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Index Description

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1. General

This document specifies the indices which are provided by European Energy Exchange AG (“EEX AG”) as well as their methodology. All indices provided by EEX AG are based on market data resulting from exchange trading at EEX or on other market information. In general, indices or individual values thereof are not exchange prices but are the result of mathematical calculations.

This document does not have in scope indices provided by EEX AG that qualify as benchmarks under Regulation (EU) 1011/2016 (“Benchmark Regulation”). Benchmarks are exclusively covered in the Benchmark Statement of EEX AG, which is available on the website of EEX AG (www.eex.com).

Further, this document does not have in scope the calculation procedures of Daily Settlement Prices for derivatives or premiums for options that are tradable at EEX or EEX OTF. The methodologies for the determination of Daily Settlement Prices and option premiums are outlined in the Settlement Pricing Procedure, which is also available in its respective valid version on the website of EEX AG (www.eex.com).

The final settlement prices of derivatives traded at EEX and EEX OTF are also out of scope of this document. Please refer to the respective Contract Specifications of EEX and EEX OTF.

EEX AG may at any time change the methodologies and parameters related to the calculation of indices. Changes become effective after they have been announced.

All times are Central European (Summer) Time (UTC+01:00 or UTC+02:00).

2. Spot Market Indices

2.1 EEX EGSI – EEX European Gas Spot Index

The EEX European Gas Spot Index (EEX EGSI) for a specific market area is the volume-weighted average price of all trades in the respective EEX Natural Gas Day and EEX Natural Gas Weekend Spot Contracts that are executed on the EEX Natural Gas Spot Market between 8.00 and 18.00 on the Exchange Day¹ before the start of the respective delivery period of the contract (“Calculation Period”). The following EEX Day EGSI and EEX Weekend EGSI are provided by EEX AG:

- EEX EGSI PEG for the market area PEG
- EEX EGSI ZTP for the market area ZTP
- EEX EGSI ETF for the market area ETF
- EEX EGSI CZ VTP for the market area CZ VTP
- EEX EGSI PVB for the market area PVB.

If no trade has been concluded in the relevant EEX Natural Gas Spot Contracts during the Calculation Period, the value of the respective EEX EGSI for this day shall be equal to that of the corresponding EEX Natural Gas Spot EOD Index.

2.2 EEX EOD Indices

End of Day Indices (EEX EOD Indices) are primarily based on concluded trades and the EEX order book situation in the respective spot product. Only trades and orders which fulfil product or contract specific parameters within the Calculation Period or in special cases also before that period, are taken into account. These parameters include:

- Minimum quantity of traded contracts
- Minimum quantity of contracts per order
- Minimum duration of the cumulated valid best bid and best ask
- Maximum Spread per contract

The **Calculation Period** is the period during the trading hours, in which the relevant trades and order book situation are considered for the calculation of EOD Indices.

The **Maximum Spread** per contract is the maximum price range between buy and sell orders, specified for each contract. The spread to be applied depends on the market situation.

Based on trades and orders qualifying for consideration a **Theoretical Price** is calculated.

The Theoretical Prices are determined based on the calculation algorithms defined below. In this context, the underlying method depends on the number of valid trades and orders which fulfil the product-specific parameters. In principle, the prices that are taken into account can result from exchange trades, orders, fair values collected in a price committee (Chief Trader Procedure) and from data provided by other price sources.

¹ The EEX Natural Gas Spot Market follows the official UK Bank Holiday calendar (<https://www.gov.uk/bankholidays>). The bank holidays relevant for the EEX Natural Gas Spot Market are also listed in the Annex to the EEX Contract Specifications.

Prices of trades that have been cancelled are not considered. EEX AG reserves the right to exclude individual trades, orders or fair values from consideration if those have been reflected the actual market situation at the time.

The following overview provides examples of possible scenarios and the corresponding calculation algorithms:

Orderbook situation	Calculation algorithm
There was at least one trade * There were suitable orders	Theoretical price = $0.75 * \text{AverageTradePrice} + 0.25 * \text{AverageMid}$
There was at least one trade * There were no suitable orders	Theoretical price = AverageTradePrice
There was no trade There were suitable orders	Theoretical price = AverageMid
There was no trade There were no suitable orders	The Theoretical Price can be established based on data of other price sources or on the Chief Trader Procedure.

* EOD Indices based on EEX Natural Gas Spot market data: If there are three or more qualifying trades, only trades are considered.

The **AverageTradePrice** is the mean price of exchange trades during the Calculation Period.

The **AverageMid** is the arithmetic mean of the time weighted average best bid and the time weighted average best ask which fulfil the minimum order quantity. The time weighted average best bid (the average best ask) is the time weighted average from all highest buy orders (lowest sell orders) which lie within the limits of the Maximum Spread during the time window for the individual contract on the market, considering the period of their existence in the orderbook.

If there are no trades and orders fulfilling the product-specific parameters, EEX AG can determine the EOD Index based on data of the Chief Trader Procedure or other prices sources. Every trading participant can take part in the Chief Trader Procedure.

EEX AG provides a standardised form to all trading participants, who agree to provide a market price indication or estimates for the respective spot contracts. If required, EEX AG determines the EOD Index by calculating the arithmetic mean from all such market price indications after exclusion of outlier values (if any).

The result of the Theoretical Price calculation is validated against the actual market situation at the relevant time, if available. For the market plausibility check external price sources will be used, including prices from other trading venues, information from data providers and chief traders or prices from trades concluded via Trade Registration. Furthermore, especially in the case of having insufficient market data within the Calculation Period, trades and orders in direct temporal connection to the Calculation Period can be used for the market plausibility check. Upon validation, the Theoretical Price becomes the EOD Index.

2.2.1 EEX EOD Indices on EEX Natural Gas Spot Contracts

The EEX Natural Gas Spot Market EOD Indices are calculated for EEX Natural Gas Day and Weekend Spot Contracts for the market areas listed in the following table.

Parameter	Specification
Calculation period	17:15 – 17:30 on the last trading day of each contract
Minimum number of contracts traded	
Products listed in MWh/day	240 MWh/day
Products listed in MW	10 MW
Minimum number of contracts per order	
Products listed in MWh/day	240 MWh/day
Products listed in MW	10 MW
Spread for the consideration of best bid and best ask	
EEX PEG	0,60 EUR/MWh
EEX TTF	0,40 EUR/MWh
EEX THE	0,40 EUR/MWh
EEX PVB	1,20 EUR/MWh
EEX ETF	1,20 EUR/MWh
EEX CEGH VTP	0,40 EUR/MWh
EEX ZTP	1,20 EUR/MWh
EEX CZ VTP	0,50 EUR/MWh
Minimum duration of the cumulated valid best bid or best ask during the Calculation Period	
All contracts except on EEX CZ VTP	3 minutes
Contracts on EEX CZ VTP	1 minute
Other notes	EEX Natural Gas Spot Market EOD Indices are rounded to three digits.

2.2.2 EEX EOD Indices for EUA and EUAA

Parameter	Specification
Calculation Period	17:050 – 17:1518:00
Minimum number of contracts traded	1 contracts = 1,000 t CO ₂ equivalent
Minimum number of contracts per order	1 contracts = 1,000 t CO ₂ equivalent
Spread for the consideration of best bid and best ask	specified on contract level
Minimum duration of the cumulated valid best bid and best ask during the Calculation Period	3 Min = 180 sec.

2.3 EEX Natural Gas Spot Within-Day Reference Price

The EEX Natural Gas Spot Within-Day Reference Price (EEX WDRP) for a specific market area is the volume-weighted average price of all trades in the respective EEX Natural Gas Spot Within-Day Contract that are executed on the EEX Natural Gas Spot Market between 8.00 and 18.00 (“Calculation Period”).

The EEX Natural Gas Spot Within-Day Reference Price (WDRP) is calculated every calendar day for that day for the following Within-Day contracts:

- EEX Natural Gas THE
- EEX Natural Gas PEG
- EEX Natural Gas ZTP
- EEX Natural Gas ETF
- EEX Natural Gas CEGH VTP
- EEX Natural Gas TTF
- EEX Natural Gas PVB

If no trade has been concluded in the relevant EEX Natural Gas Spot Contracts during the Calculation Period, the value of the respective EEX Natural Gas Spot WDRP for this day shall be equal to that of the corresponding EEX EGSi for that delivery day.

2.4 EEX Neutral Gas Price Index

The EEX Neutral Gas Price Index is the volume-weighted average price of all trades executed in all EEX Natural Gas Hourly, Within Day, Day and Weekend Spot Contracts for a specific gas delivery day (“D”). The Calculation Period for the EEX Neutral Gas Price Index comprises the second gas delivery day (D-2), the gas delivery day (D-1) before the relevant gas delivery day (D), as well as deal concluded within day on the delivery day (D). The volume of trades in EEX Natural Gas Weekend Spot Contracts will be equally split between the individual delivery days of the EEX Natural Gas Weekend Spot Contracts.

The EEX Neutral Gas Price Index is continuously calculated and refreshed every 15 minutes in the file “NGP current prices” for each D (the current gas delivery day), D+1 (the next gas delivery day) and D+2 (the day after the next gas delivery day). After the end of a gas delivery day D, the final EEX

Neutral Gas Price for that gas delivery day D is calculated and published shortly after the end of delivery. The final EEX Neutral Gas Prices are also made available in the file “NGP Price history”.

The EEX Neutral Gas Price Index is calculated for the Market Area TTF.

2.5 EEX ECarbix

The European Carbon Index (EEX ECarbix) is calculated and published as exchange related price representing the actual market value of EU Emission Allowances (EUA). The EEX ECarbix is the arithmetic average of all daily values of the EEX EOD EUA Index during a calendar month.

The EEX EOD EUA Index is calculated on each exchange day. It’s calculation starts with the determination of the volume-based average of all trades concluded at EEX in continuous trading via the order book (EUSP) and in primary auctions (T3PA) (daily value). If no primary auction took place and less than three trades are concluded in the continuous trading, the EEX EOD Index for EUA applies as daily value.

2.6 EEX Zero Carbon Freight Index (ZCFI)

2.6.1 Overview

The EEX Zero Carbon Freight Index (ZCFI) is an information only product designed to help freight market participants understand the potential cost to shipping of its incorporation into the EU Emissions Trading Scheme.

The index calculates a synthetic FFA time-charter rate for Capesize and Panamax vessels, adjusted for the theoretical cost of carbon. Price information is taken from the EEX Dry Freight FFA market and the EEX EUA Futures market to create a daily “Zero Carbon FFA” rate.

2.6.2 Methodology

Freight rates are calculated as the volume-weighted average prices for the front month FFA market, based on transactions cleared at EEX during the previous trading session (T-1). The EUA price is the last available daily settlement price (DSP) for EUA front December futures, traded on EEX in the previous trading session.

2.6.2.1 Index calculation

$$ZCFI = \frac{\sum FFA_Price \times FFA_Volume}{\sum FFA_Volume} + [(FC \times CCF) \times (EUA^{Dec} \times EURUSD)]$$

2.6.2.2 Legend

	Description	Unit	Capesize	Panamax
FFA_	Front Month EEX FFA	USD / DAY	VWAP	VWAP
FC	Fuel Consumption	Metric Tonnes (MT) / day	60	30
CCF	Carbon Conversion Factor	MT CO ₂ / MT Heavy Fuel Oil (HFO)	3.114	3.114
EUA ^{Dec}	Front December EEX EUA Futures	EUR / MT	Market price	Market Price
EURUSD	Currency conversion	1 EUR / USD	Market price	Market price

2.6.2.3 Source data

- FFA and EUA data are provided by EEX.
- Fuel consumption and carbon conversion factors are based on data from the International Maritime Organization (IMO) Ship Fuel Consumption Database (MEPC 76/6/1).
- Currency conversions are performed by using the reference rates from the European Central Bank (https://www.ecb.europa.eu/stats/policy_and_exchange_rates).

2.6.3 Publication

The index is published daily except for UK and EU public holidays.

2.6.4 Insufficient Data

If there is no available data for either the FFA price or the EUA Futures price then the last available price from a previous day is used to calculate the index.

2.7 EEX Weekly European Cheese Indices (WECI)²

2.7.1 Overview

The EEX Weekly European Cheese Indices (WECI) are calculated based upon the arithmetic average of prices contributed by physical market participants (“contributors”). Each of the indices are calculated and published on a weekly basis. The EEX Weekly European Cheese Indices (WECI) comprise the following:

- EEX Weekly European Cheddar Curd Index
- EEX Weekly European Mild Cheddar Index
- EEX Weekly European Young Gouda Index
- EEX Weekly Mozzarella Index

² Go-live expected for 10 November 2021.

2.7.2 Eligible contributors

Eligible contributors must be credible companies with an established track record within the relevant product area. Contributors must have the ability to provide relevant data on a regular basis. EEX AG shall routinely review the continued suitability of each contributor.

2.7.3 Underlying data types

Confirmed, verifiable transactions for product meeting the specifications of the relevant index

2.7.4 Suitability of data

To be eligible for inclusion in an index, underlying data must relate to clear, definable individual transactions and should not: be a leg of another transaction or contingent on another transaction or other condition; and/or significantly exceed typical transaction volumes for the market; and/or include duplicate deals; and/or be subject to disagreement.

2.7.5 Data submission requirements

For each index, contributors shall calculate a single price that represents the unweighted arithmetic average price of all transactions which are in accordance with the requirements relating to "underlying data types" and "suitability of data". Data for inclusion in the calculation of the average price shall only include those qualifying transactions that have taken place on the "reporting day" and the previous 4 business days. The average price shall be expressed in Euros per tonne and rounded to the nearest Euro.

2.7.6 Reporting day

For each index, contributors shall report their average price between 9.00 to 17.00 each Tuesday.

2.7.7 Calculation and publication

For each index, EEX AG shall calculate an initial arithmetic average value based upon prices received from all contributors. Prices submitted by individual contributors that deviate by more than 5% from this initial arithmetic average value shall be eliminated after which a final arithmetic average value shall be calculated. This final average value shall be the index value for the relevant week.

Each Wednesday the indices will be published at around 13.00 by such method as selected by EEX AG

2.7.8 Publication exceptions

For December, the final indices of the month shall be published on the 3rd Wednesday. There will be no further publications of the indices for the remainder of the month.

2.7.9 Insufficient data

In the event that there is insufficient contributor data submitted to effect the calculation of an index, the value shall be calculated by reference to such alternative market data that EEX AG deems as appropriate. EEX, at its sole discretion, may also choose not to publish the respective index.

3. Futures Markets Indices

3.1 KWK-Index

According to § 4 (3) of the German Cogeneration Law (KWK-Gesetz), the remuneration of cogeneration plants (KWK-Anlagen) is based on the normal price for electricity. For cogeneration plants up to a maximum power output of two megawatt, the normal price for electricity is defined as the average final settlement price of power day futures for the market area Germany at EEX in Leipzig for the respective preceding quarter.

The KWK-Index is the unweighted arithmetic average of the final settlement prices of the EEX German Power Base Day Futures during one calendar quarter. The KWK-Index is calculated and published shortly after the end of the respective quarter.

3.2 EGIX® – European Gas Index

The EEX Daily and Monthly European Gas Indices (EEX EGIX®) are calculated and published for the following contracts:

- THE Front Month Contract
- PEG Front Month Contract
- PVB Front Month Contract
- TTF Front Month Contract
- PSV Front Month Contract
- ETF Front Month Contract
- CEGH VTP Front Month Contract
- NBP Front Month Contract
- ZEE Front Month Contract
- ZTP Front Month Contract
- CZ VTP Front Month Contract

EEX EGIX® are calculated every Exchange Day by EEX AG at 18:00 and published shortly thereafter.

3.2.1 EEX Daily EGIX®

The EEX Daily EGIX® for a specific market area is the volume-weighted average price of all trades in the respective EEX Natural Gas Month Futures executed on the EEX Natural Gas Futures Market on that day. Trades concluded via Trade Registration are not taken into account in the calculation of the EEX Daily EGIX®.

3.2.2 EEX Monthly EGIX®

The EEX Monthly EGIX® for a specific market area is determined as the arithmetic mean of the values of the corresponding EEX Daily EGIX® of the front month contract in question.

3.3 EEX Monthly Index

The EEX Monthly Index is calculated and published as an average of all daily settlement prices for Natural Gas Futures in the respective front month. For the following market areas the index is calculated and published monthly on the last trading day of the respective front contract:

- THE Front Month Contract
- PEG Front Month Contract
- TTF Front Month Contract
- PSV Front Month Contract
- PVB Front Month Contract
- ETF Front Month Contract
- CEGH VTP Front Month Contract
- NBP Front Month Contract
- ZEE Front Month Contract
- ZTP Front Month Contract
- CZ VTP Front Month Contract