61	-	-
SE1 (60 min)	€40.02	-	-
SE2 (60 min)	€40.65	-	-
SE3 (60 min)	€52.22	-	-
SE4 (60 min)	€63.91	-	-

* Peak excl. weekend

** 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.