

## **Documentation of statistics for Electricity and natural gas prices 2024**

## 1 Introduction

The statistics shows prices of natural gas and electricity, within break downs into size groups of consumers, business and household respectively. Prices are shown, without and with taxes and VAT. The prices are to be comparable across EU countries for the benefit of a well functioning single market. The statistics has been compiled since 2007 in the present way.

## 2 Statistical presentation

Natural gas and electricity prices are overall compiled for household customers and business customers, in practice consumers which are non-households. The prices are compiled for the customers broken down use per year. Some price elements are very depending of the amount of use. Prices are compiled biannual in four levels: Price at energy company, Price incl. supply, Price incl. non-recoverable taxes, 3. Prices including all taxes and VAT, as the final price are composed of several elements. The main collection and compiling of data is done by the Danish Energy Agency.

### 2.1 Data description

Prices of natural gas (a mix of natural gas and bio-natural gas) and electricity are overall compiled for:

- household customers, i.e. private consumers
- business customers, i.e. costumers which are non-households

The prices are compiled for the customers broken down by amount of use per year. Some elements are very depending of amount of use. The prices are compiled in four levels:

- Price at the energy companies. (Level 0)
- Price 0 plus transmission and distribution (Level 1)
- Price 1 plus non-recoverable taxes (level 2)
- Prices including all taxes (level 3)

In particular the non-recoverable taxes are difficult to compile, as large parts are recovered together together with payments of VAT. Similar, households using electricity for heating pays reduced electricity tax.

In 2022 the government has paid a lump sum to citizens with low income to compensate for the high costs for heating among households, as well among users of natural gas and users of electricity for heating. The calculated average subsidy-value per energy unit is deducted in level 2 and level 3 prices and mentioned in the food-note in the databank table ENERGI3.

In 1st half of 2023 the electricity tax was deducted to a minimum level of 0,8 øre per kWh. It is 73,5 øre lower than the previous half year. Since the tax has been at normal level.

## 2.2 Classification system

Prices are compiled for the standard groups defined by EU Regulation 2016/1952:

**Households** (private consumers/customers) Natural gas, size groups (m<sup>3</sup> per year): D1: < 457, D2: 457 < 4.570, D3: ≥ 4.570 Electricity, size groups (kWh per year): DA: 0-1.000, DB: 1.000-2.500, DC: 2.500-5.000, DD: 5.000-15.000, DE > 15.000

**Business consumers/customers** Natural gas, size groups (m<sup>3</sup> pr. year) I1: < 22.849, I2: 22.849 < 228.490, I3: 228.490 < 2.284.900, I4: 2.284.900 < 22.849.000, I5: 22.849.000 < 91.396.000, I6: ≥ 91.396.000 Electricity, size groups (kWh pr. year) IA: 0-20, IB: 20-500, IC: 500-2.000, ID: 2.000-20.000, IE: 20.000-70.000, IF: 70.000-150.000, IG: > 150.000

There are no customers in Denmark fitting the largest size group for natural gas.

Business customers are not defined as such, but are "non-household customers"

The size groups for natural gas are basically defined in Gigajoule (GJ), which explain the figures. However, the main used unit in Denmark is m<sup>3</sup>/cubicmeter

## 2.3 Sector coverage

These statistics covers both households and enterprises in Denmark.

## 2.4 Statistical concepts and definitions

Price at energy company (Level 0): Price for energy product at energy company

Price energy and distribution (level 1): Price for energy product incl. distribution

Price including non-recoverable taxes (level 2): Price for energy product incl. non-recoverable taxes

Price including paid taxes and VAT (level 3): Price for energy product incl. paid taxes and VAT

## 2.5 Statistical unit

The results are compiled and published for electricity and natural gas customers. For the private customers this is equivalent to the household. Business customers are normally equivalent to an enterprise or to a local production unit, which is part of an enterprise.

## 2.6 Statistical population

The statistics covers prices at energy goods in Denmark within electricity and natural gas.

## 2.7 Reference area

Denmark.

## **2.8 Time coverage**

These statistics current time series covers 2015 and onwards.

## **2.9 Base period**

Only current prices are compiled.

## **2.10 Unit of measure**

DKK per energy unit

For electricity the prices are compiled in DKK per KWh and GJ, respectively For natural gas the prices are compiled in DKK per m<sup>3</sup> and Gigajoule (GJ), respectively. Calculation from m<sup>3</sup> to GJ is by the gross calorific value.

## **2.11 Reference period**

The information published is for half a year. The results are averages for the half year in question. Tariffs and taxes are in most cases valid for a calendar year.

## **2.12 Frequency of dissemination**

Bi-annual.

## **2.13 Legal acts and other agreements**

The prices are compliant to the requirements in [Regulation \(EU\) 2016/1952 of the European Parliament and of the Council](#) of 26 October 2016, on European statistics on natural gas and electricity prices. The regulation has replaced Directive 2008/92/EC. The Energy Agency collects data based on a specific mandate.

## **2.14 Cost and burden**

Not calculated, but the direct collection includes 50 providers of electricity and 20 providers of natural gas. Further, results are used from about 40 distributors of electricity and 2 distributors of natural gas.

## **2.15 Comment**

Further information can be found at the [subject page](#) for these statistics, or by contacting Statistics Denmark.

### 3 Statistical processing

The data is collected from sales companies. Furthermore, public available information from distributors is used, supplemented by actual fees and taxes plus schemes for recovering. Some elements in the prices are partly based on estimates and not registered payments. The collected prices on energy plus information from distributors and the Tax authority on tariffs, taxes and VAT, respectively, are compiled to fulfill the definitions on the four price levels.

#### 3.1 Source data

Data on the basic energy prices is collected from all enterprises selling electricity and natural gas, broken down by customers by amount of use. Based on the data, the paid average prices on the energy are calculated. The data covers almost all customers in Denmark. Data are collected for all types of contracts (fixed or variable prices), so average prices can be compiled. However, for households only app. 75 per cent of consumption is covered using a product basket

Information on prices on distribution, on tariffs etc. are based on public available data from The Danish Utility Regulator, see [Elpriser](#) og [Gaspriser](#) Further data from Energinet is used [Energinet-tariffer](#).

Actual level of taxes and schemes for re-coverage are mainly based the Tax Authority (SKAT) The taxes in question are Co2-tax, NOX-tax, electricity tax, PSO-tax, energy saving fee and VAT

Regarding compensation in 2022 to households for high energy prices information from Danish Energy Agency is used.

#### 3.2 Frequency of data collection

Semi-annual.

#### 3.3 Data collection

The enterprises selling electricity and natural gas are reporting via the general reporting facility for enterprises (<http://www.Virk.dk>). Their reporting is based on sales registers.

#### 3.4 Data validation

The Energy Agency validates the collected data by comparing with previous reports, average prices, actual prices at the spot-market etc. Statistics Denmark also goes through the development in the price components to ensure the quality of the data.

### **3.5 Data compilation**

The data collected from the natural gas and electricity sales enterprises are aggregated in size groups and average prices are compiled. Further, distribution costs for the size groups are compiled based on information from the distributors, using market shares as weight.

The *level 0* price is a direct outcome of the data collection of energy prices at the producing companies.

The prices at *level 1* can be calculated adding the calculated prices on transmission and distribution by size group.

Taxes and business customers re-coverage are compiled into net paid taxes for the respective size groups. By this prices at *level 2* can be calculated.

The prices at *level 3* are compiled by adding total taxes and VAT to *level 1* price.

Results are compiled at semi-annual basis. On annual basis a break down of distribution costs and taxes are also compiled and submitted to Eurostat, together with information of the volume of energy in the respective size groups.

Distribution costs are compiled based on several sources. The size groups in these sources does not always fit with these in the statistics, but by calculations it is possible to align.

The compiling on net taxes for business customers is for electricity partly based on information from the tax authority, partly based on knowledge on which enterprises pays reduced PSO-tax due to special energy processes. For natural gas, the re-coverage of Natural gas tax, the NOX-tax and the CO<sub>2</sub>-tax is also based on data on energy processes. Further, enterprises which own a CO<sub>2</sub>-quota, does not pay CO<sub>2</sub>-tax, which also are taken into consideration. By combination of information, the net taxes are compiled.

### **3.6 Adjustment**

Normally there are no corrections done afterwards. In size groups with few customers corrections may happen, for example in group D1 for households buying natural gas.

## **4 Relevance**

Natural gas and electricity costs are important to most citizens and enterprises and also in regards to the competitive situation among EU-countries. Therefore, it is relevant with reliable, transparent and comparable price statistics at important energy product.

### **4.1 User Needs**

At European level the statistics contributes to a transparent market for energy. The ministries and the government in Denmark are very concerned about energy policy, including energy taxes. The statistics on prices in subgroups and in different levels provide valid information for policy development. Further, the prices can be compared to the prices at other energy products.

## **4.2 User Satisfaction**

Recently, there have been no user satisfaction surveys, but it is the assessment, that the statistics provides useful information to all stakeholders.

## **4.3 Data completeness rate**

The requirements in the regulation are met. Results in the Statbank are complete. For previous years - results are in [Eurostat databank](#) - completeness also exists, but same prices were reported for all three size groups of household customers for natural gas.

## **5 Accuracy and reliability**

The product prices for electricity and natural gas are based on a total census. However, there may be uncertainty in the composition of different data components, as they do not always follow the same groupings. Payments on account may result in minor accrual shifts in natural gas prices. In addition, distribution costs may be difficult to calculate precisely in relation to the actual average deliveries to customers. The statistics are based on certain model assumptions, including the behavior of companies eligible for reimbursement and households' use of electric heating. Overall, however, the uncertainty is assessed to be low, and any errors or deviations are corrected on an ongoing basis.

### **5.1 Overall accuracy**

The insecurity are considered low, as the respective sources has high quality. However, the combining of the sources makes insecurity , as the alignment between the sources cannot be perfect.

### **5.2 Sampling error**

Not relevant for these statistics.

### **5.3 Non-sampling error**

When compiling the statistics, a number of components are combined. This leads to uncertainty, as the elements can only be made approximately compatible. For households, payment on account with subsequent correction is the normal model. This may mean that the accrual for natural gas is not entirely correct.

Coverage error: Electricity prices for households are based on a product basket with approximately 30 products, which covers 70-75 percent of total consumption. The product basket is based on the sales structure two years earlier, which may mean that the reported average prices do not fully reflect the current consumer prices in the market. In addition, there may be uncertainty in the calculation of distribution costs, as the calculated averages do not necessarily correspond exactly to the actual deliveries to customers.

Measurement error: Payment on account is the normal model for households, which may mean that the accrual for natural gas prices is not entirely correct. This may create a shift in when actual price changes are reflected in the statistics.

Missing values: There are normally no missing values in the data collection, but in the event of missing reports from individual companies, data may be imputed.

Model assumptions: The statistics are based on several assumptions, including that companies with electricity consumption eligible for reimbursement actually request reimbursement, and that households with an annual electricity consumption of over 4,000 kWh often use heat pumps or other electric heating, which entitles them to a reduced tax.

### **5.4 Quality management**

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

### **5.5 Quality assurance**

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

### **5.6 Quality assessment**

It is continuously assessed whether all relevant components in the prices calculations are handled correct. Since the start of the statistics, only few errors has been detected and thus corrected.



## **5.7 Data revision - policy**

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

## **5.8 Data revision practice**

Revisions occurs in the statistics when necessary. Revisions are to possible extend revisions compiled backwards.

Latest revisions have covered:

- the energy saving fee has been replaced from being part of level 1 prices to be part of level 2 (in line with energy taxes)
- the fixed administration fee for natural gas customers is now part of the prices (level 1). This has only significant importance for households.

## **6 Timeliness and punctuality**

The results have to be compiled three month after end of reference period, i.e. end of March and end of September, respectively

### **6.1 Timeliness and time lag - final results**

The statistics are published three months after the end of the reference period. Only final results are published.

### **6.2 Punctuality**

These statistics are published without delay, with reference to the announced time of publication in the release calendar.

## **7 Comparability**

The results are fully comparable over time from 2015 and onwards. For previous years there are also high comparability, in particular for largest size groups (non-households). Prices since 2007 are in Eurostats databank.

### **7.1 Comparability - geographical**

Due to regulation and guidance across countries, the comparability among EU-countries is high. Data can be found in Eurostats [database](#).

## **7.2 Comparability over time**

The results/prices are fully comparable over time from 2015 and onwards. For previous years there are also high comparability, in particular for largest size groups (non-households).

Changes from one half year to the next are affected by the fact that contracts on purchase can be of very different length. The changes, therefore, are not as for day to day prices.

High prices in particular in 2022 was partly compensated by a lump sum to household natural gas customers (level 2 and 3 prices deducted by DKK 83/GJ) and by minimum electricity taxes for household customers in first half of 2023.

## **7.3 Coherence - cross domain**

Results are not directly comparable to other statistics. However, energy prices are part of price indices for consumers and business and are indirectly used in the overall energy statistics.

## **7.4 Coherence - internal**

Many sources are combined to get the results. However, overall consistency exists

## **8 Accessibility and clarity**

These statistics are published in the StatBank under [Electricity and natural gas prices](#). See also the [subject page](#).

### **8.1 Release calendar**

The publication date appears in the release calendar. The date is confirmed in the weeks before.

### **8.3 User access**

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

### **8.2 Release calendar access**

The Release Calendar can be accessed on our English website: [Release Calendar](#).

### **8.4 News release**

These statistics are not published in a press release from Statistics Denmark. Prices for the industry has been part of a News release (no 135) April 2022 and in News release (no 98) in March 2023 in the series [Energy consumption in the Industries](#) [in Danish only].

### **8.5 Publications**

Results are not part of a publication.

## 8.6 On-line database

These statistics are published in the StatBank under [Energy prices](#) in the following tables:

- [ENERGI1](#): Prices at electricity for households
- [ENERGI2](#): Prices at electricity for non-households
- [ENERGI3](#): Prices at natural gas for households
- [ENERGI4](#): Prices at natural gas for non-households

## 8.7 Micro-data access

Micro-data is not available for users.

## 8.8 Other

The results are submitted to Eurostat and are published in their [database](#).

## 8.9 Confidentiality - policy

[Data Confidentiality Policy](#) for Statistics Denmark are followed.

## 8.10 Confidentiality - data treatment

The statistics are published at a level of detail, that has not demanded further discretion of any results.

## 8.11 Documentation on methodology

Not relevant for these statistics.

## 8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

## 9 Contact

The administrative placement of these statistics is in the division of Science, Technology and Culture, Business Statistics. The contact person is Ole Olsen, tel.: + 45 2977 1498, and e-mail: [OLO@dst.dk](mailto:OLO@dst.dk).