

PIX Pellet Nordic Price Index



Methodology and specifications – September 2023

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Mission statement

Fastmarkets is a leading commodity price reporting agency (PRA) covering the metals, mining, minerals, and forest products industries, and agricultural products and biofuels. Our products include Metal Bulletin, American Metal Market, RISI, FOEX, Random Lengths, AgriCensus, EnergyCensus and Industrial Minerals. For more than 100 years we have been providing commodities price reporting services for use by market participants in their day-to-day commercial activities. These services include assessments and indices of commodity prices as well as news, research, and commentary on the underlying markets.

Our mission is to meet the market's data requirements honestly and independently, acting with integrity and care to ensure that the trust and confidence placed in the reliability of our pricing methodologies is maintained. We do not have a vested interest in the markets on which we report.

Introduction

Fastmarkets FOEX, in Helsinki, Finland, operating under the Finnish law, produces trademarked PIX price indices for selected pulp, paper, recovered paper and packaging grades as well as for wood-based biomass and bioenergy products like pellets, wood chips and wood. The first PIX index was launched in September 1996. Fastmarkets FOEX owns the trade mark rights to PIX Index.

Fastmarkets' staff are required to abide by a code of conduct and clear pricing procedures during their market reporting and pricing activities. Fastmarkets is completely independent and has no vested commercial interest in any of the markets it prices.

We are the world's largest dedicated forest products price reporting team. We have offices in New York, Boston, San Francisco, Eugene, Charlottesville, Atlanta, Brussels, Helsinki, Sofia, Beijing, Shanghai, Singapore and Sao Paulo.

The aim of this document is to provide a clear overview of Fastmarkets methodology and specifications for the PIX Pellet Nordic Index. If you have any questions, please contact Fastmarkets FOEX director Tytti Inkinen, tytti.inkinen@fastmarkets.com.

Price discovery process and methodology

1.1 Methodology Rationale

Fastmarkets FOEX produces independent, fair and representative price index for wood pellets used in industrial scale in the Nordic countries on a monthly basis. Fastmarkets FOEX's rationale is to adopt and develop the price discovery process and the methodology described in the present guide to produce indices that are a consistent and representative indicator of value of the market to which they relate for the trading period they measure, as well as for the change in prices from one month to the next.

The PIX Pellet Nordic benchmark index is calculated and confirmed by Fastmarkets FOEX based on confidential price information of actual, physical trades of wood pellets, collected on a monthly basis by email from companies trading in this grade. It represents the prices of the goods delivered for energy production (electricity, heat, CHP). The method of index calculation is fixed. The index has a large market coverage and a stable group of price providers.

The time period, or window, identified to assess a market (e.g., daily, weekly, monthly) is determined by Fastmarkets FOEX after considering the number of data points that Fastmarkets FOEX can reasonably expect to collect on a consistent basis over the selected period to support the price assessment process.

1.2 Data collection criteria

Fastmarkets FOEX staff aim to canvas a broad sample of market participants specifically involved in the buying and selling of the bioenergy components of interest, with a good representation of both sides of the market.

Price data is collected monthly from price providers, typically by email. Possibilities to use other alternative ways will be followed-up whenever deemed useful.

Reported price data will be stored at Fastmarkets FOEX for a period of seven years.

Fastmarkets FOEX has the discretionary right to decide whether to include price data received after noon on the working day preceding publication in the index calculation that month.

Price providers designate a person and a deputy for the price reporting task. Each price provider shall report their prices each month or provide a note of how long the last reported price is valid, or report "no transactions" if a provider has no eligible transactions in a given month.

Price providers agree to report their prices according to the methodology described in this document and based on all transactions meeting the specifications and to consult with Fastmarkets FOEX if they have any doubts as to the validity of a price to be reported.

Fastmarkets FOEX encourages organizations to submit all their pricing data, especially all the concluded transactions. Fastmarkets FOEX welcomes organizations to submit transaction data from authorized back office functions.

Company-specific data received from the price providers is accessible only to Fastmarkets personnel involved with PIX in pricing, technical or compliance roles.

Fastmarkets FOEX commits to compile the price data, to calculate the index values and to publish the index values in accordance with the rules and specifications set forth in this document.

1.3 What price data providers submit

Data providers submit prices reflecting all eligible transactions, to the extent possible with reasonable efforts, taking into account the practical tasks in the sales administrative work to collect all required transactions. “Transaction” is defined as follows:

Final agreement on price for delivered quantity of wood pellets for the data month. An “eligible transaction” is a transaction that meets the specifications outlined in the Price Specifications section below.

Providers have the option to submit prices in one of three ways:

1. Average price per market (country)
2. Transaction price per supplier/customer
3. Single weighted average price: Providers submit a single price reflecting the weighted average price of all eligible transactions.

The way each data submitter reports prices is mutually agreed with Fastmarkets FOEX before they become formal contributors to the PIX indices. The method should be consistently used to the extent possible with reasonable efforts.

Transactions with prices fixed in advance for a longer period than one year do not count as eligible transactions and shall not be reported to the index.

Prices which are directly indexed on PIX Pellet Nordic Index do not count as eligible transactions and shall not be reported to the index

1.4 Data validation

Fastmarkets FOEX reviews the incoming price data in order to check its consistency with the reporting rules. If there are any doubts or questions about the price data, Fastmarkets FOEX contacts the price provider. If the inconsistent price point cannot be validated, Fastmarkets FOEX reserves the right to exclude the price data from the calculation.

1.5 Weighting of Data

Weighting between price providers is achieved by assigning more price points to larger buyers/sellers than to smaller ones. The number of price points assigned to each provider is scaled by the annual volume of sales or purchases of wood pellets traded in the region. Each price provider's weight is kept constant through the year, if no major changes occur in production capacity or purchasing/sales volumes. Volumes are checked in January to define the weighting for that year. The weighting scale is presented in the Appendix 1.

The weighting of any single data provider's data is limited so that it doesn't dominate the index. No single data provider's data will be weighted so that it contributes more than 50% of total number of prices included in the index calculation.

To limit volatility caused by a shift in the share of the buyer/seller data, Fastmarkets FOEX strives the input to the index to be generally evenly split between buyers and sellers, but the share can vary from month to month.

1.6 Calculation procedure

The index value is the arithmetic average of the price points included. The highest and lowest 10 % of the number of price points are removed before calculating the PIX index values. This is done to eliminate clerical errors in the price reporting and to dampen any possible attempts to manipulate the PIX index value in one direction or the other.

1.7 Validity time of price points

If a price provider does not report prices in a given month (e.g. a company may not have sales or purchases during that month, or the reporting cannot be done due to technical or human reasons) Fastmarkets FOEX may use the previous price received, but only for one additional month.

1.8 Fall-back procedure

In the unlikely event that there are not enough eligible price points in a given month, and the lack of price points is threatening to distort the index development, Fastmarkets FOEX reserves the right to roll forward previous price data beyond the limits mentioned above. In such case, Fastmarkets FOEX will state that because there are an insufficient number of new price points, the previous month's index value will be republished.

1.9 Procedure to ensure consistency in the price discovery procedures

All Fastmarket FOEX price reporters are formally trained in the price discovery process and must abide by a written Code of Conduct and pricing procedures.

On a regular basis, Fastmarkets FOEX staff review markets and methodologies to ensure that assessment methodologies and the assessments they produce are appropriate for the market. Fastmarkets FOEX has also committed to conducting one external audit per year of one key index.

Methodology review and consultation process

Fastmarkets' editorial teams carry out a formal review of its methodologies on an annual basis.

The process starts with an open consultation in which feedback is invited from users. Further consultation follows should any material change to the methodology be proposed. Material changes are those that, once implemented, may result in fundamental changes to the published price.

At the end of the consultation process, the editorial teams review any feedback received and decide on whether a change should be made before announcing and explaining that decision to the market via a pricing notice.

The editorial teams may also suggest changes or additions to methodologies on an ad-hoc basis to reflect market developments, in which case they will follow the same process as outlined for formal reviews.

For more details, please refer to Fastmarkets' Methodology Review and Change Consultation Process document available on the Fastmarkets website, as well as on divisional websites such as Fastmarkets MB, Fastmarkets RISI or Fastmarkets FOEX.

Queries and complaints

Fastmarkets FOEX encourages engagement from the market on its pricing principles and methodology. The company promotes understanding of its pricing procedures and is committed to responding to requests for further information and clarification on a timely basis.

There are multiple channels for interaction with the pricing team including email and telephone.

If a user has an issue with the published prices, then they may contact the pricing team. In the event that the response is not satisfactory the issue may be escalated to the internal compliance department. For more details refer to Fastmarkets' Complaints Handling Policy available on the Fastmarkets FOEX website.

Fastmarkets FOEX takes all queries and complaints seriously and will seek to provide an explanation of the prices wherever possible. It is important to note, however, that input data remain confidential and cannot be provided to third parties.

Price correction policy

Price errors may occasionally happen for reasons that include technical input errors or incorrect application of the methodology. Fastmarkets FOEX will rectify and republish any incorrectly published price as soon as possible; and will send a pricing notice to all subscribers informing them of the change.

No prices will be amended due to the emergence of new data or market activity after the initial publication. Retrospective changes to the published values will only be made in cases of administrative or calculation error leading to a material change in price.

Become a contributor to the price discovery process

Fastmarkets FOEX continually seeks to increase the number of market sources willing to take part in the price discovery process. The main condition Fastmarkets FOEX requires from contributors is for them to be active participants in the market. Fastmarkets' FOEX Data Submitter Policy provides guidelines defining the high level of data quality and integrity that Fastmarkets FOEX expects from contributing organization providing pricing data. Market participants that wish to provide pricing data and be part of the price discovery process should first read the Data Submitter Policy available on the Fastmarkets FOEX website.

All data sources are subject to review before their data submitted is fully taken into account in the pricing process. The aim is to make sure that submitters are trustworthy and have sufficient visibility and understanding of the market to be able to provide viable price data.

If you want to become a contributor to Fastmarkets FOEX pricing or have questions or comments about the methodology and price specifications, please contact Fastmarkets FOEX senior manager Tuomo Neuvonen, tuomo@fastmarkets.com.

Price Specifications

Description: **PIX Pellet Nordic EUR/MWh CIF and SEK/MWh conversion**

Grade: Wood pellets used in industrial-grade instalments (power approx. 2 MW and over), the pellets can be industrial grade or higher (according to international standards such as ISO 17225 or national equivalent)

Unit: MWh. Information per tonne can also be reported. Fastmarkets FOEX transforms all data received to MWh using a conversion coefficient of 4.8 MWh/tonne unless otherwise informed by the price provider.

End-use location: Nordic countries, which here include Denmark, Finland, Norway and Sweden

Incoterm: Prices are reported CIF Baltic Sea port or North Sea port. The prices reported in FOB are transformed into CIF using the best available information of freight rates. For deliveries by truck or rail, the term DDU, DAP (or TOP for Finland) can also be considered.

Timing: Material delivered during the data month

Currency: EUR. Prices reported in other currencies are converted to the index currency by Fastmarkets FOEX using the data month's average ECB exchange rate. The same rate is used for the SEK/MWh conversion in the calculation process.

Payment terms: Customs and other duties paid, excluding taxes

Price Type: Net. Prices of long-term contracts can be included, however, not longer than 12 months, unless the price is re-negotiated within this term.

Publication: Monthly, on 3rd Tuesday of the following month at noon Helsinki time. If Tuesday falls on a public holiday in Finland, the index will be published on the first working day thereafter.

Market symbol: FP-WB-0001 and FP-WB-0002

Revision History

Changes to methodology and specifications will be tracked here.

September 2023 – Amends wording of 1.2 Data Collection Criteria: clarifies the accessibility of data at Fastmarkets.

January 2023 – Annual review of the PIX Pellet Nordic methodology. Following an open consultation, no material changes were made to the methodology. Clarified the SEK/MWh conversion in the currency section in the Price Specifications. Added market symbols.

January 2022 – Annual review of the PIX Pellet Nordic methodology. Following an open consultation, no material changes were made to the methodology.

March 2021 – Annual review of the PIX Pellet Nordic methodology. Following an open consultation, no material changes were made to the methodology. Changes wording of Coverage Note to Pricing Notice.

September 2020 - Updates sections on Methodology Review and Change and Queries and complaints.

December 2019 – Adds 50% weighting cap and changes limit for data retention

A 50% cap was added to any one contributor's weighting in the index. Storage of price data was changed from five to seven years. The methodology guide was changed accordingly.

June 2019 – Expanded PIX Pellet Nordic methodology guide published

Fastmarkets FOEX expanded the existing specifications document for the PIX Pellet Nordic Index into a full methodology guide in June 2019. During this process no material changes were made to the index methodology.

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Your investment actions should be solely based upon your own decisions and research and appropriate independent advice should be obtained from a suitably qualified independent adviser before any such decision is made.

Appendix 1

PIX Pellet Nordic Index

| Weighting scale for price points since June 2019 | | |
|--------------------------------------------------|---------|---------------|
| Annual trading volume (tonnes): | | Price points: |
| up to | 20,000 | 3 |
| up to | 50,000 | 4 |
| up to | 200,000 | 6 |
| over | 200,000 | 8 |