

# Improved timeliness of energy statistics

Statistics Explained

*Article prepared in June 2023.*

Over the last 15 years, timeliness and punctuality of energy statistics has improved significantly for both monthly and annual data.

## Introduction

[Eurostat](#) collects energy statistics on quantities on a monthly and annual basis. Both monthly and annual collections have evolved over time, reflecting the technological progress and dynamic policy needs. The changes implemented cover not only the content of the energy data collections, but also the modalities of transmission.

During the last 20 years, Eurostat has put great effort into improving the timeliness and punctuality of its data collections for energy statistics. This concerns data reporting, as well as data dissemination. The challenge is to maintain high accuracy, coherence and relevance while improving timeliness and punctuality. Tangible results can be assessed only in the medium-term and need to be seen also in the context of their sustainability in the long-term. At the same time, technology progress has significantly contributed to achieving these results: hardly imaginable today, but paper transmissions by telex/fax were still used not so long ago, in striking contrast to the possibility of real-time data transmissions via applications using smart devices, that might become reality in the near future.

Further developments are expected to go hand-in-hand with the digitalisation of the energy sector, reflecting and pushing forward the [European Statistical System](#) (ESS) innovation agenda as well as new technologies in society (e.g. internet of things). At this stage, without prejudging more significant progress in timeliness thanks to future technological developments, Eurostat utilises all aspects of the currently deployed technologies for reporting statistics in the European Statistical System (i.e. by reporting countries in Europe).

It is important to remember that improving timeliness/punctuality needs to be achieved without compromising other quality dimensions: accuracy, comparability and coherence. The overall long-term aim is to ensure that the data meets high standards for all quality criteria. It is therefore crucial to analyse whether timeliness/punctuality improvements can jeopardise accuracy, comparability and coherence. At the same time, however, we have to remember that the relevance of data collections is also linked to their timeliness/punctuality.

## Punctuality vs timeliness

In this article, the following terminology is established:

- **Timeliness** refers to the delay between the expected availability of the information and the event or phenomenon it describes. In other words, it refers to the reporting deadlines in the legal act.

- **Punctuality** refers to the delay between the date of the release of the data and the target date when it should have been delivered. In other words, it refers to the actually observed transmission delays from the countries and the processing time of these data in Eurostat.

Improvements in punctuality and timelines usually go hand in hand and depend significantly on technological progress. Digitalisation (such as mass scale deployment of smart meters for electricity consumption) can in the future enable further improvements in timeliness and punctuality.

## Requests for more timely energy statistics

The Commission Staff Working Document accompanying the Second Report on the State of the Energy Union stated the following: *Further EU-level and national support for European statistics is key to improving the **timeliness** and quality of the data and extending data coverage as necessary for monitoring progress on the Union's energy and climate objectives. The availability of sufficient, **more timely** and more accurate statistical data could make a basic contribution to the monitoring of policy impact and will provide the public with a clearer, quantified image of energy and climate policies in the EU.* See the report: [SWD\(2017\) 32 final](#)

The 2019 report of the European Court of Auditors recommended the following: *The Commission should prepare an amendment of the relevant parts of the energy statistics regulation, so that the Member States provide Eurostat with annual energy statistics including renewables within nine months of the year-end.* See the report: [ECA special report 08/2019](#)

In addition, Eurostat regularly receives user requests from researchers, analysts and journalists asking for the most recent data. Especially in times of crisis, the number of such requests ramps up. This clearly indicates that the public is generally interested in more recent monthly and annual energy statistics, and Eurostat duly considers these needs and acts upon them.

## Improvements in annual energy statistics

In the context of annual energy statistics, in March 2016 Eurostat initiated an intensive cooperation with the reporting countries in the Energy Statistics Working Group (ESWG) and launched the Energy Statistics Task Force. This cooperation resulted in the dissemination of preliminary data of the 2017 supply side of the energy balance in July 2018, i.e. 7 months after the end of the reference period. For the years 2018, 2019 and 2020, preliminary supply side data were published in June 2019, June 2020 and June 2021, respectively, i.e. 6 months after the end of reference period. In January 2022 the reporting of early estimates was included in the Regulation on energy statistics (legally in effect for reference year 2022, transmitted to Eurostat in May 2023), as it was considered proven and accurate statistics. In June 2022, preliminary data were published on a voluntary basis for the last time. Subsequently, the voluntary nature of these preliminary annual data changed and the reporting became mandatory. Therefore, by the end of June, preliminary supply side of commodity balances of all energy products (fuels) is now available in the Eurostat database as official European statistics. The published data are to be considered preliminary and are revised (updated) upon the delivery of regular annual data collections as defined in [Regulation \(EC\) No 1099/2008](#) on energy statistics.

In addition, Eurostat proposed an update of the Regulation on energy statistics and more ambitious timeliness requirements (reporting deadlines) are now in force. As of reference year 2022, annual energy statistics need to be reported by the end of October each year (i.e. 10 months after the end of the year). Eurostat expects to disseminate energy balances for all EU countries, and including EU aggregates, by mid-December, i.e. one and a half months earlier than the original dissemination deadline. The section below outlines in more detail the progress achieved in the area of monthly statistics.

Punctuality of annual energy statistics improved more significantly than timeliness. Eurostat implemented a new IT system for energy statistics and is now able to swiftly publish data as soon as these are validated. Thus when a country transmits data of good quality well before the deadline, the data are also disseminated well before the deadline. In the most extreme case, data with no errors can be disseminated to the public on the same day as they arrive. As an example of direct benefits of the renewed IT system, the annual energy balances are now disseminated for all EU Member States by the middle of December (i.e. less than 12 months after the end of reference years).

## Timeliness of monthly data collection

[Regulation \(EC\) No 1099/2008](#) on energy statistics was adopted in 2008, establishing mandatory reporting deadlines and replacing previous reporting on a voluntary basis and gentleman's agreements. The table below shows the evolution of improvements in reporting deadlines in this Regulation.

In addition to improving timeliness in the legal act, countries' compliance with the reporting deadlines has also

Regulation	October 2008	February 2013	November 2019
Coal	3 months	3 months	2 months
Electricity	3 months	3 months	2 months
Natural gas	3 months	55 days	55 days
Oil and petroleum products	3 months	55 days	55 days
Crude oil imports register	x	x	1 month

improved. The table below shows the percentage of data transmissions made before the deadline:

These are significant improvements over the last decade - not only in terms of legislation and mandatory ambitions but also in practice in national statistical systems.

## Future improvements

The aftermath of the Russian invasion of Ukraine showed the importance of timely energy statistics. The EU has adopted [Council Regulation \(EU\) 2022/1369](#) on coordinated demand-reduction measures for gas that required countries to report certain statistics 15 days after the end of the month. The European Statistical System managed to respond to this request and provided these data.

Political needs for earlier statistics together with digitalisation in the energy sector (such as deployment of smart metering) will likely result in the improved timelines and punctuality in the future. The European Statistical System will properly respond to such needs and developments, and continue improving in the future.

## See also

- [Energy](#) - entry page
- [All energy articles](#) in alphabetical order

## Database

- [Energy - detailed datasets \(nrg\)](#)

## Dedicated section

- [Energy](#)

	2010	2012	2014	2016	2018	2020	2022
Coal	77	85	86	86	90	85	93
Electricity	88	88	91	93	97	97	98
Natural gas	96	95	70	65	82	90	95
Oil and petroleum products	92	97	55	49	63	81	86
Crude oil imports register	x	x	x	x	x	73	82

## Visualisations

- [Portal for all Eurostat visualization tools for energy](#)
- [Energy balances made easy](#)
- [Energy indicators made easy](#)
- [Sankey diagram - Visualise energy flows](#)
- [Visualise energy scenarios with an interactive tool](#)

## Methodology

- [Energy statistics - quantities \(nrg\\_quant\)](#)
- [Energy balances \(nrg\\_bal\)](#)
- [Energy - questionnaires and reporting instructions](#)
- [Energy Statistics Manual](#)

## Legislation

- [Regulation \(EC\) No 1099/2008](#) of 22 October 2008 on energy statistics
- [Commission Regulation \(EU\) No 844/2010](#) of 20 September 2010 amending Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics, as regards the establishment of a set of annual nuclear statistics and the adaptation of the methodological references according to NACE Rev. 2
- [Commission Regulation \(EU\) No 147/2013](#) of 13 February 2013 amending Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics, as regards the implementation of updates for the monthly and annual energy statistics
- [Commission Regulation \(EU\) No 431/2014](#) of 24 April 2014 amending Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics, as regards the implementation of annual statistics on energy consumption in households
- [Commission Regulation \(EU\) 2017/2010](#) of 9 November 2017 amending Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics, as regards the updates for the annual and monthly energy statistics
- [Commission Regulation \(EU\) 2019/2146](#) of 26 November 2019 amending Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics, as regards the implementation of updates for the annual, monthly and short-term monthly energy statistics
- [Commission Regulation \(EU\) 2022/132](#) of 28 January 2022 amending Regulation (EC) No 1099/2008 of the European Parliament and of the Council on energy statistics, as regards the implementation of updates for the annual, monthly and short-term monthly energy statistics

## External links

- [European Commission — Directorate-General for Energy](#)
- [Energy Community](#)
- [United Nations Statistics Division - Energy Statistics](#)
- [Intersecretariat Working Group on Energy Statistics](#)
- [Oslo Group on energy statistics](#)
- [Joint Organisations Data Initiative](#)
- [International Energy Agency](#)
- [International Renewable Energy Agency](#)