

Energy Prices Database

Frequently Asked Questions

International
Energy Agency

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INTERNATIONAL ENERGY AGENCY

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Product description

1. Example of database use

- How has household electricity price increased in Belgium, following general energy prices increase in 2022?
 - Household electricity prices went up from 300 to 452 €/Mwh in Q3 2022 compared to Q3 2021, despite a 30€/MWh taxes decrease.
 - Dataset: [Energy end-use prices](#)
- As crude oil prices rebounded by 8% in August 2023 compared to July, how were gasoline prices affected?
 - Prices increased by 6% in the United States at 1.01 USD/, while it increased by 4% in the Netherlands, reaching 2.27 USD/l.
 - File: [IEA energy prices Monthly Excerpt](#)
- Taking into account inflation, how has the electricity price paid by industrial sector in emerging economies evolved in the last decade compared to developed economies?
 - Between 2011 and 2021, industrial electricity prices in constant prices (adjusted by inflation) went down from 124 to 95 USD/MWh in Brazil, while on average it increased from 103 to 116 USD/MWh in OECD economies.
 - Dataset: [Energy end-use prices](#)

2. What does the IEA Energy Prices Database include and how often is it updated?

The [Energy Prices data product](#) provides global information on prices of energy products paid by end-users across different sectors: households, industrial, commercial, transport and electricity generation. It is composed of a main database and an additional ad-hoc excel file:

- Energy Prices database, which covers 147 countries in the world with weekly, monthly, quarterly, and yearly data for end-use prices. Frequency of update: monthly, quarterly and yearly depending on combinations of countries, products and sectors.
- [Monthly Oil Prices Statistics](#) free file (MOPS) is updated on a monthly basis and includes monthly end-user total prices for transport fuels in selected countries.

The update frequency for data from each country may vary. It is recommended to consult the [availability files](#) or reach out to the IEA for specific information on data update schedules.

3. Why should I use this product?

Energy represents a major expenditure for individual consumers, companies and the economy at large, which varies greatly from one country to another. Accurate data on energy prices and taxes at national level are essential for policy makers, researchers, market analysts and, more broadly, all economic actors.

The IEA Energy Prices Database is a comprehensive and regularly updated resource with transparent methodology that provides vital information on energy prices, comparable across countries and sectors.

4. How does the IEA derive its energy prices data?

Data for OECD countries are in majority submitted to the IEA by relevant administrations through [questionnaires](#), as part of OECD membership reporting obligations. Data for non-OECD countries are primarily derived from official and trusted secondary sources by the IEA Secretariat or submitted through voluntary reporting.

The [documentation](#) details sources and methodologies for each price data.

National sources include, but are not limited to, national energy ministries, central banks, ministries of economy, industry and finance, national competition authorities and national statistics agencies. Secondary sources include Eurostat and the European Commission for European countries, as well as country-specific sources detailed in the country notes.

5. How are files organised and in which format? Is API available?

The database is made of two data products:

- IEA Energy Prices package available for purchase that includes all energy prices and taxes data.
- [Monthly Oil Prices Statistics](#) is also available for download for free in Excel format.

Taxation information and free Monthly Oil Prices Statistics are available in Excel format.

The database is divided into several datasets. Energy Prices datasets include data for transport fuels, non-transport fuels, other fuels, subnational data and taxation information and have prices in national currency, USD. The additional datasets include crude oil costs, spot prices and indices. Please refer to the full list and description here:

<https://www.iea.org/data-and-statistics/data-product/energy-prices#data-sets>

Data content

6. What is the geographical and time coverage of the database?

The database covers 147 countries in the world beginning in 1970. However, not all fuels prices are available for every combination of country, sector, currency and time-period. Therefore time series may be available for shorter periods of time depending on the country/product/sector/currency.

The full list of countries is available in the [documentation file](#). The exact coverage by country, sector and fuel is detailed in [availability files](#).

Our interactive [Data Explorer](#) presents the breadth of the database with a free and large data sample.

7. How are data structured across dimensions?

Databases include the following dimensions:

- **Time:** Weekly, monthly, quarterly and yearly resolution depending on the fuel. When primary data are available at fine resolution, prices are aggregated using a time-weighted average. For example, monthly prices in a year would be averaged to compute yearly prices.
- **Country:** Prices are presented at subnational or national level, either using prices averages or prices from a certain location that are representative at national level.
- **Sector:** Prices presented are averages by sector. Sector covered are residential, industrial, commercial and electricity generation.
- **Product:** Final use energy commodity (e.g., diesel oil, electricity).
- **Unit:** Monetary currency/measure (e.g., national currency, USD).

8. What do electricity and natural gas prices refer to?

Prices usually do not refer to tariffs, as tariffs depend upon consumption bands and do not include all electricity related charges such as fixed charges. The preferred approach is to calculate the ratio between revenue from electricity sales, in monetary terms, by volume sold, for the boundaries considered. Prices are presented as averages for the country/time period/sector and not presented by consumer band (i.e. even if prices are different among heavy and light users). The prices included in the database is representative of an average consumer.

When revenues and sales are not available for the whole scope, weighted averages are used to come up with national and sector-wise representative average price.

9. Are prices taxes-inclusive? Is the tax breakdown available?

The energy prices for OECD countries include total prices with excise taxes, VAT component, total tax component (taxes levied on the use of the commodity) and ex-tax component. The ex-tax price is defined as the price component corresponding to all non-tax expenses, including manufacturing costs, distribution, and network charges as well as the profit margins for the companies involved in the manufacturing chain. Industrial prices are VAT exclusive when refunded.

More details in the [database documentation](#).

10. In what units are data presented?

Data are expressed in units common for each fuel (e.g. litre for gasoline, MWh for electricity, MWh on a GCV basis for natural gas etc), detailed in documentation file and data files.

Data is expressed in national currency per unit, USD per unit, USD using Power Purchasing Parity rates (PPP) per unit. Some of the prices are available deflated using 2015 base year, to account for general inflation trends for long time series (e.g. 2015 USD per unit.). Prices are deflated using Consumer Price Index (CPI) for residential fuels, and Producer Price Index (PPI) for non-residential users.

11. Do you have sample free data?

You may find extensive freely available data through the [data explorer](#) and [Monthly Oil Prices Statistics](#) free file on the IEA's website that can give a sense of the structure of the data. The exact data coverage is detailed through [availability files](#).

Purchasing and licensing

For questions regarding the purchase or licensing of the dataset, please refer to datasales@iea.org

12. How can I purchase the database?

The database is available for online purchase under different predefined licences and its use is governed by the IEA's Terms and Conditions here. For uses that are not permitted in the IEA's Terms and Conditions, including for re-dissemination of raw or derived data, please contact datasales@iea.org to discuss additional licensing.

The Monthly Oil Prices Statistics and taxation excerpt are free.

13. Does the IEA provide customised selections of data?

The database is an all-in-one package, and the system does not allow users to purchase extractions of individual data points.

14. Upon purchase, is access to the product permanent?

After purchase, users get access to the latest available annual edition of the dataset product, and any updates released during the term of their 12-month subscription. Users download the data from their IEA account. This dataset can be used indefinitely, provided it is not used in breach of the IEA's Terms and Conditions **and that the user has downloaded the various data sets before the expiry date of their subscription**. When the product is updated by the IEA (typically each September), users will get access if their subscription is still current but if their subscription has expired, they will need to proceed to a new purchase to access the latest release. Where a Licence Agreement has been implemented to enable broader usage of the data, the broader usage is permitted for the duration of the Licence Agreement only.

15. Is the data available for preview or sampling for potential buyers?

The database documentation, available for download [here](#), provides extensive information on the content of the database and the methodologies used.

16. How to choose among the different licences?

Single user or multi-user?

Single and multi-user licences can be purchased directly online. These licences are exclusively for a single company or group and do not allow you to do work with third parties or put the data in a model for which the derived data would be visible or available to third parties (see below).

A single user licence is appropriate as long as only one person can access or view the data. If other users were able to view even the results of the calculations in a shared internal tool then you would need a licence to reflect all the users – if they are in different locations then a global licence would be needed.

We would therefore expect all multinationals to purchase the global licence (unlimited users, multiple locations).

Do I need a contract or permission?

If you intend to use the data in any type of modelling for the purpose of creating derived data or derived products, and any services to distribute or display such derived products you need to sign an Agreement and pay a fee. The licences available online are exclusively for a single company or group and do not allow you to do work with third parties or put the data in a model for which the derived data would be visible or available to third parties (see below).

17. Can the data or any result of their processing be shared with third parties?

If you are using the data to calculate for third parties like clients, provide a tool that contains or relies on the data to third parties, or create other derived data which you intend to sell, disseminate or otherwise use externally, you need to request permission and enter into a Licence Agreement as such usage is not covered by our standard terms and conditions which you can find at the following link: <https://www.iea.org/terms>. If this is your case, please contact datasales@iea.org for more information.

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For further information, please contact: Data Sales (datasales@iea.org).



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