Quality report of European Union energy statistics

2017 edition

eurostat

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1. INTRODUCTION

The present report contains summarised information as regards the second exercise on quality reporting in the field of energy statistics in the European Union. It has been compiled using the information included in the quality reports sent to Eurostat in 2016 by individual participating countries, which include EU 28 Member States plus Norway and Turkey. Other sources that have been consulted are metadata information, national websites of the individual countries and data from the public free data sets maintained by Eurostat. Unless stated otherwise, the report uses data available at the date of 2 November 2016.

The quality concept applied in this report is in conformity with the definition developed by the European Statistical System. In this definition, quality consists of the following components: relevance, accuracy, timeliness and punctuality, accessibility and clarity, comparability and coherence. Each of the quality components is explained shortly at the start of each section in the report[1]. In order to provide the most updated information, when dealing with components under the responsibility of Eurostat (like timeliness or punctuality in the publication of EU energy statistics), it will refer to the data received during the latest available transmission period at the time when this report has been drafted.

In some cases it is difficult to present the data as prescribed by the standard Eurostat format (whose instructions are laid down in the ESS Handbook on Quality Reports (EHQR) and the ESS Standard for Quality Reports (ESQR)), since energy statistical processes among countries are not homogeneous, which creates additional difficulties to present the information in a comparable form. For this reason, this report presents a picture of the differences in organisation of statistical processes at country level.

It must be highlighted that quality, coverage and timeliness of energy statistics are sometimes compromised as a consequence of e.g. budget cuts (both at Eurostat and Member States' level), additional data requests and liberalisation of the energy market (which multiplies the number of data sources).

Taking into account all these limitations, the main objective of this report is to analyse the main aspects of energy statistics data quality and detect areas to improve it in the future.

Eurostat wishes to thank the many experts in the countries participating in the conduct of the energy surveys, providing the data and descriptions as well as their support for the creation of this report.

[1] Most of the introductory texts shortly explaining each quality component are taken from the 'ESS Standard for Quality Reports', available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/ver-1/quality/documents/ESQR_FINAL.pdf

2. OVERVIEW

2.1. Coverage

This document covers all twenty-eight EU Member States in 2016 (the period in which the information for the elaboration of this report was gathered). In addition, information about Norway and Turkey (the only non-EU countries that have provided their national quality report) has also been included.

The reference year that has been selected for the information transmitted by the countries is 2014. In other words, the information transmitted within the framework of the national quality reports refer to 2014. However, when more updated information is available for some sections of this document, it has also been included in this report.

Finally, it must be stated that the information provided in the national quality reports could only be analysed in a summarised way, since it would not be possible to publish a synthetic EU quality report containing all the details of the information transmitted by countries. For this reason and in order to publish the information provided by countries to its full extent, quality reports transmitted to Eurostat should be exploited by publishing them at European level in the form of metadata (i.e. using the ESS Metadata Handler). This would allow users to access in a direct way to the full detail of metadata information associated to the data from its production at the source. Although the level of detail of energy statistics metadata is high and the domain is complex, works are on progress to develop a satisfactory solution for the publication of this information in the form of metadata. In the meantime, the possibility to disseminate national quality reports in a different format should be explored.

2.2. Legal basis

The main legal text in the area of energy statistics (and more particularly in the area of quality reporting on energy statistics) is Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics (and subsequent amendments), which provides for quality assessment and quality reports according to Article 6.

More concretely, paragraph 3 states the quality assessment dimensions that apply to the data:

a. *'relevance' shall refer to the degree to which statistics meet current and potential needs of the users;*
b. *'accuracy' shall refer to the closeness of estimates to the unknown true values;*
c. *'timeliness' shall refer to the delay between the availability of the information and the event or phenomenon it describes;*
d. *'punctuality' shall refer to the delay between the date of the release of the data and the target date when it should have been delivered;*
e. *'accessibility' and 'clarity' shall refer to the conditions and modalities by which users can obtain, use and interpret data;*

f. *'comparability' shall refer to the measurement of the impact of differences in applied statistical concepts and measurement tools and procedures where statistics are compared between geographical areas, sectoral domains or over time;*
g. *'coherence' shall refer to the adequacy of the data to be reliably combined in different ways and for various uses.*

Paragraph 4 states the obligation for countries to transmit quality reports to Eurostat every five years:
'Every five years, Member States provide the Commission (Eurostat) with a report on the quality of the data transmitted as well as on methodological changes that have been made.'

Paragraph 5 defines this further:
'Within 6 months of receipt of a request from the Commission (Eurostat), and in order to allow it to assess the quality of the data transmitted. Member States shall send to the Commission (Eurostat) a report containing any relevant information concerning the implementation of this Regulation.'

Other European Regulations having influence on various energy data aspects in several areas (biofuels, renewables, cogeneration, energy efficiency and oil stocks) are the following:

- Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance).
- Council Directive 2009/119/EC of 14 September 2009, imposing an obligation on member states to maintain minimum stocks of crude oil and / or petroleum products.
- Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC (Text with EEA relevance).

In addition to the above-mentioned legal texts, the role of quality reporting has been strengthened in Regulation (EC) No 223/2009 of the European Parliament and of the Council of 11 March 2009 on European Statistics. Article 12.3 of this Regulation states that European statistics shall be developed, produced and disseminated on the basis of uniform standards and harmonised methods. In addition to European regulations, many participating countries have their own national legislation in the field of energy statistics. The following table includes information on applicable national laws or regulations in the field of energy statistics.

Table 1. Overview of national legal framework covering EU data requirements in the energy domain

Country	Applicable legal texts at national level in the area of energy statistics
Belgium	Royal Decree #2003011145; Royal Decree #2003011143; Royal Decree #2003011144; Law # 2013011348;
Bulgaria	National statistical programme;
Czech Republic	Act No.89/1995 Coll., on the State Statistical Service, as amended" and "Decree No 302/2015 Coll., which makes the Programme of statistical surveys for 2016 public
Denmark	Act on electricity supply and act on heat supply; Act on electricity supply; Act on natural gas supply; Oil emergency preparedness/oil stock;
Germany	Gesetz über Energiestatistik (Energiestatistikgesetz - EnStatG);
Estonia	Official Statistics Act;
Ireland	National Oil Reserves Agency Act 2007 (No. 7 of 2007) and associated Returns and Levy Regulations SI 567 of 2007 and SI220 of 2009; European Union (Energy Efficiency Obligation Scheme) Regulations 2014, (S.I. No. 131 of 2014);
Greece	Apart from Reg. 1099/08, there are laws covering the data collections such as 3054/2002, 3734/2009, 3851/10, 3832/10, 4233/2014.
Spain	Ley 12/1989, de 9 de mayo, de la Función Estadística Pública (BOE 11-05-1989) ; Royal Decree 1658/2012, 7 december, approving the National Statistcs Plan 2013-2016; Resolución de la Dirección General de Política Energética y Minas de 15 de diciembre de 2008 http://www.boe.es/buscar/doc.php?id=BOE-A-2009-1009; Resolución de la Dirección General de Política Energética y Minas, 29 de mayo de 2007 http://www.boe.es/buscar/doc.php?id=BOE-A-2007-12750;
France	Order of 18 June 2002 on the collection of data as per Article 47 of Act n° 2000-108 of 10 February on modernisation and development of the public electricity service; Order of 6 November 2003 on the collection of data as per Article 10 of Act n° 2003-8 of 3 January 2003 on the gas and electricity markets and public energy service; French Energy Code, article L142-10; French Energy Code, article L142-10 ; French Energy Code, article L142-1;
Croatia	The Official Statistics Act (Official Gazette, No 12/2013 – consolidated text). Its regular statistical surveys are based on the Programme of Statistical Activities of the Republic of Croatia 2013 – 2017 (the Official Gazette No. 69/13) and the Annual Implementation Plan of Statistical Activities of the Republic of Croatia.;
Italy	Italian Ministry Economic Development Decree 14/01/2012;
Cyprus	Statistics Law 2000
Latvia	Cabinet Regulations Nr. 767 "Regulations on the National Programme of Statistical Information";
Lithuania	Law on Statistics. Official Statistics Work Programme.;
Luxembourg	Law of December 23rd, 2004 transposing the directive 2003/87/CE; Law of August 1st, 2007 relating to the electricity market organization - Art 50 (2); Law of August 1st, 2007 relating to the natural gas market organization - Art 50 (2); Grand Duchy regulation of October 31st, 1973 transposing the directive 68/414/CEE ;

Country	Applicable legal texts at national level in the area of energy statistics
Hungary	Government Decree 288/2009 (XII.5.); Act LXXXVI of 2007 on electricity; Act XL of 2008 on natural gas supply; Act XLVI of 1993 on Statistics
Malta	CAP. 545 Regulator for Energy and Water Services Act; S.L. 545.17 Petroleum for the inland (wholesale) fuel market, bottling of LPG and primary storage facilities regulations; S.L. 545.25 Bunkering (Authorisation) Regulations;
Netherlands	Dutch statistical law; Dutch statistical law and dutch customs law; Dutch electricity and gas law; Regeling garanties van oorsprong voor energie uit hernieuwbare energiebronnen en HR-WKK-elektriciteit; National mining law; Wet Milieu Beheer Titel 9.7 Hernieuwbare Energie Vervoer;
Austria	Electricity Act 2010; Gütereinsatzstatistik-Verordnung, BGBl. II Nr. 349/2003 vom 29. Juli 2003, geändert durch BGBl. II Nr. 132/2009 vom 6. Mai 2009.; Handelsstatistisches Gesetz BGBl. 173/1995 idgF; Short-term statistics Regulation; Natural Gas Act 2011; Erdölstatistik-Verordnung 2011; Oil Stockholding Act 2012;
Poland	The law on the public statistics of 29 June 1995 (OJ 2012 item. 591 with subsequent amendments); The law of 9 April 2015 amending the law on public statistics and some other acts (OJ 2015, item. 855); Regulation of the Minister of Economy of 9 August 2013. on the program of statistical surveys for 2014; The law on the public statistics of 29 June 1995 (OJ 2012 item. 591 with subsequent amendments); The law on program for statistical surveys on the public statistics in 2016 year of 21 July 2015 (OJ 2015 item. 1304 with subsequent amendments);
Portugal	Art. 2º 2.f) Decree Law nº 130/2014, August 9th; Decree Law no 106/93, April 7th; Art. 2º 2.f) dDecree Law nº 130/2014, 29th august; Art. 65º Decree Law nº 215-A/2012, 8th october; Art. 50º-A Decree Law nº 215-B, 8th october; Art. 2º 2.f) Decree Law nº 130/2014, August 9th; Decree Law 230/2012, October 26th, Art. 59º; Decree-Law 231/2012, October 26th, 35º and 49º; Art. 2º 2.f) Decree Law nº 130/2014, August 9th; Decree Law no 106/93, April 7th;
Romania	Yearly Program of Statistical Surveys;
Slovenia	Beside the ESR the fundamental legal bases for the operation of the statistical system and for the energy statistics in Slovenia are: national Statistics Act (OJ RS, No. 45/95 and No. 9/01), Medium-term programme of statistical surveys (currently applicable for the period 2013-2017, OJ RS, No. 79/12) and Annual programme of statistical surveys (currently applicable for the year 2017, OJ RS, No. 75/16).
Slovak Republic	Act. No. 540/2001, Programme of the State Statistical Surveys; Act. No. 540/2001;
Finland	Finnish Statistics Act (280/2004); The Act states that statistics should be compiled by primary exploitation of data collected in other context to avoid duplication of efforts ; Customs Act (1466/94, amendment 1299/2003) of Finland; The power plant register is based on Finnish act 588/2013 and 65/2009;
Sweden	Swedish Statistical Law SF2001:99; Swedish Law regarding Oil Emergency Stock Obligations (2012:806);
United Kingdom	Condition of licence; UK Stats of trade act 1947;
Norway	The Energy law of 29. Juni nr. 50, §10-1, and the Statistics act §2-2 (see answer on question 3); The Statistic act §2-2 and 3-2; The statistics act §2-2 and 3-2 and the act on the generation, transmission, trading, distribution and use of energy etc. (Energy Act) of June 29 1990, No. 50 § 10-1, third paragraph; The Statistics Act §§ 2-1, 2-2 and 3-2;
Turkey	Article 10 of Energy and Natural Resource Statistics Law on organization and duty (No: 3154), Statistics Law of Turkey (No:5429) and Official Statistics Programme; Electricity Market Law (No:6446) Statistics Law of Turkey (No:5429); Petroleum Market Law Article 14., Natural Gas Market Law and Energy Market Data Reporting Regulations.; Statistics Law of Turkey (No:5429) and Official Statistics Programme ;

2.3. Developments in the area of EU energy statistics quality reporting

The first quality reporting exercise in energy statistics was launched when, in the Energy Statistics Working Group meeting in 2010, a standard template for the first quality reporting exercise was presented for discussion. In order to reduce burden on Member States, the standard template consisted in:

1. A descriptive section (part A) to be filled in for all data collections fulfilling requirements of Regulation (EC) No 1099/2008
2. A detailed section (part B) to be filled in only for the collections deemed essential for completing the monthly and annual questionnaires.

Eurostat asked Member States officially to fill in the template with the necessary information by the end of 2011. In the Energy Statistics Working Group meeting in 2012 Eurostat reported on the progress of the exercise and announced the intention to carry on with a careful analysis of the submitted material, in order to assess their completeness and compliance with the requirements.

Following this analysis, several countries were contacted to complete or explain submitted information and many revised and improved their submissions.

It was observed that some Member States provided complete and very informative quality reports, which can be used as best practices for other countries. Unfortunately, other countries did not provide the information as required.

A summary of quality reports submitted by country was presented to the European Statistics Working Group in June 2013 and this report is based on information provided in that summary.

During the conduction of the first quality reporting cycle, Eurostat observed that several countries didn't provide information with the required level of detail and it was often very difficult to draw a clear mapping from the national data collections to the Eurostat datasets. After careful analysis, it was concluded that one of the main reasons was the inability of the established system to capture all the interrelations in the multi-dimensional area of energy statistics. Due to its complexity, energy statistics required a much more comprehensive approach, which should be the outcome of an innovative process requiring the active contribution of both Eurostat and Member States. This process was conducted within the Energy Statistics Working Group and was successfully finalised in June 2015, with the adoption of the new template in quality reporting for energy statistics.

The second quality reporting cycle was launched in December 2015. This innovative approach helped to improve compliance with ESS quality reporting standards, to gather more comparable information and to establish a clear mapping between national data sources and EU data collections.

2.4. Brief Description of the main European energy data collections

2.4.1. Periodicity

Eurostat collects, processes and publishes annual and monthly energy statistics on quantities of numerous energy commodities, both primary (e.g. crude oil, natural gas, hard coal, etc.) as well as secondary (e.g. motor gasoline, gas/diesel oil, coke, patent fuels, etc.). Statistics are also produced on end-user prices of electricity and natural gas.
A more detailed description of each data collection is shown below.

Annual statistics of energy
Collected statistics (most are joint collections with the International Energy Agency, IEA) cover essentially the production, transformation and consumption of numerous energy commodities; details on external trade of energy commodities and structural characteristics of the energy industry are also included. The annual Energy Balances of the Member States and the EU are the key output of this data collection. This module provides valuable information on the structure of the energy systems across the EU; it allows monitoring of major EU and national energy policies and targets (energy dependency, penetration of renewable energy sources, energy efficiency) while it contributes significantly in assessing the carbon dioxide annual emission inventories. Competition indicators and prices systems (both for gas and electricity) are also collected on annual basis.

Monthly and short-term monthly statistics of energy
Monthly statistics can be classified as the so-called M-2/M-3 (monthly) or M-1 (short-term monthly) data collections, depending on their timeliness. All of them are transmitted once per month, but M-2 data collections are transmitted to Eurostat 2 months (55 days in some cases) after the end of the reference period, while M-3 are transmitted 3 months after the end of the reference period and M-1 are transmitted only 1 month (25 days in some cases) after the end of the reference period.

Opposite to the annual energy data collections which cover the full spectrum of the overall energy flows in a given country [from supply, through transformation to final energy and non-energy consumption by sector and by fuel type], monthly data collections are limited to the supply and only partially to the transformation side. Renewables are covered to a limited extent. Nonetheless, monthly energy statistics, although not as complete (nor directly comparable to annual statistics), provide quickly energy related tendencies before annual data can be made available.

Monthly energy data (M-2 and M-3) are also used for the early estimates of CO_2 emissions. Finally, monthly data also deliver valuable information on oil and petroleum products emergency stocks in response to security of supply considerations.

The table below shows the periodicity of data collections (annual and monthly).

Table 2. Periodicity of European energy statistics data collections

EDAMIS dataset name & Name of data collection	Periodicity		
	Annual (Annex B of ESR[2])	Monthly (M-2/M-3) (Annex C of ESR)	Monthly (M-1) (Annex D of ESR)
ENERGY_SOLID_A: Solid Fuels Statistics	x		
ENERGY_ELECT_A: Electricity and Heat Statistics	x		
ENERGY_NTGAS_A: Natural Gas Statistics	x		
ENERGY_PETRO_A: Oil and petroleum products	x		
ENERGY_RENEW_A: Renewable energy and wastes statistics	x		
ENERGY_NUCLEAR_A: Nuclear statistics	x		
ENERGY_SOLID_M: Solid Fuels Statistics		x	
ENERGY_ELEC3_M: Electricity Statistics		x	
ENERGY_MOSGAS_M: MOS (Monthly Natural Gas Statistics)		x	
ENERGY_MOSOIL_M: MOS (Monthly Oil Statistics)		x	
ENERGY_SEGELE_M: Short-term monthly Electricity statistics			x
ENERGY_SEGGAS_M: Short-term monthly Natural Gas Statistics			x
ENERGY_JODIOIL_M: Short-term monthly Oil statistics			x

[2] Energy Statistics Regulation: Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics

2.4.2. Data collection and aggregation methods

In order to fill out the questionnaires of the EU data collections with the required data, countries use their own data collections, sources and aggregation methods. This information was provided in their quality reports, where Member States indicated which methods they use for their monthly and annual data collections. Some of the methods used are:

- Census (without or with threshold)
- Sample surveys (using, for example, questionnaires, telephone interviews, household visits, etc.).
- Statistical compilation, especially in the case of aggregation of monthly data to obtain annual figures
- Use of administrative sources
- Modelling
- Estimations

The organisation of statistical processes varies considerably across countries. Some countries' internal data collections are structured according to the phase of the supply chain (production, imports, exports, consumption, etc.), whereas other countries use different data collection methods depending on the type of fuel (liquid, solid, electricity and heat, renewables, etc.). Mixed approaches are also found.

During the previous cycle (first quality reporting exercise), it was very difficult to draw a clear mapping from the internal data collections at Member State level and the annual (Electricity, Coal, Oil, Natural Gas, Nuclear and Renewables) or monthly (Electricity, Coal, Oil and Natural Gas) Eurostat questionnaires. For this reason, the second quality reporting template was prepared in a way that allowed for easier identification of variables relating to Eurostat questionnaires and their connection to national surveys.

Annex 1 shows a mapping between the national data sources and the EU annual and monthly data collections.

Table 39 in Annex 2 shows an overview of the different data collection methods used in each country to provide data into the EU data collections.

2.4.3. Statistical Processes Using Administrative Source(s)

Given the rapid development in this area and the constraints linked to resource availability in Member States, the use of administrative data is growing in order to exploit data already available e.g. in the form of registers without direct data collection.

Administrative data are used in several ESS statistical domains for many years. In the case of energy statistics, although its use is still restricted, it is growing and it is interesting to monitor which data come from administrative sources. For this reason, the following table displays the national data sources identified by countries as being administrative data (either in the name of the data source or in the main data collection method).

Table 3. Administrative data sources used at national level

Country	National data source
BE	Energy data collection at regional institutions
BE	Annual gas data collection for transport
DK	Annual survey on heat pumps
IE	Electricity in Transport
IE	Non Energy Fuels
IE	Heat Pumps
IE	Biofuels
IE	Solar New Builds
IE	Solar Thermal Upgrades
IE	Municipal and Other Waste
IE	Annual Gas
IE	Electricity Consumption
IE	Electricity Supply
FR	French Customs Statistics
HR	Extrastat – Trade in goods with non- EU countries 2014
CY	Electricity consumption - annual
CY	National Stock Holding Entity (COSMOS)
CY	Foreign Trade Statistics (annual)
CY	Foreign Trade Statistics (monthly)
LU	Biofuel statistics
LU	Environmental primes
LU	Survey with ETS
HU	V533 Survey on small-scale power plants not subject to licence
HU	V512 electricity delivery for final consumers by section of national economy
HU	V510 electricity delivery via distribution network
HU	V461 data of system load by hour
HU	V451D daily, monthly and yearly electricity generation by power plants within the system coordination and import export electricity
HU	V433 electricity delivery via transmission network
HU	V410 electricity delivery via transmission network
HU	V306 and V308 monthly data of small-scale power plants
HU	V214 electricity and heat data of large-scale power plants
HU	G510 Monthly balance of natural gas DSO
HU	G410 Monthly balance of natural gas TSO
HU	G216 Monthly balance of natural gas storage
MT	Imports/Exports
MT	Renewable data
MT	Electricity consumption data
MT	Electricity data
NL	NEa register data on biofuels
NL	CertiQ Registratie voor Garanties van Oorsprong van Hernieuwbare elektriciteit en warmte
AT	Emission trading scheme (ETS)

Country	National data source
PT	Oil data collection
PT	Gas Natural data collection
PT	Coal data collection
PT	Monthly Electricity data collection
PT	Annual Electricity and Heat and Renewables data collection
RO	Monthly Administrative Sources (MAD)
RO	Administrative Sources (AD)
SI	Renewables, electricity distribution, security oil stocks
FI	Power plant register; Environmental Administration's VAHTI system (environmental permits database) and the Finnish Energy Authority (emission trading data)
UK	Coal authority survey - monthly (admin data)
NO	External trade statistics, monthly
NO	Electricity, monthly
NO	Electricity, annually
TR	Energy Market Database System

As stated above, the use of administrative sources is not yet very extended in energy statistics. However, some countries make frequent use of them, e.g. Cyprus, Hungary, Ireland, Malta and Portugal. The most frequent use of administrative data is in trade and electricity.

During the recent conduction of the Energy Statistics Working Group survey (end of 2016 – beginning of 2017), the following questions were asked as regards the use of administrative sources:
1. EU ETS - Do you use this information as one of the sources for compiling and/or cross checking energy statistics?
2. EU ETS - If not, would you please let us know why? Do you have problems (such as legislative obstacles) to access these reports for the purpose of the compilation of national energy statistics? Do you receive this information from elsewhere (such as surveys of companies, census of companies)? Do you believe the information is not relevant or in other way not suitable to be used? Are there other reasons?
3. EED - Do you use this information as one of the sources for compiling and/or cross checking energy statistics?
4. EED - If not, would you please let us know why?
5. Are there any administrative data sources that you could use for the purpose of compilation of national energy statistics, but you cannot access them?
6. Do you require any help of the European Commission (Eurostat) for implementation of Article 17a allowing you to get access to the needed administrative data?

Table 40 in Annex 2 displays the answers to those questions provided by countries.

It is recommended to asses periodically the use of administrative sources in energy statistics.

3. RELEVANCE

Relevance is the degree to which statistics meet current and potential user needs. It depends on whether all statistics that are needed are produced and the extent to which concepts used (definitions, classifications etc.) reflect user needs.

It can be assessed by analysing the different users, who they are, what needs they have, whether they are satisfied, what is done to meet their needs, etc.

EU energy statistics are compiled according to regulations (see chapter on legal basis above) containing a defined list of variables, which reflect in particular the most relevant institutional users' needs.

3.1. The users

Relevance is concerned with whether the available information sheds light on the issues that are important to users. Assessing relevance is subjective and depends upon the varying needs of users. The challenge is to weight and balance the conflicting needs of current and potential users to produce statistics that satisfy the most important needs within given resource constraints. In assessing relevance, one approach is to gauge relevance directly, by polling users about the data. Indirect evidence of relevance may be found by ascertaining where there are processes in place to determine the uses of data and the views of their users or to use the data in house for research and other analysis.

3.1.1. Actions at national level

At national level, the efforts undertaken by countries to take into account user needs as regards their different data collections provides an interesting insight into what is being done to satisfy users' needs. Annex 3 provides an overview of different actions undertaken at national level to take into account users' needs, as provided by countries in their quality reports.

As shown in that table (based on the information provided by countries in their quality reports), most of the countries carry out actions in order to take account of users' needs to develop their statistical system. However, some countries did not report any action to consider users' needs. These countries are Belgium, Bulgaria, Cyprus, Lithuania, Luxembourg, Slovak Republic and Spain.

3.1.2. Actions at Eurostat level

Apart from regular meetings with the main policy users of energy statistics, Eurostat launches regular general user satisfaction surveys, which also contain a section on energy statistics.

From a total of 3038 replies received in the general Eurostat user satisfaction survey performed in 2016 (for which a summary of the results is available here), 527 were given by users of Energy statistics. The distribution of the main users is the following:

Table 4. Main users of energy statistics

Category of user	Number of respondents using Energy statistics	Total number of respondents	Energy statistics (%)
Students, academic and private users	250	1 363	18.3%
EU, international and political organisations	35	200	17.5%
Business users	125	732	17.1%
Government users	78	576	13.5%
Press or media & others	39	167	23.4%
Total	527	3038	17.3%

Concerning the impression of users on the quality of energy statistics, the following results were obtained:

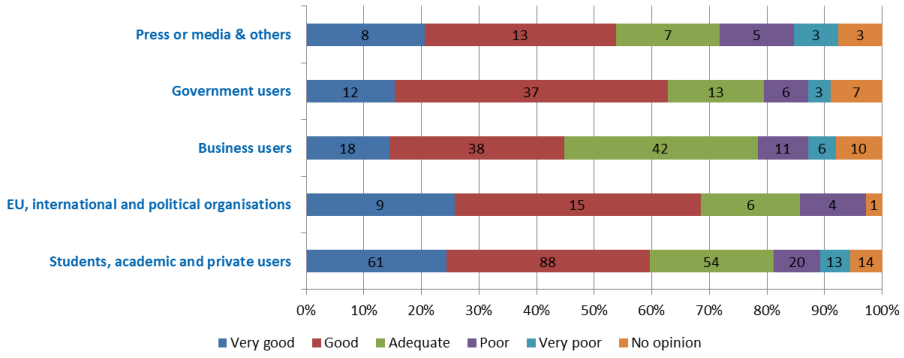
Table 5. Overall impression on quality of energy statistics

Very Good	Good	Adequate	Poor	Very poor	No opinion
20.5%	36.2%	23.1%	8.7%	4.7%	6.6%

The above results show that more than 50% of the users judge quality good to very good in the energy domain. This result is of extreme importance, taking into account that more than 70% of these users answered that European statistics is essential or important for their work.

The following graph shows the assessment of the overall quality of energy statistics by type of user by different group of users.

Figure 1. Impression on quality of energy statistics by group of users



Looking at the frequency of energy use, it is noted that almost a third of the users access the data at least once per week.

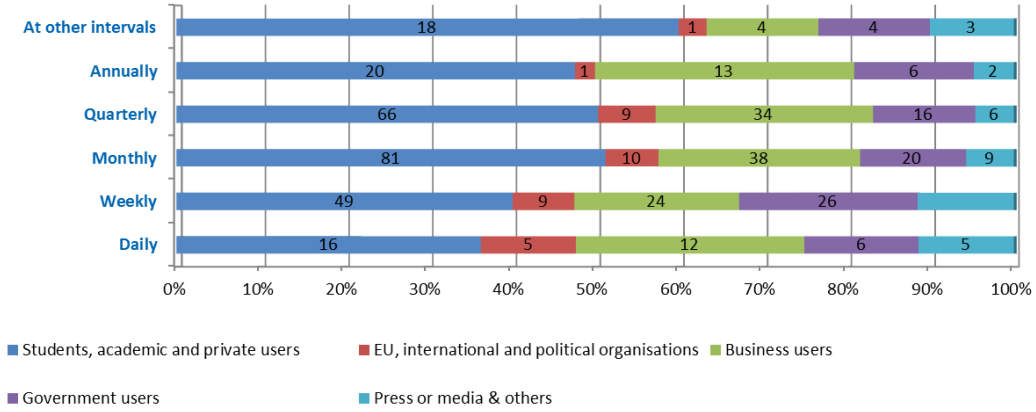
The table below offers a distribution of the frequency of energy data use.

Table 6. Frequency of energy data use

Daily	8.35%
Weekly	23.15%
Monthly	29.98%
Quarterly	24.86%
Annually	7.97%
At other intervals	5.69%
No Answer	0%

The graph below shows the frequency of energy data use disaggregated by group of users.

Figure 2. Frequency of energy data use by group of user



However, the information about energy statistics obtained through the Eurostat general satisfaction surveys is not sufficiently detailed. For this reason, a dedicated user satisfaction survey targeting specific users of energy statistics was launched in close collaboration with the Task Force "Future of Energy Statistics", with the aim of obtaining more detailed information about user satisfaction with the different energy data collections. This survey was announced in the Energy Statistics Working Group meeting as well as advertised within the dedicated section for energy on the Eurostat website. It was launched at the end of June 2014 and remained open until November 2014. The main shortcoming of this survey is the relatively low number of respondents (59). For that reason, it is not possible to draw definitive conclusions from the specific user satisfaction survey beyond the fact that similar findings are observed in both surveys as regards user satisfaction with energy statistics.

The following table shows the type of targeted users of energy statistics according to the specific user satisfaction survey (i.e. targeted users who accessed the energy dedicated section in Eurostat website).

Table 7. Users of energy statistics

Type of user	Percentage
Individual citizen	10%
Business: Commercial or industrial sector, private company	22%
Research: University, Think-tank, Research organization	7%
NGOs	3%
Press, Media and Journalists	2%
National statistical office	15%
Other national administration: Ministry, Federal/Local/Municipal administration	27%
European institution: European Commission, European Parliament, European Council or other	8%
Other international organisation	0%
Other, not specified above	5%

These results in percentage do not differ substantially from those obtained in the general Eurostat user satisfaction survey.

In this specific survey, users were asked on their opinion about metadata, methodology description and other supporting documentation for energy datasets available and published by Eurostat in the energy domain. The following answers were obtained:

Table 8. Users' opinion about metadata

Very good	15%
Good	36%
Adequate	29%
Poor	8%
Very poor	3%
No opinion	8%

In order to evaluate user's perception on the evolution of the quality of these statistics, users were asked about their overall impression of Eurostat energy statistics compared to the situation 5 years ago. The following answers were obtained:

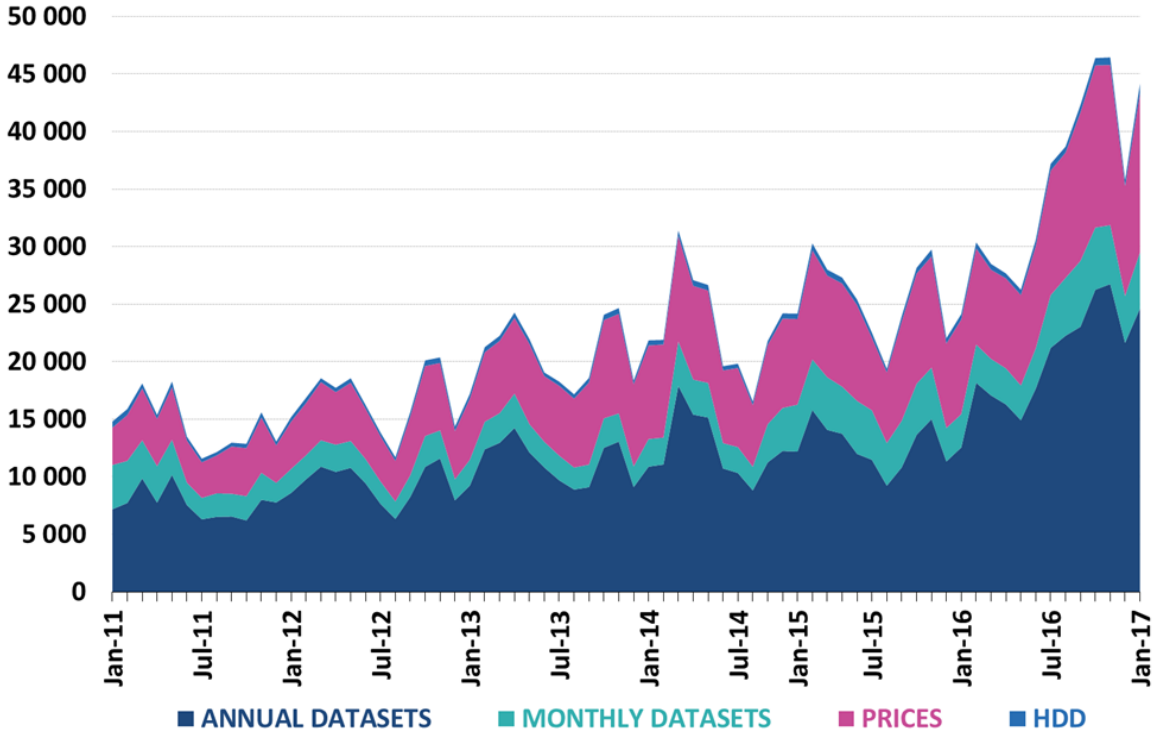
Table 9. Eurostat energy statistics compared to 5 years ago

Better	53%
The same	12%
Worse	2%
Cannot judge	20%
No opinion	14%

3.1.3. Use of Eurostat energy data

Another way to assess the relevance of energy statistics is analysing the amount of times these data are consulted. The following graph shows the total number of extractions from the energy database in Eurostat.

Figure 3. Number of user extractions from the Eurostat energy database



As observed, the number of extractions from the energy database (excluding prices and HDD -heating degree-days-, not covered by the present quality reporting exercise and therefore looking only at the sum of monthly and annual datasets) has increased considerably from around 10 000 in 2011 to around 28 000 by the end of 2016. This shows that the energy data are more and more consulted by the users.

It must be highlighted that the 2 months where the number of extractions was the highest are October and November 2016 (both over 30 000 extractions), corresponding to the months after the release of the digital publication on energy and a web tool to produce Sankey diagrams for energy balances. Both products, which registered themselves more than 7 000 combined visits in the 10 days following their release, might have had a positive collateral effect in increasing the number of extractions of energy statistics in Eurostat's database.

3.2. Completeness

Completeness is the extent to which all statistics that are needed are available.

If certain indicators, variables and/or domains foreseen by the ESS or regulations are not covered, the statistical outputs are incomplete. As regards energy statistics, the evaluation of completeness of the statistical outputs could be carried out by comparing published data with requirements laid down in Regulation (EC) 1099/2008. Although this exercise is not included in this report, it is recommended to carry it out in the future.

Annexes B, C and D of Regulation (EC) 1099/2008 on energy statistics describes the scope, units, reported period, frequency and transmission modalities for, respectively, the annual, monthly and short-term monthly collections of energy statistics.

In order to assess the completeness of certain elements of energy statistics reported to Eurostat, energy data has been checked against other data from Eurostat, namely versus employment (from national accounts) and value added. In other words, where employment and/or value added was reported by a country to Eurostat in one sector, consequently final consumption of energy data should be reported in the same sector.

3.2.1. Energy data against employment data

Due to the different breakdown of activities, it's not always possible to make the comparison of the same NACE divisions reported to Eurostat for energy and employment. For this reason, the results should be treated with care, as in some cases the employment data contains also other NACE divisions than the ones used for energy. Employment data was extracted from table lfsa_egan22d [*Employment by sex, age and detailed economic activity (from 2008 onwards, NACE Rev. 2 two digit level)*] and it comes from the EU Labour Force Survey (EU LFS). General information on the EU-LFS can be found in the metadata ESMS page for 'Employment and unemployment (LFS)'.

Comparisons have been done from 2010 to 2014 for the industry, transport and other sectors.

Industry sector
The comparison of the two datasets of data shows a very good completeness of the energy data. The only inconsistencies discovered are:

- Wood and Wood Products (the United Kingdom does not report data on energy)
- Construction (Germany does not report data on energy).

This is valid for all years for which the comparison has been done (2010-2014).
There are also a few differences when looking the other way around: energy data is present, but not employment data. These differences can be seen for Chemical and Petrochemical, Textile and Leather, Paper, Pulp and Print, Transport Equipment, Wood and Wood Products. In general, these differences are recorded by the same countries over the years.

Transport sector
The comparison of the two datasets shows a good completeness of the energy data. There are several inconsistencies for Domestic navigation for all analysed years.

- Bulgaria: from 2010 to 2014
- Cyprus: from 2010 to 2014
- Poland: for 2010
- Slovakia: for 2010-2011 and 2013-2014

In the case of Bulgaria, companies that report data for energy, employment and gross value added have NACE 50.40 - freight transport on inland

waterways. But according to the requirements of the ESR, Bulgaria does not have any domestic navigation, because these activities correspond to a transport along the Danube River where the port of departure is in Bulgaria and the port of arrival is another European country. For that reason, fuels are reported as Marine bunkers instead. This case has therefore not been taken into account for the summary table with smileys.

There are also a few differences when looking the other way around: energy data is present, but not employment data. These differences can be seen on Domestic navigation for Ireland, Lithuania, Hungary, Austria, Portugal, for various years.

Other sectors

The comparison of the two datasets of data shows a good completeness of the energy data. There are several inconsistencies for Fishing for all years, for various countries.

- Germany: from 2010 to 2014
- Ireland: from 2010 to 2014
- Poland: for 2011 and 2012
- Slovenia: for 2013[3]
- United Kingdom: from 2010 to 2014

Differences have been noticed also for Agriculture/Forestry, but only one country is concerned, for all years: Germany.

There are also a few differences when looking the other way around: energy data is present, but not employment data. These differences can be seen on Fishing for several countries and for most of the years.

We can conclude that the completeness of energy data, compared to employment data is overall good. The specific cases mentioned above should be further investigated by the countries.

3.2.2. Energy data against gross value added data

Due to the different breakdown of activities, it's not always possible to make the comparison of the same NACE divisions reported for energy and gross value added. For this reason, the results should be treated with care, as in some cases the gross value added data contains also other NACE divisions than the ones used for energy. Comparisons have been done from 2010 to 2014 for the industry, transport and other sectors. The data used for value added was extracted from table nama_10_a64 [National Accounts aggregates by industry (up to NACE A*64)]. Some additional information on national accounts can be obtained through the available metadata ESMS page on Annual national accounts.

Industry sector

The comparison of the two datasets of data shows a very good completeness of the energy data, with only 2 differences:

[3] This sector is not significant for the Slovene economy and therefore the fuel used in this sector is consequently so low (below 1000 tons/year) that cannot be reported in the energy statistics

- Wood and Wood Products for the United Kingdom for all years
- Construction for Germany for all years

There are also a few differences when looking the other way around: energy data is present, but not value added data. These differences are more accentuated for 2014, but it should be noted that 2014 data for value added was not complete on the moment when the comparison was done.

Transport sector

The comparison of the two datasets of data shows a good completeness of the energy data. There are several inconsistencies for Domestic navigation for all years.

- Bulgaria: from 2010 to 2014
- Cyprus: from 2010-2011 and 2013
- Poland: for 2010
- Hungary: for 2011
- Slovenia: from 2010 to 2014[4]
- Slovakia: from 2010 to 2014

There are also a few differences when looking the other way around: energy data is present, but not value added data. These differences can be seen on Domestic navigation, for Malta (2010 and 2013), while for 2014 the value added data was incomplete.

A valid justification for Bulgaria has been presented above. Therefore, this case is not taken into account for the summary table.

Other sectors

The comparison of the two datasets of data shows a good completeness of the energy data. There are several inconsistencies for Fishing for all years, for various countries.

- Belgium: from 2010 to 2013
- Germany: from 2010 to 2013
- Austria: for 2010-2011 and 2013-2014
- Poland: for 2011 and 2012
- Romania: from 2010 to 2012
- Slovenia: from 2010 to 2014[5]
- Slovakia: from 2010 to 2014
- United Kingdom: from 2010 to 2014

Differences have been noticed also for Agriculture/Forestry, but only one country is concerned, Germany. There are also a few differences when looking the other way around: energy data is present, but not value added data.

We can conclude that the completeness of energy data, compared to value added data is overall good. The specific cases mentioned above should be further investigated by the countries.

[4] This sector is not significant for the Slovene economy and therefore the fuel used in this sector is consequently so low (below 1000 tons/year) that cannot be reported in the energy statistics

[5] The value added for Fishing and aquaculture sector in Slovenia represents only 0.02 % of the total. This sector is not significant for the Slovene economy and therefore the fuel used in this sector is consequently so low (below 1000 tons/year) that cannot be reported in the energy statistics

3.3. Confidentiality

Another aspect which is relevant to completeness concerns data that cannot be published for confidentiality reasons. While respecting the possibility of countries to declare their data as confidential, valid justification should be provided in these cases. Regulation (EC) No 223/2009 on European statistics (recital 24 and Article 20(4)) of 11 March 2009 (OJ L 87, p. 164), stipulates the need to establish common principles and guidelines ensuring the confidentiality of data used for the production of European statistics and the access to those confidential data with due account for technical developments and the requirements of users in a democratic society.

For this reason, one recommendation for the future is to investigate cases with confidential data on an individual basis to assess whether they comply with principles set up in Regulation (EC) No 223/2009.

4. ACCURACY AND RELIABILITY

The **accuracy** of statistical outputs in the general statistical sense is the degree of closeness of computations or estimates to the exact or true values that the statistics were intended to measure.

Reliability refers to the closeness of the initial estimated value to the subsequent estimated value.

Statistics can be different from the true values because of random variability (the statistics change from implementation to implementation of the survey due to random effects) and/or bias (the average of the possible values of the statistics from implementation to implementation is not equal to the true value due to systematic effects).

Several types of error, stemming from all survey processes, contribute to the error of the statistics (their bias and variability). A certain typology of errors is widely adopted in statistics. **Sampling errors** affect only sample surveys; they are due to the fact that only a subset of the population, usually randomly selected, is surveyed. **Non-sampling errors** affect sample surveys and complete enumerations alike and comprise: 1. Coverage errors; 2. Measurement errors; 3. Processing errors; 4. Non-response errors.

The accuracy of the basic data depends on the quality of the national statistical systems and may vary from country to country. In several countries and for most energy commodities data provision by the companies is required by law. However, the complex situation of the energy market in some countries poses a challenge as regards data accuracy in some cases (due to multiplication of data sources, for example).

From time to time detailed surveys targeted to single sub-items (e.g. wood consumption in households) are carried out to improve the methodology. However, some problems are still observed in terms of accuracy of data provided by Member States, for example, relating to declarations of energy imports and exports or accuracy of monthly data.

As indicated above, accuracy (and, in general, quality of energy statistics) can be sometimes compromised as a consequence of a decrease in available resources (in Member States and Eurostat).

Based on the experience from the first quality reporting exercise on energy statistics, the questionnaire for this second exercise was revised to cover more detailed and quantitative information on the various error sources mentioned above. For instance, Member States were requested to convey, for each national data collection, both the collection method as well as a respective number for:

- target population,
- population frame,
- sample size,
- and non-response rate.

In addition, it was possible to indicate and give dedicated information on:

- measurement errors,
- processing errors,
- sampling errors,
- and classification errors.

Furthermore, in order to improve comparability among Member states, all this information was gathered in a more harmonized manner, by providing tick boxes, drop-down menus with predefined options, and dedicated comment fields for single question items wherever applicable. The detailed findings on nature and causes for statistical errors inferred from this revised procedure are presented in sections 4.1 (sampling errors) and 4.2 (non-sampling errors), while a summary broken down by country and error type can be found in Annex 4.

As observed, most of the countries are able to identify the main reasons for different type of errors in their data collections. This is an indication of a possibly higher knowledge on the statistical processes carried out at national level. However, some countries were not able to identify the main causes for errors in their data collections. More than a sign of the absence of errors, this is probably either because they failed to report the main sources of errors in their statistical processes. Some countries in this situation are Germany, Greece, Malta and Slovak Republic.

The evaluation of the quality reports forms one pillar for the quantitative assessment of data accuracy; another one is the analysis of the public Eurostat database, in particular the statistical difference in energy balances as retrieved from annual data. As this is the first time that such an analysis enters the quality report on energy statistics, we devote a dedicated section 4.3 to the presentation of the methods applied, general findings, and a comparison with the information gained from the quality questionnaires whenever possible.

In addition, after careful analysis it was concluded that a much better characterisation of the accuracy of the main balance aggregates at European level would have been possible if countries had directly provided their confidence intervals for certain variables (e.g. production, imports, final energy consumption, etc.). A quantitative characterisation of this nature would be extremely useful in order to know how accurate energy statistics are. More concretely, a quantitative evaluation of the accuracy of gross inland consumption, energy available for final consumption and final energy consumption should be implemented for the next quality reporting cycle.

4.1. Sampling errors

Sampling errors affect only sample surveys and arise from the fact that not all units of the frame population are surveyed. The *frame* is a device that permits access to population units, such as a list of companies operating in a certain energy field. The *frame population* is the set of target population units which can be accessed through the frame and the survey's conclusions apply to this population.

Annex 5 shows, per national data collection, the target, frame and sample used when available (based on the information provided by countries in their quality reports) and applicable (i.e. in sample surveys and surveys where not all the population is surveyed). It must be stated that the information provided by several countries is incomplete. These countries are expected to complete the missing information once the national quality reports are made available through the ESS Metadata Handler.

In the present quality reporting exercise countries were encouraged to report nature and causes of sampling errors wherever known in a dedicated field. After evaluating the overall response, as shown in Annex 4, the main causes for sampling errors are linked to high variances in individual energy source quantities combined with low number of cases, or when the sample design doesn't take into account different fuel distribution by region (e.g. natural gas), when the sample is not based on consumption but on NACE and number of employees, parts of the population out of the sample, use of cut-off thresholds, etc.

4.2. Non-sampling errors

4.2.1. Coverage errors

Coverage errors (or frame errors) appear in sample surveys. They are due to divergences between the target population and the frame population. Possible divergence types are undercoverage (i.e. the frame population does not include all units of the target population), overcoverage (i.e. the frame population includes units which do not belong to the target population) and misclassification (i.e. units in the frame population which belong to the target population but are wrongly classified). These errors can be estimated by comparing frame population with target population. Moreover, coverage errors in the broader sense can be introduced also in full-coverage surveys, namely when thresholds are applied. In this case, the specification of these thresholds but also a comparison of the sizes of target and frame populations can help to quantify this error. To allow for a comparison of target with frame populations, Annex 5 includes both variables. Within the scope of the present quality reporting exercise, qualitative information on "classification errors" comes from the information provided by participating countries reporting any known issues with sample unit classification in their data collections. This information can be found in Annex 4. It must be stated that the information provided by several countries is incomplete. These countries are expected to complete the missing information once the national quality reports are made available through the ESS Metadata Handler.

4.2.2. Measurement errors

Measurement errors are errors that occur during data collection and cause the recorded values of variables to be different from the true ones. Their causes are commonly categorized as:

- *Survey instrument*: the form, questionnaire or measuring device used for data collection may lead to the recording of wrong values.
- *Respondent*: respondents may, consciously or unconsciously, give erroneous information.

– *Interviewer*: interviewers may influence the answers given by respondents.

No regular estimates of these errors are available. However, in the present quality reporting exercise countries were encouraged to report such errors wherever known in a dedicated field. After evaluating the overall response, as shown in Annex 4, the main causes for measurement errors are inaccuracies linked to difficulties to report in the proposed units or directly reporting in the wrong units, differences in measured and registered data, misunderstanding of some questions by respondents, etc.

4.2.3. Processing errors

Between data collection and the beginning of statistical analysis for the production of statistics, data must undergo a certain processing: coding, data entry, data editing, imputation, etc. Errors introduced at these stages are called *processing errors*. No regular estimates of these errors are available. However, in the present quality reporting exercise countries were encouraged to report such errors wherever known in a dedicated field. As shown in Annex 4, although not very common, the main causes for processing errors are inaccuracies linked to manual imputation errors (e.g. displaced digits when entering information, missing commas, missing updates in some data, etc.).

4.2.4. Non-response errors

Non-response is the failure of a survey to collect data on all survey variables, from all the population units designated for data collection in a sample or complete enumeration. The difference between the statistics computed from the collected data and those that would be computed if there were no missing values is the *non-response error*.

During this exercise, Member States were requested to systematically report non-response rates for each national data collection. Annex 6 shows the reported non-response rate by countries.

4.3. Statistical difference in annual energy balances

Generally, an independent source of information on methodological quality may be obtained from nontrivial cross-checks between the values of the same indicator as inferred from *different* surveys resp. collection methods. In the context of energy balances, the statistical difference (SD) between the *energy available for final consumption* on one hand and the aggregate of *final energy consumption and final non-energy consumption* on the other hand represents a prime example for this. The SD is regularly calculated in the annual energy balances at EU level, and is therefore accessible from the reference year 1990 onwards.

4.3.1. Analysis method

In order to make the specific SD values comparable in the break-down by reference year, reporting country, and product or fuel, we compute the *relative* SD, defined as the absolute SD value normalized by the respective amount of energy available for final consumption. This calculation is done for "All products" (sum of all fuels) of the energy balance. Furthermore, in the time series between 1990 and the current reference year for annual data 2014, there are two statistical quantities which allow us to estimate systematic effects in the SD evolution:

- *statistical pull*: the number of sigma the point differs from the experimental central value. It is defined as the mean value divided by the standard deviation of a set of numbers (e.g. time series, disaggregation by products, etc.). In this case, it is a measure for the significance of a deviation of the SD to a certain direction, i.e. a systematic bias between the production and consumption side of the balance.
- *time correlation*: for example estimated by Pearson's product-moment correlation coefficient; it indicates linear trends in the time evolution of the SD.

Of course there are ample reasons for varying SD sizes among the various Member States. Moreover, a large SD does not automatically indicate a bad methodology; it might simply result from a well-understood discrepancy between the definitions of the compared indicators. Similarly, a particularly small SD does not immediately allow us to infer a solid methodology, because it could just be an artefact of some internal constraint intrinsic to the specific method. This is why SDs which are exactly zero are treated here as not available.

Indeed, in complex collections when comparing top down with bottom up approaches one should not expect to have zero statistical difference (SD). For each combustible fuel in the energy balance, a systematic zero means less statistical information available for data compilation. In other words, due to the lack of statistical input (data) the methodology applied inherently hides the SD within some other flow of the energy balance. If the SD over time shows regularly similar values this might indicate systematic problems and countries should check their different methodologies/survey samples etc. as this might indicate constant under or over reporting.

In summary, a small SD (not equal to zero) is usually preferable to a method which hides the SD in other flows (transport losses, stock changes etc.).

4.3.2. Break-down by countries

In order to get an impression of relative SD sizes in the annual energy balances, in the table below we show the value of the SD of all participating countries for selected reference years (statistical difference relative to the amount of energy available for final consumption), plus the mean magnitude (calculated from the absolute values of the SD) and Pearson correlation in the full time series from 1990 to 2014.

Table 10. Total relative SD in % in selected reference years (for all products), plus mean magnitude and Pearson correlation between 1990 – 2014, by reporting country

	1990	1995	2000	2005	2010	2014	mean magnitude	correlation
EU28	0,457	0,222	-0,153	0,365	0,485	-0,016	0,328	0,435
BE	-1,137	-0,829	0,698	0,350	1,338	0,106	0,625	0,152
BG	0,557	2,099	-0,983	-4,509	-5,410	-6,366	3,561	-0,546
CZ	5,042	-1,955	1,244	0,915	2,528	0,501	1,782	-0,238
DK	0,109	-0,688	0,006	-2,058	-0,694	-0,723	0,988	-0,191
DE	-1,286	-0,502	0,914	1,618	0,292	-0,639	1,059	0,492
EE	10,063	10,154	3,013	-3,388	0,840	15,450	6,283	-0,653
IE	0,130	-3,111	-3,625	-9,127	-0,806	0,860	2,907	0,059
EL	-1,852	0,619	-1,634	-1,530	-2,268	0,010	2,094	-0,304
ES	-0,030	0,770	-0,564	-0,155	-0,176	-2,322	0,646	-0,481
FR	2,854	-1,577	-3,169	0,115	0,816	1,004	1,214	0,406
HR	0,013	0,005	-0,003		0,008		0,056	-0,339
IT	0,122	0,434	0,443	-0,364	-0,617	-1,648	0,589	-0,540
CY	6,727	-0,738	0,681	-5,941	-1,921	0,486	2,676	-0,402
LV	-0,390	1,372	-1,451	-0,173	-0,474	0,201	0,719	0,057
LT		-0,230	-3,559	-0,200	-0,004		0,445	0,017
LU	0,003	0,319	0,118	0,554	-0,011	-0,050	0,106	-0,287
HU	-1,934	1,625	-0,061	-0,162	0,044	-0,603	0,954	-0,085
MT		-9,937			0,967	1,562	4,896	0,842
NL	0,292	3,235	5,022	4,161	3,201	3,597	3,371	0,616
AT	-0,015	-0,009	0,142	0,060	0,128	0,026	0,069	0,486
PL	5,563	0,895	-1,704	-0,534	-0,275	-0,868	1,528	-0,504
PT	3,578	-0,114	-0,477	0,445	-0,082	-0,357	0,532	-0,246
RO	1,493	7,093	1,501	-1,144	2,841	-1,497	2,007	-0,334
SI	0,536	0,525	0,151	0,415	0,372	-0,139	0,449	-0,021
SK	-1,850	2,222	2,970	-0,035	0,360	0,575	1,436	-0,303
FI	-3,409	-5,421	-2,420	0,368	0,213	2,495	1,790	0,528
SE	-2,070	-1,016	-1,375	-2,053	1,923	1,811	2,139	0,525
UK	-0,580	1,248	-0,448	0,864	0,799	0,611	0,537	0,115
NO	-0,844	-2,680	5,151	4,103	22,510	10,918	7,314	0,747
TR	2,598	0,673	-0,280	-0,054	2,140	-0,620	0,922	-0,479

Typical SD magnitudes vary between 0.1% and 2%, where Croatia reported the smallest SDs (mean magnitude 0.056%), followed by Austria (0.069%). These SDs are so small over the whole time series that it might be the inherent result of the methodology used. On the other side, Norway reported the largest SD (7.31%), followed by Estonia (6.28%), Malta (4.90%, although this is not comparable with the rest, due to lack of data) and Bulgaria (3.56%).

Finally looking at the Pearson correlation coefficients in Table 9, the general message is that there are no conspicuous features, with values fluctuating between 0 and 0.6 for the vast majority of reporting countries. The only noticeable overshoots are Estonia (-0.65), The Netherlands (+0.62), Norway (+0.75) and Malta (+0.84). But again, Malta cannot be compared with the rest due to lack of data. However, these countries are also among those with the largest overall SD magnitudes among all reporting countries, so that any statement based on the time correlation seems questionable as long as the

overall size of the statistical difference has not been addressed in more detail.

For illustration, we show the relative SD as a function of the reference year for the three countries with the smallest mean magnitudes and an uninterrupted reporting history in Figure 3, and for those three countries with the largest mean magnitudes and an uninterrupted reporting history in Figure 4. In each case, the EU-28 aggregate is superimposed for reference.

Figure 4. Total relative SD in % between 1990 - 2014, for the three countries with the lowest mean magnitude plus EU-28

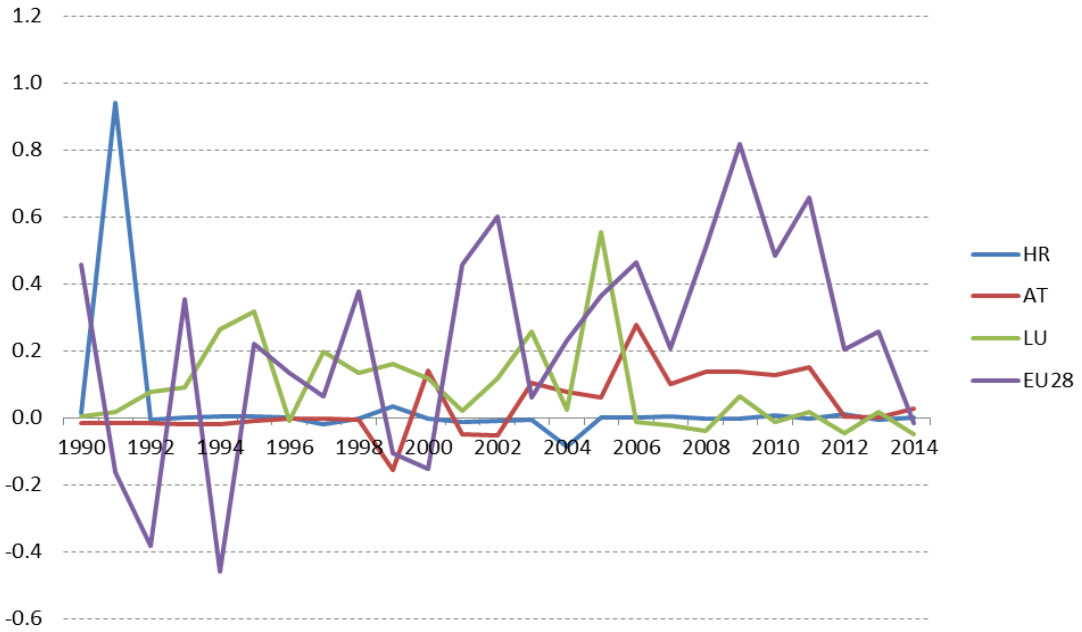
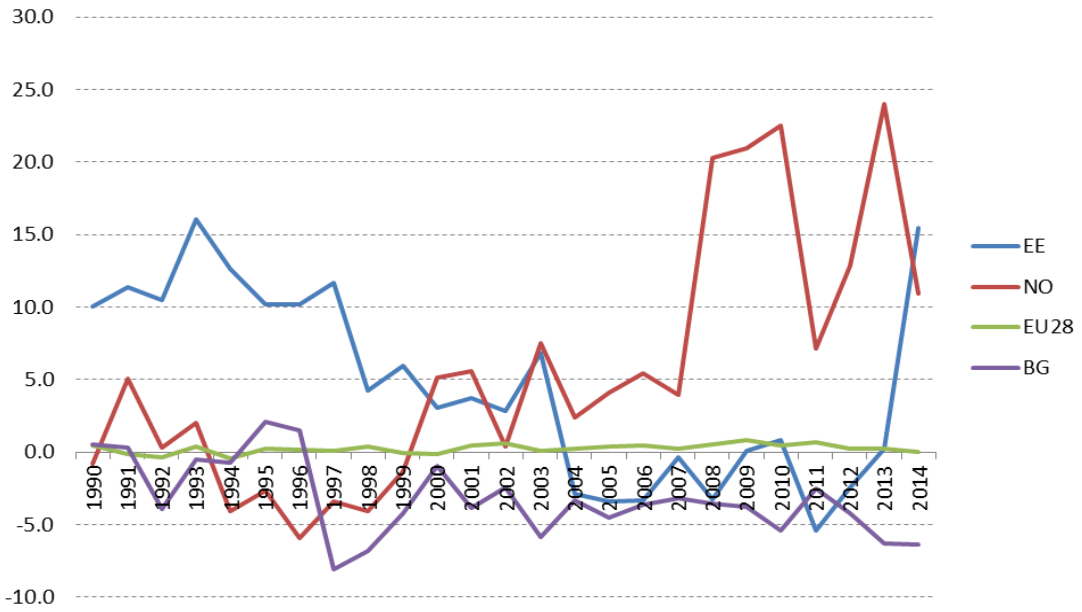


Figure 5. Total relative SD in % between 1990 - 2014, for the three countries with the largest mean magnitude plus EU-28



The statistical pull takes into account possible bias and computes how systematic are the statistical differences in being either consistently positive or negative. Coming to the pull analysis, it is instructive to split the available time frame 1990-2014 into several 10-year periods over which the pull is computed. This allows not only to quantify systematic biases over these periods, but also to identify any long-term trends if available. The results are presented in the following table, where pulls with a magnitude of less than 1σ have been flagged green ("consistent with zero"), magnitudes between 1σ and 3σ black ("indication for a bias"), and magnitudes above 3σ red ("significant bias").

Table 11. Statistical pull of the total relative SD over several 10-year periods, by reporting country

	1990-1999	1995-2004	2000-2009	2005-2014	1990-2014
EU28	0,155	0,784	1,274	1,621	0,711
BE	-0,399	-0,068	-0,018	-0,089	-0,194
BG	-0,557	-0,957	-2,797	-3,343	-1,199
CZ	0,456	0,482	1,364	0,695	0,604
DK	-0,347	-0,174	-0,926	-0,739	-0,509
DE	-0,660	0,597	1,609	0,811	0,212
EE	3,127	1,273	0,087	-0,028	0,703
IE	-1,437	-1,824	-1,562	-0,686	-0,892
EL	-0,260	-1,442	-1,092	-0,799	-0,624
ES	0,686	0,098	-0,044	-0,306	0,042
FR	-0,413	-0,854	-0,141	1,200	-0,070
HR	0,344	-0,323	-0,494	0,281	0,198
IT	0,252	0,397	-0,356	-1,040	-0,350
CY	0,393	-0,128	-0,391	-0,592	0,041
LV	-0,291	-0,656	-0,715	-0,430	-0,448
LT	-0,078	-0,503	-0,607	-0,546	-0,377
LU	1,122	1,265	0,597	0,256	0,637
HU	0,383	0,745	0,154	0,102	0,270
MT				-0,100	-0,666
NL	0,916	3,744	6,310	8,678	1,759
AT	-0,580	0,048	0,972	1,216	0,429
PL	0,670	0,277	-0,067	-0,136	0,290
PT	0,424	0,828	1,047	0,596	0,438
RO	0,558	0,504	0,500	0,122	0,418
SI	0,190	0,247	0,910	1,129	0,356
SK	1,091	0,565	-0,105	1,492	0,478
FI	-0,566	-0,306	-0,317	0,295	-0,314
SE	-1,459	-1,912	-1,509	0,126	-0,428
UK	0,389	-0,005	0,224	1,627	0,457
NO	-0,460	0,074	1,060	1,642	0,636
TR	1,576	0,332	-0,769	0,078	0,406

Based on the most recent time slot 2005–2014, we identify The Netherlands with a significant positive bias (+8.7σ) and Bulgaria with a significant negative one (-3.3σ). Moreover, these two countries show indication for a bias in the long-term trend from 1990 to 2014. Both countries have the strongest long-term SD pulls (biases) over the whole reporting time. In addition, we observe seven countries with an indication of a bias between 2005–2014, namely the United Kingdom and Norway (both +1.6σ), Slovakia (+1.5σ) Austria and France (both +1.2σ), Slovenia (+1.1σ) and Italy

(-1.0σ). Finally, another country (Estonia) has shown a significant bias in the past (1990–1999), but tends towards zero-consistent fluctuations in the most recent period.

4.3.3. Break-down by products

So far the statistical difference (SD) discussion resorted to the total aggregate of all fuels. One could now disaggregate this by fuel. Looking at the most recent reference year covered by this quality reporting exercise (2014), it is possible for most of the countries to display (see table below) the absolute value of the SD relative to the energy available for final consumption (in percentage). The average (mean) of this variable is also shown for the whole time series, for each country and for the main product families. It must be considered that small SD in one product family could be the result of SD cancellation between products. However, a high SD in a family is always a sign of discrepancy. SD equal to zero have been removed from the table.

Table 12. Total relative |SD| in % for 2014, plus mean magnitude between 1990 – 2014 by reporting country and fuel family

	Solid fuels (2000)		Oil and petroleum products (3000)		Gas (4000)		Electricity (6000)		Renewables (5500)	
	|SD| 2014	MEAN |SD| 1990-2014	|SD| 2014	MEAN |SD| 1990-2014	|SD| 2014	MEAN |SD| 1990-2014	|SD| 2014	MEAN |SD| 1990 - 2014	|SD| 2014	MEAN |SD| 1990-2014
EU28	1.048	2.544	0.447	0.448	0.912	0.972	0.014	0.060	0.158	0.116
BE	1.601	5.099	0.270	0.664	0.041	0.657	0.084	0.296		0.330
BG	237.260	205.210	2.586	1.973	0.438	1.391	0.210	0.218	0.187	1.754
CZ	5.031	8.914	0.245	0.490	0.232	0.881			0.084	0.035
DK	334.559	56.791	1.828	1.787	2.464	1.188		0.098	0.589	0.178
DE	0.172	15.940	0.549	0.716	4.068	4.125				0.021
EE	83.082	118.909		1.396		0.114				
IE	4.412	13.508	0.766	3.482	1.058	1.050	2.417	0.788	0.393	0.567
EL	13.761	12.252	0.220	2.969	0.547	1.611		0.076	0.224	0.199
ES	185.240	22.147	2.500	0.847	0.174	1.001	0.032	0.170	0.108	0.185
FR	5.711	6.308	1.696	1.889	0.048	1.319	0.664	0.194	0.215	0.102
HR		1.761		0.070						0.020
IT	0.157	0.977	3.995	1.255		0.047	0.000	0.002	0.027	2.142
CY		11.805	0.672	3.234				0.568		0.640
LV		5.363	0.589	2.296		1.744	0.018	0.018	0.038	0.024
LT				1.532		0.009				1.702
LU			0.037	0.168			0.206	0.255		
HU	17.308	10.070	0.437	1.687	2.549	0.575	2.855	1.961	1.094	0.520
MT			2.344	7.138					0.917	3.585
NL	0.045	1.111	6.369	7.454	1.209	0.955	1.306	0.709	4.213	4.413
AT	0.519	0.837	0.038	0.119		0.009			0.133	0.062
PL	2.637	6.053	1.383	1.851	0.285	1.431		0.002	0.004	0.108
PT	5.000	15.533	0.580	0.736	0.559	1.714			0.014	0.019

	Solid fuels (2000)		Oil and petroleum products (3000)		Gas (4000)		Electricity (6000)		Renewables (5500)	
	|SD| 2014	MEAN |SD| 1990-2014	|SD| 2014	MEAN |SD| 1990-2014	|SD| 2014	MEAN |SD| 1990-2014	|SD| 2014	MEAN |SD| 1990 - 2014	|SD| 2014	MEAN |SD| 1990-2014
RO	16.130	12.462	1.505	5.929	1.974	1.677	0.125	2.781	0.327	1.688
SI	7.447	22.998	0.034	0.856		1.105		0.009	0.380	1.479
SK	4.110	2.347		5.375		0.389		2.822		0.136
FI	19.032	7.367	9.601	5.082	0.273	0.377	0.115	0.086	1.274	0.503
SE	6.445	12.061	4.960	5.602	2.913	7.402		0.014	0.216	0.077
UK	13.738	11.273	0.245	0.846	0.176	0.630	0.000	0.008	0.006	0.024
NO	9.203	3.351	23.738	13.716	20.187	75.601		0.051	0.859	0.434
TR	2.333	4.571	1.123	1.153	0.436	1.462			0.045	0.020

Cells in red and orange display the countries showing the highest statistical difference in the last year (in column |SD| 2014) and over the whole period (in column MEAN |SD| 1990-2014). Below an analysis for each individual fuel family:

Solid fuels: Countries with the highest SD in 2014 are Denmark (335%), Bulgaria (237%), Spain (185%) and Estonia (83%). These extremely high values of the statistical difference show an inherent problem with data accuracy. However, in Denmark the consumption of solid fuels is very low and for that reason this has been taken into account in the summary table, providing a "not applicable" symbol. The problem is more important in the other three countries. In addition, these three countries also show big statistical differences in the whole period, which could be the sign of a long-term problem with data accuracy.

A special note should be made on Bulgaria. Indeed, the SD in energy balances for solid fuels in Bulgaria is due to different conversion factors used by Eurostat for Transformation flows of Lignite and BKB. Other countries have statistical difference in only a part of the time series.

One major problem associated with the analysis of the statistical difference in the solid fuels family (as opposed to other families) is the low amount of solid fuels that go into final energy consumption sectors (most of it is indeed transformed into electricity in the transformation sector). Therefore, the SD refers to very small values and the analysis provides unreliable results. For this reason, the results of this analysis have been **excluded from the summary table**.

Oil and petroleum products: Countries with the highest SD in 2014 are Norway (23.7%)[6], Finland (9.6%), The Netherlands (6.4%) and Sweden (5.0%). These countries also present big SD over the whole period, which

[6] Please note that Norway's SD for crude oil is big as regards "available for final consumption" but small compared to production, so no significant conclusions can be drawn. However, big statistical difference in petroleum products cannot be justified on this basis.

probably indicates a potential problem related to data accuracy. However, in the case of The Netherlands, the difference comes mainly from oil statistics and this statistical difference is not observed in national statistics. Among other possible reasons, the difference could come from the use of different calorific values or a complex situation in the petrochemical sector. Because of the artificial statistical difference not being observed in national statistics, the corresponding smileys have been adapted.

Gas: Norway (75.6%) and to a smaller degree Sweden (7.4%) are the countries with the highest SD over the whole period, which could be the sign of a long-term problem with data accuracy.

Electricity: The SD in electricity is somehow smaller than in the rest of energy commodities, probably due to the fact that electricity is usually very well monitored in countries. Only the cases of Ireland, Hungary, Romania and Slovakia could be highlighted. However, their SD is still within a reasonable range.

Renewables: The SD in renewables is also very small if compared with the rest of energy commodities. Only The Netherlands and Malta could be highlighted, although both of their SDs are still within a reasonable range below 5%.

In summary, the analysis of the SD shows that most of the countries keep their statistical differences within reasonable ranges (well below 5%). However, in some cases they can be significantly higher. This is especially worrying when the average of the statistical difference over the whole period is high and the pull shows a clear bias. Finally, when analysing the statistical difference per product family, we observe that some countries have unacceptably high statistical differences for solid fuels, as well as for oil and gas. These countries should take immediate action to discover the cause for these deviations and improve their statistical systems.

As explained above, a small SD does not immediately allow us to infer a solid methodology, because it could just be the result of cancellation by different products of the same family or an artefact of some internal constraint intrinsic to the specific method. More specifically, some countries could hide the statistical difference inside other variables. This could be the case with stock changes, for example. For this reason, the following section provides a simple analysis of variation of stock changes over years.

4.4. Analysis of the long-term variation of stock changes

The objective of this section is to present an analysis of the long-term variation of stock changes. Indeed, one should expect to see a long-term variation which would tend to zero (no significant stock draw and no significant stock build over long periods of time). In other words, it does not seem feasible to store more and more fuel every year without using it afterwards or, even more unrealistic, to use fuel from stocks that has not been previously stored. However, it must be taken into account that some countries might have built new storage capacity within the analysed period, resulting in significant stock built to comply with security of supply obligations.

The following table presents the percentage of the cumulative stock changes for the main fuel families over the last 10 years period 2005-2014 relative to their gross inland consumption (average over the whole period). A value of +100% means that the annual consumption of a country was completely removed from stocks, while -100% would mean that the annual consumption of the country was added to stocks.

Table 13. Cumulative stock changes (%) relative to gross inland consumption

	0000 - All products	2000 - Solid fuels	3000 - Total petroleum products	4000 - Gas	5500 - Renewables
European Union (28 countries)	-0.9%	-1.6%	0.2%	-2.6%	-0.7%
Belgium	-0.6%	19.3%	-5.2%	0.7%	0.0%
Bulgaria	-0.7%	5.8%	-12.7%	0.6%	-1.6%
Czech Republic	0.1%	4.4%	-5.6%	-2.9%	-1.0%
Denmark	-0.6%	38.6%	-15.3%	-9.3%	-0.9%
Germany	1.0%	0.2%	-0.1%	4.2%	0.0%
Estonia	-13.3%	-17.6%	-11.6%	0.0%	-3.0%
Ireland	1.2%	-0.2%	3.9%	-2.6%	-1.2%
Greece	5.4%	4.4%	8.2%	-1.0%	0.1%
Spain	-1.9%	-9.8%	0.4%	-4.2%	-0.6%
France	0.2%	3.0%	1.6%	-2.9%	-0.3%
Croatia	0.8%	1.1%	4.8%	-4.8%	-0.2%
Italy	0.1%	10.0%	2.7%	-5.0%	-0.3%
Cyprus	-4.3%	29.9%	-4.8%	--	0.0%
Latvia	6.8%	8.6%	7.0%	22.7%	-6.2%
Lithuania	0.6%	-16.3%	10.7%	-4.8%	-6.7%
Luxembourg	0.2%	0.0%	0.3%	0.0%	0.0%
Hungary	-1.4%	8.3%	6.0%	-10.3%	0.3%
Malta	-11.3%	--	-11.4%	--	0.0%
Netherlands	-7.2%	-56.9%	-3.9%	0.1%	-1.5%
Austria	-9.9%	15.8%	2.6%	-52.3%	-3.7%
Poland	-9.3%	-7.4%	-17.3%	-7.4%	-0.3%
Portugal	1.7%	5.6%	4.8%	-7.7%	-0.4%
Romania	2.6%	9.2%	9.0%	-3.8%	-3.8%

	0000 - All products	2000 - Solid fuels	3000 - Total petroleum products	4000 - Gas	5500 - Renewables
Slovenia	0.7%	0.6%	1.5%	0.0%	0.0%
Slovakia	-5.2%	0.0%	-8.7%	-12.1%	-3.0%
Finland	2.6%	28.3%	-6.9%	0.0%	0.0%
Sweden	1.3%	20.5%	1.3%	0.0%	0.0%
United Kingdom	-0.7%	-10.8%	4.3%	-1.0%	-1.3%
Norway	0.1%	4.4%	0.3%	-0.5%	0.0%
Turkey	-2.2%	-0.3%	-2.9%	-4.1%	0.0%

It must be highlighted that some results are just the result of internal cancellation between different products of the same family, so no immediate conclusion can be drawn from these cells. But high discrepancies are the result of a big variation of stock changes in at least one family product and not compensated by the rest, so in those cases there is definitely a point to make.

This table shows that some countries have built or drawn big amounts of stocks over the whole period. Although this could be the consequence of building (or eliminating) storage infrastructure in the country, this could also be the result of moving some statistical discrepancies under stock changes or issues related to the reporting of stocks but in any case, this shows a possible data accuracy problem.

Significant are the cases of Estonia, Malta, Austria and Poland where the stock changes variation for all products over the whole period is around or more than 10% (although Malta is not a significant case due to its size and the particular situation of its energy market). Although this could be the result of building storage infrastructure, it might also be the symptom of a problem in their statistical systems that should be investigated. When analysing the fuel families, just by looking at the EU-28, a problem is more clearly visible for solid fuels and gas.

Looking at the product families per country, there are some cases of the variation of stock changes that need to be highlighted.

As regards solid fuels, especially significant are the cases in Netherlands (-56.9%), Denmark (38.6%), Cyprus (29.9%), Finland (28.3%), Sweden (20.5%) and Austria (15.8%). For Austria, the stock decrease in the case of coal is caused by the fact that public producer coal power plants are planned to be shut down completely and therefore they have been reducing their stocks continuously. For Denmark, inland consumption of coal has decreased over the period and Danish legislation states that power stations shall have at least 3 months consumption on emergency stocks, so producers are drawing from the stocks. For the Netherlands, the stock issues mainly relate to coal. This result is justified by the rapidly changing coal market. New power plants were opened in the Netherlands and in Germany the coal mines closed, while imports grew. This means that the coal fired power plants along the Rhine are dependent of imported coal. The stocks in Amsterdam and Rotterdam will thus have become larger. The most recent observations are that 12 million ton of coal is in the Dutch stocks. In summary, large stock

changes are possible and justified by the national circumstances of a trading country. These justifications have been taken into account for the summary table. In Portugal, the figure observed (5.6%) could be partially explained by the fact that in 2014 one big industry that used coal closed its activity.

Furthermore, there was also a stock before 1990 which could be drawn from.

Concerning total petroleum products Poland (-17.3%), Denmark (-15.3%), Bulgaria (-12.7%), Estonia (-11.6%), Malta (-11.4%) and Lithuania (10.7%) stand out.

Regarding gas, Austria (-52.3%), followed by Latvia (22.7%), Slovakia (-12.1%), Hungary (-10.3%), Denmark (-9.3%) and Portugal (-7.7%) are the most significant cases. However, the first case could be explained by the construction of major natural gas storage areas. In particular, in case of natural gas in Austria the storage capacities were expanded significantly and the increase of stocks is the logic follow up development.

In Latvia there is an underground gas storage facility at Inčukalns operated by JSC Conexus Baltic Grid and it is the only functioning gas storage facility in the Baltic States. Storage holds 4.5 billion m3 of natural gas, of which 2.3 billion m3 is active gas, i.e., available for regular injection and withdrawal. Since early 2000s the storage has seen substantial investments resulting in an improved safety and increased maximum daily capacities. The company ensures the storage of natural gas for customers in Latvia, Estonia, Russia, and Lithuania. Therefore the ratio between stock changes an inland consumption is not a good indicator in this case.

In Denmark, natural gas stocks have quadrupled in 2014 compared to 1990 as natural gas has been a more important fuel and production/infrastructure has followed as a consequence.

In Portugal, the stock capacity of natural gas was expanded in 2014 with additional infrastructure.

These explanations have been taken into account for the summary table.

No particular cases with more than 10% stock changes variation are present for the overall renewables family.

It is interesting to perform an analysis with individual products, where the internal cancellation effect is eliminated. This analysis has been conducted over the last 10 years (for information, also the whole period is shown). The comparison has been made with gross inland consumption + transformation output. The following table shows the more significant results of this analysis and presents national cases where the relative cumulated variation in stock changes is particularly high (bigger than 10% in the last 10 years or 20% in the whole time series) and the contribution of that fuel to the national mix is more than 10%.

Table 14. Cumulative stock changes for individual products

Product	Country	Cumulative SC relative to GIC+TO 1990 - 2014	Cumulative SC relative to GIC+TO 2005 - 2014
2117 - Other Bituminous Coal	Denmark	73.4%	38.8%
4100 - Natural gas	Denmark	-43.1%	-9.3%
3260 - Gas-diesel oil (without	Denmark	8.7%	-21.8%
2410 - Oil shale and oil sands	Estonia	6.7%	-18.1%
4100 - Natural gas	Spain	-22.6%	-4.2%
3260 - Gas-diesel oil (without	Cyprus	-25.7%	-20.9%
4100 - Natural gas	Latvia	-11.1%	22.7%
4100 - Natural gas	Hungary	-26.5%	-10.3%
3260 - Gas-diesel oil (without	Malta	-97.6%	-17.0%
3270A - Total fuel oil	Malta	-53.2%	-18.1%
4100 - Natural gas	Austria	-55.2%	-52.3%
3105 - Crude oil (without NGL)	Poland	-25.8%	-11.8%
2210 - Lignite-Brown Coal	Slovenia	36.7%	3.3%
4100 - Natural gas	Slovak Republic	10.7%	-12.1%
2117 - Other Bituminous Coal	United Kingdom	35.6%	-9.6%
3105 - Crude oil (without NGL)	Norway	-27.8%	0.1%

The table shows that both Denmark and Malta are the countries with more cases (3 and 2, respectively), followed by Estonia, Spain, Cyprus, Latvia, Hungary, Austria, Poland, Slovenia, Slovak Republic, United Kingdom and Norway (with 1 case each).

Please note that the reason for few of the above cases could be countries masking confidentiality by aggregating several flows into stock changes. However, this is not expected to be the reason in the majority of them.

As indicated above, no particular cases were observed for the whole renewables family and no significant cases were detected with the criteria used to draw Table 14 above. However, it has been considered especially relevant to present a picture of biodiesel and biogasoline because these products have a short life-span (degrade soon) and cannot be stored over long times. For this reason, one should expect to see almost no variation of stock changes for these products over the last 10 years, for example. The table below shows the cases where more than 10% variation of stock changes occurs over the last 10 years. For information, the variation over the whole time period is also displayed.

Table 15. Significant cumulative stock changes for biodiesel and biogasoline

Product	Country	Cumulative SC relative to GIC+TO 2005 - 2014	Cumulative SC relative to GIC+TO 1990 - 2014
5547 - Biodiesels	Bulgaria	-11.6%	-29.0%
5547 - Biodiesels	Czech Republic	-11.3%	-21.4%
5547 - Biodiesels	Denmark	-41.0%	-102.4%

Product	Country	Cumulative SC relative to GIC+TO 2005 - 2014	Cumulative SC relative to GIC+TO 1990 - 2014
5547 - Biodiesels	Ireland	-25.5%	-63.8%
5547 - Biodiesels	Spain	-12.1%	-28.8%
5547 - Biodiesels	Croatia	25.6%	64.1%
5547 - Biodiesels	Lithuania	-20.1%	-57.5%
5547 - Biodiesels	Hungary	12.1%	30.3%
5547 - Biodiesels	Netherlands	-24.4%	-60.9%
5547 - Biodiesels	Austria	-15.3%	-36.4%
5547 - Biodiesels	Slovakia	-14.5%	-44.6%
5547 - Biodiesels	United Kingdom	-13.7%	-34.1%
5546 - Biogasoline	Bulgaria	-30.7%	-76.8%
5546 - Biogasoline	Czech Republic	-28.4%	-71.0%
5546 - Biogasoline	Ireland	-30.0%	-75.0%
5546 - Biogasoline	Spain	13.3%	28.8%
5546 - Biogasoline	Latvia	38.8%	96.9%
5546 - Biogasoline	Lithuania	-10.3%	-42.9%
5546 - Biogasoline	Hungary	-10.7%	-26.8%
5546 - Biogasoline	Austria	-16.3%	-40.8%
5546 - Biogasoline	Romania	24.8%	62.1%
5546 - Biogasoline	Slovakia	-32.7%	-81.7%

The table shows that Bulgaria, Austria, Czech Republic, Hungary, Ireland, Lithuania, Slovakia and Spain have all problems with the cumulated stock changes for both biodiesel and biogasoline. Croatia, Denmark, Netherlands and UK present high cumulated stock changes only with biodiesels, while Latvia only for biogasoline. In the case of Denmark, it should be noted that there was a confidential case on liquid biofuels in 2014 and therefore no conclusions can be drawn for that particular case.

Particularly significant are the cases of biodiesels in Denmark (-41.0%), Croatia (25.6%) and Ireland (25.5%), as well as the cases of biogasoline in Latvia (38.8%), Slovakia (32.7%), Bulgaria (30.7%), Ireland (30.0%) and Czech Republic (28.4%).

Please note that the results from the table must be used with caution, since some cases could be the result of countries having treated confidentiality by aggregating several flows or hiding confidential values into stock changes.

4.5. Data revision

4.5.1. Data revision policy

In relation to reliability, it must be stated that sometimes it is unavoidable to revise initial data, because e.g. data providers did not send their data in time and therefore initial data contained estimates or because an improvement in the methodology is implemented following the availability of new information.

But revisions are sent sometimes very late without any apparent reason. These situations must be prevented by establishing a common 'revision policy'. In general, countries expressed their agreement for a harmonised framework on revisions in energy statistics which is common to all Member States, in line with the European Statistics Code of Practice. A regular revision analysis was also welcomed and the publication of a revision/release calendar was highly supported.

According to the main ESS quality standards that deal with revisions (ESS Code of Practice and the ESS guidelines on revision policy for Principal European Economic Indicators (PEEIs)), revisions have to follow a standardised way, including an appropriate communication. Pre-announcement of revisions is considered as one of the core principles of a revision policy. It contributes to transparency, better information and a better coordination of the workload.

For these reasons, the Energy Statistics Working Group approved in October 2015 a revision policy for energy statistics. This document is available here.

In addition, the presence of revision policies or well-established revision practices at national level is an indicator for transparency and better information to the users.

The following 2 tables (the first for EU annual and the second for EU monthly data collections) present the situation as regards the existence of revision policies applicable to the data sources used at national level to complete EU data collections. When a revision policy exists for at least one of the data sources used to complete the relevant EU data collection, the table shows "Yes", while it shows "No" when no revision policy exists for any of the data sources.

Table 16. Existence of revision policies at national level (covering at least one of the data sources contributing to the EU annual data collections)

	ENERGY_SOLID_A: Solid Fuels Statistics	ENERGY_ELECT_A: Electricity and Heat Statistics	ENERGY_NTGAS_A: Natural Gas Statistics	ENERGY_PETRO_A: Oil and petroleum products	ENERGY_RENEW_A: Renewable energy and wastes statistics	ENERGY_NUCLEAR_A: Nuclear statistics
Belgium	NO	NO	NO	NO	NO	NO
Bulgaria	NO	NO	NO	NO	NO	NO
Czech Republic	YES	YES	YES	YES	YES	NO
Denmark	NO	NO	NO	YES	NO	NO
Germany	NO	YES	NO	YES	YES	NO
Estonia	NO	NO	NO	NO	NO	NO
Ireland	NO	NO	NO	NO	NO	NO
Greece	YES	YES	YES	YES	YES	NO
Spain	YES	YES	YES	YES	YES	NO
France	YES	NO	NO	YES	YES	NO
Croatia	YES	YES	YES	YES	YES	NO
Italy	NO	NO	NO	NO	NO	NO
Cyprus	YES	YES	NO	YES	YES	NO
Latvia	YES	YES	YES	YES	YES	NO
Lithuania	YES	YES	YES	YES	YES	NO
Luxembourg	NO	NO	NO	YES	YES	NO
Hungary	YES	YES	YES	YES	YES	YES
Malta	NO	NO	NO	NO	NO	NO
Netherlands	YES	YES	YES	YES	YES	YES
Austria	YES	YES	YES	YES	YES	NO
Poland	NO	NO	NO	NO	NO	NO
Portugal	NO	NO	NO	NO	NO	NO
Romania	YES	YES	YES	YES	YES	NO
Slovenia	YES	YES	YES	YES	YES	YES
Slovakia	YES	YES	YES	YES	YES	NO
Finland	YES	YES	YES	YES	YES	YES
Sweden	YES	YES	YES	YES	YES	YES
United Kingdom	YES	YES	YES	YES	YES	NO
Norway	YES	NO	NO	NO	NO	NO
Turkey	NO	NO	NO	NO	NO	NO

Table 17. Existence of revision policies at national level (covering at least one of the data sources contributing to the EU monthly data collections)

	ENERGY_SOLID_M: Solid Fuels Statistics	ENERGY_ELEC3_M: Electricity Statistics	ENERGY_MOSGAS_M: MOS Monthly Natural Gas Statistics	ENERGY_MOSOIL_M: MOS Monthly Oil Statistics	ENERGY_SEGELE_M: Short-term monthly Electricity statistics	ENERGY_SEGGAS_M: Short-term monthly Natural Gas Statistics	ENERGY_JODIOIL_M: Short-term monthly Oil statistics
Belgium	NO	NO	NO	NO	NO	NO	NO
Bulgaria	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	NO	NO	YES	NO	NO	YES
Denmark	NO	NO	NO	YES	NO	NO	YES
Germany	NO	YES	NO	YES	NO	NO	NO
Estonia	NO	NO	NO	NO	NO	NO	NO
Ireland	NO	NO	NO	NO	NO	NO	NO
Greece	YES	YES	YES	YES	YES	YES	YES
Spain	NO	YES	YES	YES	NO	NO	YES
France	YES	NO	NO	YES	NO	NO	YES
Croatia	YES	YES	YES	YES	YES	YES	YES
Italy	NO	NO	NO	NO	NO	NO	NO
Cyprus	YES	YES	NO	YES	YES	NO	YES
Latvia	YES	YES	YES	YES	YES	YES	YES
Lithuania	YES	YES	YES	YES	YES	YES	YES
Luxembourg	NO	NO	NO	YES	NO	NO	YES
Hungary	NO	NO	NO	NO	NO	NO	NO
Malta	NO	NO	NO	NO	NO	NO	NO
Netherlands	YES	YES	YES	YES	YES	YES	YES
Austria	YES	NO	NO	NO	NO	NO	NO
Poland	NO	NO	NO	NO	NO	NO	NO
Portugal	NO	NO	NO	NO	NO	NO	NO
Romania	YES	YES	YES	YES	NO	NO	NO
Slovenia	YES	YES	YES	YES	YES	YES	YES
Slovakia	YES	YES	NO	NO	YES	NO	NO
Finland	YES	YES	YES	YES	YES	YES	YES
Sweden	YES	YES	YES	YES	NO	YES	YES
United Kingdom	YES	YES	YES	YES	YES	YES	YES
Norway	YES	YES	YES	YES	NO	YES	YES
Turkey	YES	NO	NO	NO	NO	NO	NO

As can be observed, for some countries there are no revision policies covering any of the data sources used to complete the EU data collections (like Belgium, Bulgaria, Estonia or Malta), while for other countries (like Croatia, Slovenia, Latvia, Lithuania, Greece or The Netherlands), there is always at least one data source covered by a revision policy. In some of these cases, the reason is because most of the data collections at national level are actually covered by a revision policy. In order to obtain a clear

overview of the situation at national level from a different perspective, the following table shows the percentage of national data collections (data sources) covered by a revision policy, as reported by countries in their quality reports.

Table 18. National data collections covered by a revision policy

	Total number of national data collections covered by a revision policy	Percentage of national data collections covered by a revision policy
Belgium	0	0,0%
Bulgaria	0	0,0%
Czech Republic	8	61,5%
Denmark	4	20,0%
Germany	4	16,7%
Estonia	0	0,0%
Ireland	0	0,0%
Greece	12	100,0%
Spain	7	41,2%
France	2	9,5%
Croatia	13	52,0%
Italy	0	0,0%
Cyprus	5	38,5%
Latvia	10	100,0%
Lithuania	6	75,0%
Luxembourg	2	16,7%
Hungary	7	33,3%
Malta	0	0,0%
Netherlands	22	100,0%
Austria	7	53,8%
Poland	0	0,0%
Portugal	0	0,0%
Romania	7	77,8%
Slovenia	6	100,0%
Slovak Republic	7	87,5%
Finland	17	77,3%
Sweden	6	66,7%
United Kingdom	19	67,9%
Norway	2	13,3%
Turkey	1	20,0%

The table shows a variable picture. Indeed, some countries like Slovenia, Greece, The Netherlands and Latvia have all of their data collections covered by a revision policy. Other countries like the UK, Sweden, Slovakia, Romania,

Lithuania, Finland, Czech Republic, Croatia and Austria have more than 50% of their data collections covered by a revision policy.

On the other extreme, some countries like Portugal, Poland, Malta, Italy, Ireland, Estonia, Bulgaria and Belgium have no revision policy at all. A clear recommendation for these countries is to develop their revision policy that should be consistent with the one adopted at European level.

4.5.2. Data revision analysis

The revision policy for energy statistics indicates that regular revision analysis on annual data will be carried out by Eurostat.

The first revision analysis has been done on the EU-28 countries, taking into consideration all compliant transmissions received during the last 2 annual exercises (2013 and 2014 exercises). Three publishing dates are analysed: the first release of 2013 data, the second release of 2013 data and the first release of 2014 data.

For each individual Member State, an analysis of the revisions is made. A revision is a compliant transmission made after the publication date. For this purpose, the number of revised questionnaires for reference years 2005, 2010 and 2012 were analysed.

Following this analysis, summary tables are presented in Annex 7 summarising the number of questionnaires revised for all analysed data cycles and affecting reference years 2005, 2010 and 2012, respectively.

Although the number of revisions cannot be seen as a direct indicator of unreliable data, when a country systematically revises the data transmitted or frequently sends a very high number of revisions, it could be an indication of problems related to the statistical methods used at national level and their ability to provide reliable data within the legal deadline.

The following table presents the total number of revisions for 2005, 2010 and 2012 data in the 2013 and 2014 cycles.

Table 19. Revisions of 2005, 2010 and 2012 data in 2013 and 2014 annual cycles

Country	Total number of revisions of 2005, 2010 and 2012 data in 2013 and 2014 annual cycles
Belgium	6
Bulgaria	0
Czech Republic	3
Denmark	0
Germany	9
Estonia	0
Ireland	3
Greece	3

Country	Total number of revisions of 2005, 2010 and 2012 data in 2013 and 2014 annual cycles
Spain	33
France	15
Croatia	0
Italy	0
Cyprus	6
Latvia	24
Lithuania	0
Luxembourg	0
Hungary	27
Malta	18
Netherlands	18
Austria	0
Poland	21
Portugal	3
Romania	0
Slovenia	18
Slovak Republic	3
Finland	0
Sweden	15
United Kingdom	15

It is very interesting to observe that, while some countries are able to provide final data for the three analysed reference years before publication and do not need any revision afterwards (like Austria, Bulgaria, Croatia, Denmark, Estonia, Finland, Italy, Lithuania, Luxembourg and Romania), other countries need to revise their data after publication 15 or more times (like France, Sweden, UK, Slovenia, Netherlands, Malta) and even more than 20 times (Poland, Latvia, Spain and Hungary).

If the need to revise data is recurrent, countries should analyse their data collections and decide on the need to adapt their national statistical systems to provide more accurate data within the requested deadline.

It must be noted that the table above only shows the number of transmissions of a questionnaire after its publication. A significant number of transmissions could have happened though before publication as a result of exchanges during the validation process.

4.5.3. Average size of revisions and data stability

4.5.3.1. Number of data revised points

As mentioned above, accuracy refers to the closeness of estimates to the unknown true values and reliability refers to the closeness of the initial estimated value to the subsequent estimated value. If we assume that data in the long term should be closer to the true values (more accurate), it is

possible to estimate how reliable those values were at the first transmission by analysing the stability of the data.

A questionnaire can be revised several times but modifying only one record, while another questionnaire can be revised only once, but modifying all its records.

In order to quantify the percentage of modified data points the following table shows, for each joint annual questionnaire and each Member State, the ratio between the average number of changes and the average number of non-zero records, both for 2012 data in published versions in the 2013 and 2014 data cycles.

Table 20. Ratio (%) between average number of changes and average non-zero records for 2012 data

	ENERGY_ SOLID_A: Solid Fuels Statistics	ENERGY_ ELECT_A: Electricity and Heat Statistics	ENERGY_ NTGAS_A: Natural Gas Statistics	ENERGY_ PETRO_A: Oil and petroleum products	ENERGY_ RENEW_A: Renewable energy and wastes statistics
Belgium	21%	23%	10%	4%	13%
Bulgaria	2%	1%	-	1%	2%
Czech Republic	-	7%	11%	4%	-
Denmark	29%	45%	29%	23%	48%
Germany	-	1%	8%	-	-
Estonia	-	-	10%	-	-
Ireland	3%	30%	75%	8%	14%
Greece	-	-	-	8%	1%
Spain	2%	2%	-	-	4%
France	5%	36%	8%	-	47%
Croatia	-	6%	7%	1%	8%
Italy	9%	0%	-	1%	0%
Cyprus	18%	-	-	3%	-
Latvia	-	3%	-	-	-
Lithuania	1%	-	-	1%	-
Luxembourg	-	13%	29%	14%	23%
Hungary	5%	5%	27%	21%	9%
Malta	-	76%	-	49%	100%
Netherlands	60%	59%	43%	76%	44%
Austria	31%	39%	62%	22%	26%
Poland	1%	2%	4%	6%	2%
Portugal	6%	1%	5%	5%	28%
Romania	8%	-	-	0%	3%
Slovenia	8%	10%	7%	16%	32%
Slovak Republic	-	-	-	1%	-
Finland	22%	32%	65%	20%	24%
Sweden	-	1%	-	-	-
United Kingdom	-	44%	14%	27%	86%

The table shows that some countries have revised a significant percentage of their previously transmitted data points. Although no definitive conclusions can be drawn from this analysis, since it focuses only on 2012 data, in principle this could be due e.g. to methodological improvements or problems linked to late transmission of data from their providers. The Netherlands and Malta are significant cases, followed by the UK, Ireland, Finland and Austria.

As stated above, if the need to revise data is recurrent, countries should analyse their data collections and decide on the need to adapt their national statistical systems to provide more accurate data within the requested deadline.

4.5.3.2. Size of revised values

Another perspective must be covered to understand the size of revisions undertaken by countries. Indeed, a revision can affect several questionnaires and many data points, but have little impact on the actual reported value. Conversely, a revision can affect only one data point in one questionnaire, but the revision might drastically change the value, impacting high level aggregates of the energy balance.
For this reason, this chapter presents an evaluation of the change of the value of the main aggregates of the energy balance through several years, to assess the impact of revisions on the stability of energy statistics.

As a first example, the historic evolution of Gross Inland Energy Consumption of all fuels for reference year 2005 (as published by Eurostat since 2007 until 2016) is displayed in the following table.

Table 21. Evolution of gross inland consumption for all fuels for reference year 2005

	Year of publication										
Country	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**% change**
EU-28	1 820.2	1 834.6	1 834.6	1 834.2	1 834.3	1 833.3	1 833.8	1 824.2	1 824.7	1 831.0	0.59%
Belgium	54.95	61.15	61.15	61.14	61.14	58.98	58.98	58.70	59.00	59.08	7.50%
Bulgaria	19.88	19.98	19.99	20.02	20.02	20.08	20.08	19.80	19.80	19.75	-0.65%
Czech Republic	44.80	45.32	45.31	44.42	44.42	45.28	45.28	45.10	45.10	45.12	0.73%
Denmark	19.54	19.71	19.67	19.67	19.67	19.77	19.76	19.60	19.60	19.56	0.09%
Germany	345.45	347.15	347.12	347.09	347.09	346.00	346.00	341.90	341.90	341.91	-1.02%
Estonia	5.56	5.56	5.56	5.57	5.57	5.56	5.56	5.60	5.60	5.62	0.94%
Ireland	15.12	15.12	15.13	15.13	15.13	15.24	15.11	15.00	15.30	15.26	0.95%
Greece	31.24	31.35	31.35	31.35	31.35	31.39	31.39	31.40	31.40	31.41	0.54%
Spain	143.49	144.59	144.59	144.59	144.59	144.34	144.38	144.20	144.20	144.22	0.51%
France	275.44	276.44	277.09	276.24	276.24	276.59	276.62	276.40	276.70	276.60	0.42%
Croatia	8.91	8.94	8.93	8.93	8.93	8.96	8.96	8.90	8.90	9.78	9.73%
Italy	186.77	187.31	187.31	188.48	188.48	188.52	188.52	187.50	187.50	190.08	1.77%
Cyprus	2.46	2.47	2.47	2.47	2.47	2.52	2.52	2.50	2.50	2.54	3.15%
Latvia	4.72	4.49	4.49	4.49	4.49	4.48	4.48	4.60	4.60	4.59	-2.68%
Lithuania	8.59	8.62	8.62	8.62	8.62	8.79	8.77	8.70	8.70	8.71	1.38%
Luxembourg	4.70	4.71	4.71	4.72	4.72	4.81	4.81	4.80	4.80	4.80	2.18%

	Year of publication										
Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	% change
Hungary	27.92	28.01	28.04	28.04	28.04	27.70	27.70	27.60	27.60	27.61	-1.10%
Malta	0.95	0.96	0.94	0.94	0.94	0.97	0.97	1.00	1.00	0.97	1.98%
Netherlands	80.96	82.48	82.48	82.49	82.49	82.53	82.52	81.50	81.50	84.42	4.28%
Austria	33.98	34.11	34.32	34.58	34.58	34.40	34.40	34.40	34.40	34.20	0.65%
Poland	93.94	93.87	93.56	93.40	93.40	93.71	93.08	92.50	92.20	92.22	-1.82%
Portugal	26.68	27.04	27.04	27.04	27.04	27.40	27.40	27.50	27.50	27.48	2.99%
Romania	39.15	39.24	39.25	39.24	39.24	39.35	39.35	39.20	39.20	39.21	0.15%
Slovenia	7.31	7.30	7.30	7.28	7.28	7.30	7.30	7.30	7.30	7.33	0.28%
Slovakia	19.41	19.06	19.05	19.05	19.05	19.09	19.09	19.00	19.00	19.03	-1.95%
Finland	34.52	34.67	34.67	34.77	34.80	35.06	35.07	34.50	34.50	34.54	0.06%
Sweden	51.56	51.69	51.69	51.67	51.67	51.74	51.74	51.00	51.00	50.99	-1.09%
United Kingdom	232.26	233.31	232.75	232.76	232.73	233.40	233.91	234.00	234.00	234.00	0.75%

The revisions performed were important enough as to impact the high level aggregate of gross inland consumption significantly in Croatia (+9.73%), Belgium (+7.50%) and The Netherlands (+4.28%). Taking into account that some EU 2020 indicators use gross inland consumption as basis for its calculation, the stability of this aggregate is of particular importance to monitor the progress and evaluate the achievement of EU targets.

It is also interesting to analyse more in detail the variation of a certain data point for a more recent reference year and at a lower level of aggregation. The following table shows the percentage variation of the value of Final energy consumption for reference year 2012 from the first to the last time it was reported (2014 to 2016). Details are shown for all fuels and also for the main fuel families.

Table 22. Evolution of Final energy consumption for reference year 2012 since the first publication in 2014 until the last in 2016

Country	All fuels	Solid fuels	Total petroleum products	Gas	Renewable energies	Electricity
EU-28	0.13%	1.19%	0.04%	-0.16%	3.39%	-0.19%
Belgium	-4.48%	11.43%	7.38%	-9.83%	1.19%	-1.52%
Bulgaria	-0.01%	0.00%	0.00%	-0.04%	0.00%	0.00%
Czech Republic	-1.47%	-15.89%	0.99%	-1.25%	0.00%	0.00%
Denmark	0.78%	-18.74%	3.95%	0.57%	-5.47%	-0.71%
Germany	-0.48%	0.00%	0.00%	-0.08%	-6.65%	0.00%
Estonia	-0.03%	1.56%	-0.64%	0.00%	0.79%	0.00%
Ireland	-1.01%	1.83%	0.06%	-3.49%	-19.67%	0.00%
Greece	5.11%	0.00%	9.50%	0.00%	-1.58%	0.00%
Spain	-0.09%	0.00%	0.00%	-0.64%	0.39%	0.00%
France	-1.85%	-3.77%	-4.76%	3.92%	-5.11%	0.00%
Croatia	12.62%	0.00%	0.00%	0.00%	144.43%	0.00%
Italy	2.32%	-9.83%	0.00%	0.00%	54.72%	0.00%
Cyprus	0.25%	0.00%	0.29%		0.10%	0.00%

Country	All fuels	Solid fuels	Total petroleum products	Gas	Renewable energies	Electricity
Latvia	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Lithuania	0.24%	5.11%	0.00%	0.00%	0.00%	0.00%
Luxembourg	0.01%	0.00%	0.00%	0.00%	0.31%	0.07%
Hungary	0.12%	3.98%	-2.74%	1.40%	0.72%	0.33%
Malta	12.95%		16.66%		34.92%	6.11%
Netherlands	0.73%	10.32%	-0.71%	-2.17%	20.19%	-2.32%
Austria	-1.25%	5.88%	-0.13%	-0.37%	-6.41%	-3.04%
Poland	1.28%	8.82%	-0.80%	0.86%	-0.33%	0.02%
Portugal	-0.77%	0.00%	-0.09%	0.00%	-1.44%	0.00%
Romania	0.45%	0.00%	1.98%	0.00%	-0.78%	0.00%
Slovenia	1.01%	1.00%	0.92%	0.00%	6.11%	-0.96%
Slovakia	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Finland	-0.35%	-9.15%	1.21%	-1.37%	-1.56%	-0.05%
Sweden	0.01%	0.00%	-0.11%	-0.32%	0.25%	0.00%
United Kingdom	1.59%	3.57%	2.20%	0.10%	32.57%	0.16%

The revisions performed for renewables are particularly significant in Croatia (+144.43%), Italy (+54.72%), Malta (+34.92%), UK (+32.57%), The Netherlands (+20.19%) and Ireland (-19.67%). As regards gas, no significant revisions were carried out in any of the countries. For petroleum products, Malta was the only country to perform a significant revision (+16.66%), while for solid fuels Denmark (-18.74%), Czech Republic (-15.89%), Belgium (+11.43%) and The Netherlands (+10.32%) carried out significant revisions of their Final energy consumption.

When looking at the impact on all fuels, the revisions of Malta and Croatia significantly impacted the total amount of energy consumed in the country.

5. TIMELINESS AND PUNCTUALITY

Timeliness describes the length of time between data availability and the event or phenomenon they describe.

Punctuality is the time lag between the actual delivery of data and the target date on which they were scheduled for release as announced in an official release calendar, laid down by Regulations or previously agreed among partners.

In other words, timeliness sets the deadlines for the data transmission to Eurostat. Punctuality is calculated as the actual date of data delivery minus the scheduled date of transmission to Eurostat.

5.1. Timeliness

The following tables provide a detail on the timelines of the different European energy data collections (covered and not covered by a legal act), from the end of the reporting period until the required date of transmission by Member States to Eurostat.

Table 23. Timeliness of European energy statistics data collections

Name of data collection	Timeliness
ENERGY_ELECT_A: Electricity and Heat Statistics	11 months
ENERGY_NTGAS_A: Natural Gas Statistics	11 months
ENERGY_PETRO_A: Oil Statistics	11 months
ENERGY_SOLID_A: Solid Fuels Statistics	11 months
ENERGY_RENEW_A: Renewable energy and wastes statistics	11 months
ENERGY_NUCLEAR_A: Nuclear statistics	11 months
ENERGY_CHP_A: Combined Heat & Power statistics [CHP]	12 months
ENERGY_SOLID_M: Solid Fuels Statistics	3 months
ENERGY_ELEC3_M: Electricity Statistics	3 months
ENERGY_MOSOIL_M: MOS (Monthly Oil Statistics)	55 days
ENERGY_MOSGAS_M: MOS (Natural Gas Statistics)	55 days
ENERGY_SEGGAS_M: Short-term monthly Natural Gas Statistics	1 month
ENERGY_SEGELE_M: Short-term monthly Electricity statistics	1 month
ENERGY_JODIOIL_M: Short-term monthly Oil statistics	25 days

It must be highlighted that timeliness has been improved over the last years with the reduction from 3 months to less than 2 months in some monthly energy data collections.

Although official release deadlines for different energy data collections are legally well established, no dedicated release calendar was in place for the European energy statistics main data collections on the Eurostat website. As a result of the last quality reporting exercise, a recommendation was formulated to publish a release calendar for European energy statistics. As a result, a calendar including information on legal deadlines for Eurostat's dissemination of the individual country data and EU aggregates is now available in the energy section of Eurostat's website and can be consulted here[7]. This calendar helps to provide better information for users of energy statistics.

5.2. Punctuality

Punctuality is the time lag between the release date of data and the target date on which they were scheduled for release as announced in an official release calendar, laid down by Regulations or previously agreed among partners.

As regards annual energy data collections, the reception date, as established by the Regulation (EC) No 1099/2008 on energy statistics, is **30 November of the year x+1.** The table below presents an overview in terms of punctuality of transmission of 2014 annual data collections to Eurostat, in days before (in green) or after (in red) the legal deadline (30/11/2015)

Table 24. Transmissions of 2014 annual data collections to Eurostat: number of days before (green) or after (red) the legal deadline

	ENERGY_ SOLID_A: Solid Fuels Statistics	ENERGY_ELECT _A: Electricity and Heat Statistics	ENERGY_ NTGAS_A: Natural Gas Statistics	ENERGY_ PETRO_A: Oil and petroleum products	ENERGY_ RENEW_A: Renewable energy and wastes statistics
Belgium	-25	-20	-5	-60	-20
Bulgaria	-3	-3	-3	-3	-3
Czech Republic	0	0	0	0	-27
Denmark	3	10	3	3	10
Germany	-3	-3	-3	-3	0
Estonia	0	0	0	0	0
Ireland	-61	-61	-61	-67	-61
Greece	-4	0	-4	-4	-4
Spain	-19	-5	-38	-54	-38
France	0	0	1	0	0
Croatia	-3	-3	-3	-3	-3
Italy	-34	-60	-34	-31	-59

[7] http://ec.europa.eu/eurostat/documents/38154/6591724/RELEASE-CALENDAR-ENERGY.pdf/321c6f0e-78a4-4118-856e-a6c85bd1df6f

	ENERGY_ SOLID_A: Solid Fuels Statistics	ENERGY_ELECT _A: Electricity and Heat Statistics	ENERGY_ NTGAS_A: Natural Gas Statistics	ENERGY_ PETRO_A: Oil and petroleum products	ENERGY_ RENEW_A: Renewable energy and wastes statistics
Cyprus	-3	-3	-3	-3	-3
Latvia	-49	-49	-49	-42	-49
Lithuania	-32	-32	-32	-32	-32
Luxembourg	-61	-61	-61	-61	-61
Hungary	0	0	0	0	0
Malta	Not appl.	0	7	0	0
Netherlands	1	1	1	1	1
Austria	0	0	0	0	0
Poland	0	0	0	0	17
Portugal	-61	-61	-31	-31	-61
Romania	-14	-14	-14	-14	-14
Slovenia	-61	-61	-61	-61	-55
Slovak Republic	-61	0	-61	-61	22
Finland	-11	0	-6	30	0
Sweden	-7	0	10	1	0
United Kingdom	-56	0	9	-66	-4
Norway	0	-3	0	0	-3
Turkey	-55	-53	-28	9	-55

As observed, most of the countries transmitted the data within the deadline (green cells). However, some countries (e.g. Denmark, Finland, France, Malta, Poland, Slovakia, Sweden, United Kingdom and Turkey) experienced significant delays for concrete questionnaires (red cells). Concerning the Netherlands, this delay was due to the unavailability of the uploading system of the IEA, which is used by the Netherlands to perform cross-questionnaire checks.

The table below shows a summarised view of the punctuality for each questionnaire in the 2014 annual cycle.

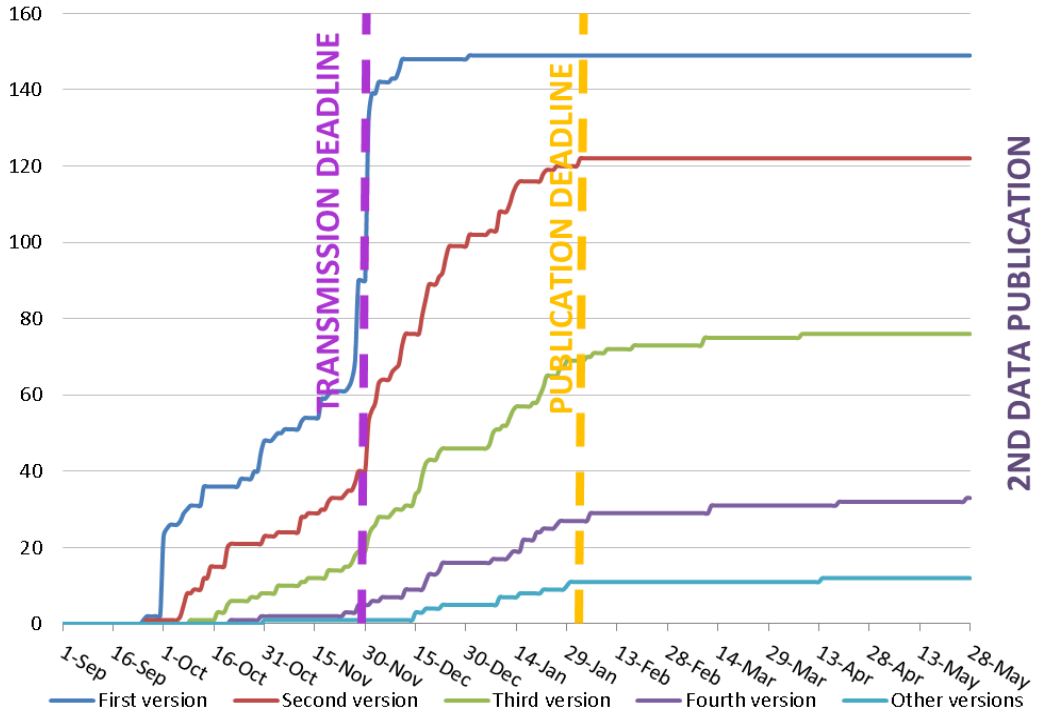
Table 25. Punctuality of 2014 data transmissions per joint annual questionnaire

	Countries transmitting the questionnaire punctually	Questionnaires that arrived punctually
ENERGY_ SOLID_A: Solid Fuels Statistics	26 (out of 29)	89.7%
ENERGY_ELECT_A: Electricity and Heat Statistics	28 (out of 30)	93.3%
ENERGY_ NTGAS_A: Natural Gas Statistics	24 (out of 30)	80.0%
ENERGY_ PETRO_A: Oil and petroleum products	25 (out of 30)	83.3%
ENERGY_ RENEW_A: Renewable energy and wastes statistics	26 (out of 30)	86.7%

Another important aspect in relation to punctuality is the fact that many countries transmit the first version of their questionnaires before the legal deadline, but containing sometimes incomplete or low quality data, which requires sending new versions of the same questionnaires. For example, as

regards the most significant annual data collections (gas, oil, electricity, coal and renewables), the following graph shows the reception date of the different versions of the questionnaires until the date of 28 May 2016.

Figure 6. Reception of versions of gas, oil, electricity, coal and renewables annual questionnaires (EU-28 plus Norway and Turkey)



The graph shows that only 88% of questionnaires had been received at the date of 30 November 2015 (first version of the questionnaire). This means that around 12% of the main annual questionnaires were not punctual because they were received after the deadline.

While 150 annual energy questionnaires are needed for EU-28 plus Norway and Turkey, a total of 392 had been transmitted by 28 May 2016, involving several corrections (more than 7 for several countries), some of them well beyond the deadline. This creates a ping-pong situation where multiple versions of the same questionnaire are sent back and forth for checks and corrections, which is clearly an aspect to be improved.

A recommendation in this sense is to create clear instructions/procedures on the validation checks that are to be carried out at each level (countries and Eurostat, as defined by the ESS policy on shared-validation), so it would be known beforehand whether a certain aspect of data quality needs to be improved before submitting the questionnaire. A manual including validation rules is under preparation to improve this situation.

The graph also shows that most of the modifications of questionnaires take place during the validation period (between the transmission deadline and the publication deadline). The transmission of modified questionnaires between the first and the second publication date is very limited. For this reason, annual data can be considered as quite stable after the first publication and before the next data release.

6. ACCESSIBILITY AND CLARITY

According to the European Statistics Code of Practice, European statistics should be presented in a clear and understandable form, disseminated in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance.

Accessibility and **clarity** refer to the simplicity and ease, the conditions and modalities by which users can access, use and interpret statistics, with the appropriate supporting information and assistance: a global context which finally enables them to make optimum use of the statistics.

6.1. Accessibility

Accessibility is determined by the physical conditions by means of which users obtain data: where to go, how to order, delivery time, pricing policy, marketing conditions (copyright, etc.), availability of micro or macro data, various formats (paper, files, CD-ROM, Internet, etc.).

It is important to highlight that all data published by Eurostat in the field of energy statistics are available in the Eurostat website and are free for non-commercial and commercial purposes, as long as Eurostat is properly referenced.

For experienced and professional users, the whole output as regards energy data collections can be accessed through the Internet, using the open access Eurostat database (Eurobase). This tool allows for customised downloads, where users can select the required indicators, countries, time series, products and units. Through direct queries, customized tabulations of energy statistics results are available to users in electronic format. Additionally, complete balance sheets for selected years in the MS Excel format are produced twice per year and annual pdf publication is produced with simplified energy balances. All these data can be consulted and downloaded free of charge.

For occasional users, articles with the most relevant information concerning the main energy data collections are published and kept up-to-date in electronic format in Statistics Explained. The Statistics Explained articles in the area of energy statistics can be consulted here: http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy. Press releases are also published when new relevant data becomes available. Additionally, the pocketbook "Energy, transport and environment indicators", published on a yearly basis, is accessible free of charge via the Eurostat webpage.

In addition, energy statistics are more and more disseminated by mean of interactive products. In 2016, two new interactive tools have been disseminated: a digital publication on energy and a web tool to produce Sankey diagrams of energy balances.

6.2. Clarity

The **clarity** of statistical outputs is an attribute of statistics describing the extent to which easily comprehensible metadata are available, where these metadata are necessary to give a full understanding of statistical data. It is determined by the information environment within which the data are presented, whether the data are accompanied with appropriate metadata, whether use is made of illustrations such as graphs and maps, whether information on data accuracy are available (including any limitations on use) and the extent to which additional assistance is provided by the producer.

6.2.1. Documentation on methodology

Data on energy is submitted on the basis of Annual Joint Questionnaires employing an internationally agreed methodology. Eurostat receives disaggregated data which are used to countercheck the results and to ensure consistency with the total amount of energy consumption.

Several Manuals (including the recent "Manual for Statistics on Energy consumption in Households") for the main areas of energy statistics have been developed over the last years, for example: Energy Statistics Manual, JODI Oil Manual 2nd edition, etc. In addition to these Manuals, reporting guidelines also exist for the following areas: annual questionnaires for Electricity and Heat, Natural Gas, Oil, Coal, Renewables and Waste, monthly questionnaires for Oil and gas (MOS), JODI (Joint Oil data initiative), half-yearly questionnaires for Gas and electricity prices for household users.

Furthermore, several manuals on different aspects of energy statistics are under preparation and should be finished by 2017. They will contribute to facilitate the task to better understand the data and the methodology used to produce energy statistics. These manuals are:

- Manual for validation of the joint annual energy questionnaires
- Manual on filling in joint annual energy questionnaire
- Manual for energy balances

European energy statistics rely on data collected, processed and consolidated at national level. For this reason, the presence of national documentation on methodological and quality aspects is particularly important in this area. Annex 8 offers an overview of the availability of national methodology documentation, as reported by countries in their national quality reports.

It can be observed that some countries have very elaborated documentation on methodology and quality (e.g. Austria, Poland, Portugal and Bulgaria), while other countries have not provided any information or have declared that there is no quality or methodology documentation available (e.g. Belgium, Cyprus, Ireland, Luxembourg and Malta). A recommendation is to develop appropriate quality/methodology documentation at national level in order to allow users to better understand the data. This documentation should be complemented by relevant metadata.

6.2.2. Metadata – completeness

As stated above, clarity depends upon the quality of statistical metadata that are disseminated alongside the statistical outputs. As regards energy data collections, the following table shows if dedicated metadata are available for each of the elements of the energy database in Eurobase (indicated by Yes) or if only higher level metadata apply (indicated by No).

Table 26. Availability of dedicated metadata in EU energy database

Title of data collection	Type of data collection and level in the navigation tree	Dedicated metadata
Energy (nrg)	Folder of databases and folders (Level 0)	No
Energy statistics - quantities, annual data (nrg_quant)	Folder of databases and folders (Level 1)	No
Energy statistics - supply, transformation and consumption (nrg_10)	Folder of databases and folders (Level 2)	Yes
Simplified energy balances - annual data (nrg_100a)	Database (Level 3)	No
Complete energy balances - annual data (nrg_110a)	Database (Level 3)	No
Supply, transformation and consumption of solid fuels - annual data (nrg_101a)	Database (Level 3)	No
Supply, transformation and consumption of oil - annual data (nrg_102a)	Database (Level 3)	No
Supply, transformation and consumption of gas - annual data (nrg_103a)	Database (Level 3)	No
Supply and transformation of nuclear energy - annual data (nrg_104a)	Database (Level 3)	No
Supply, transformation and consumption of electricity - annual data (nrg_105a)	Database (Level 3)	No
Supply, transformation and consumption of heat - annual data (nrg_106a)	Database (Level 3)	No
Supply, transformation and consumption of renewable energies - annual data (nrg_107a)	Database (Level 3)	No
Supply, transformation and consumption of wastes (non-renewable) - annual data (nrg_108a)	Database (Level 3)	No
Primary production - all products - annual data (nrg_109a)	Database (Level 3)	No
Sankey diagram dataset - annual data (nrg_sankey)	Database (Level 3)	No
Energy statistics - imports (nrg_12)	Folder of databases and folders (Level 2)	No
Imports - all products - annual data (nrg_121a)	Database (Level 3)	No
Imports - solid fuels - annual data (nrg_122a)	Database (Level 3)	No
Imports - oil - annual data (nrg_123a)	Database (Level 3)	No
Imports - gas - annual data (nrg_124a)	Database (Level 3)	No
Imports - electricity - annual data (nrg_125a)	Database (Level 3)	No
Imports - renewables - annual data (nrg_126a)	Database (Level 3)	No
Energy statistics - exports (nrg_13)	Folder of databases and folders (Level 2)	No
Exports - all products - annual data (nrg_131a)	Database (Level 3)	No

Title of data collection	Type of data collection and level in the navigation tree	Dedicated metadata
Exports - solid fuels - annual data (nrg_132a)	Database (Level 3)	No
Exports - oil - annual data (nrg_133a)	Database (Level 3)	No
Exports - gas - annual data (nrg_134a)	Database (Level 3)	No
Exports - electricity - annual data (nrg_135a)	Database (Level 3)	No
Exports - renewables - annual data (nrg_136a)	Database (Level 3)	No
Energy statistics - infrastructure (nrg_11)	Folder of databases and folders (Level 2)	No
Infrastructure - electricity - annual data (nrg_113a)	Database (Level 3)	Yes
Infrastructure - biofuel production capacities - annual data (nrg_114a)	Database (Level 3)	Yes
Infrastructure - solar collectors' surface - annual data (nrg_115a)	Database (Level 3)	Yes
Infrastructure - nuclear energy facilities (nrg_ind_333a)	Database (Level 3)	Yes
Energy statistics - indicators and other data (nrg_indic)	Folder of databases and folders (Level 2)	No
Energy saving - annual data (nrg_ind_334a)	Database (Level 3)	Yes
Share of energy from renewable sources (nrg_ind_335a)	Database (Level 3)	Yes
Energy statistics - quantities, monthly data (nrg_quantm)	Folder of databases and folders (Level 1)	No
Energy statistics - supply, transformation, consumption (nrg_10m)	Folder of databases and folders (Level 2)	Yes
Supply and transformation of solid fuels - monthly data (nrg_101m)	Database (Level 3)	No
Supply and transformation of oil - monthly data (nrg_102m)	Database (Level 3)	No
Supply of gas - monthly data (nrg_103m)	Database (Level 3)	No
Supply and transformation of nuclear energy - monthly data (nrg_104m)	Database (Level 3)	No
Supply of electricity - monthly data (nrg_105m)	Database (Level 3)	No
Energy statistics - imports (nrg_12m)	Folder of databases and folders (Level 2)	Yes
Imports - solid fuels - monthly data (nrg_122m)	Database (Level 3)	No
Imports - oil - monthly data (nrg_123m)	Database (Level 3)	No
Imports - gas - monthly data (nrg_124m)	Database (Level 3)	No
Imports - electricity - monthly data (nrg_125m)	Database (Level 3)	No
Energy statistics - exports (nrg_13m)	Folder of databases and folders (Level 2)	Yes
Exports - solid fuels - monthly data (nrg_132m)	Database (Level 3)	No
Exports - oil - monthly data (nrg_133m)	Database (Level 3)	No
Exports - gas - monthly data (nrg_134m)	Database (Level 3)	No
Exports - electricity - monthly data (nrg_135m)	Database (Level 3)	No
Energy statistics - oil stocks (nrg_14m)	Folder of databases and folders (Level 2)	No
Oil stocks - stock levels - monthly data (nrg_141m)	Database (Level 3)	Yes

Title of data collection	Type of data collection and level in the navigation tree	Dedicated metadata
Oil stocks - stocks held for other countries and stocks held abroad - monthly data (nrg_142m)	Database (Level 3)	No
Oil stocks - emergency stocks in days equivalent - monthly data (nrg_143m)	Database (Level 3)	No
Energy statistics - short-term monthly data (nrg_115m)	Folder of databases and folders (Level 2)	Yes
Supply oil - short term monthly data (nrg_jodi)	Database (Level 3)	No
Supply natural gas - short term monthly data (nrg_ind_343m)	Database (Level 3)	No
Supply electricity - short term monthly data (nrg_ind_342m)	Database (Level 3)	No

Although not all datasets are covered at the highest possible level of detail, the situation as regards the availability of metadata has significantly improved since the last quality reporting exercise. Metadata are now available for the main levels of short-term statistics and oil stocks. The presence of metadata is very much extended in infrastructure and indicators. However, the situation could still improve in relation to annual energy statistics, where only the main folder has associated metadata. For this reason, a recommendation is to improve and extend the availability of metadata for annual energy statistics, including imports and exports. This recommendation goes in the same direction as the publication of national quality reports in the ESS Metadata Handler. Indeed, national quality reports can be presented in the form of metadata that could help to improve significantly the coverage of metadata in energy statistics.

European energy statistics rely on data collected, processed and consolidated at national level. Regardless on the amount of metadata published at European level, a complete understanding of the data is sometimes not possible without the national perspective. For this reason, the presence of national metadata is particularly important in this area. Annex 9 offers an overview of the availability of national metadata, as reported by countries in their national quality reports.

It can be observed that some countries have detailed metadata (e.g. Austria, Bulgaria, Croatia, Finland, France, Netherlands, Portugal, Slovenia, UK and Norway), while other countries have not provided any information or have declared that there are no metadata available (e.g. Belgium, Cyprus, Greece, Ireland, Luxembourg, Malta, Slovak Republic and Spain). A recommendation is to develop appropriate metadata at national level in order to allow users to better understand the data. This documentation should be complemented by relevant quality/methodology information.

When carrying out a combined analysis of the availability of metadata and quality or methodology documentation at national level, it is of particular interest to issue a recommendation to countries where none of this information exists. In other words, ESS countries for which neither information on quality/methodology nor metadata are available should start to develop such systems in order to improve the clarity of their energy statistics. These countries are Belgium, Cyprus Ireland and Luxembourg.

7. COMPARABILITY AND COHERENCE

Coherence measures the adequacy of the statistics to be combined in different ways and for various uses.
Comparability is a measurement of the impact of differences in applied statistical concepts, measurement tools and procedures where statistics are compared between geographical areas or over time.

Eurostat carries out quality tests, mainly on the coherence and comparability of the provided information, in particular in the context of the data validation cycle and the construction of energy balances. In addition, the questionnaires used for data transmission also have built-in coherence tests. Countries are contacted if problems are detected, like sharp variations across time series or inconsistencies among questionnaires, for example. Specific actions targeted to selected items - including time series - are regularly carried out to improve the methodology. Several additional analyses are spread over this report and are referenced in points a) to f) below, which are the categories in which the concepts of coherence and comparability are further broken down:

a) Coherence - cross domain

The extent to which statistics are reconcilable with those obtained through other data sources or statistical domains. Comparisons of energy data with other domains are carried out in section 7.1, as well as in sections 3.2.1 and 3.2.2.

b) Coherence - sub annual and annual statistics

The extent to which statistics of different frequencies are reconcilable. Coherence between sub-annual and annual statistical outputs is a natural expectation but the statistical processes producing them are often quite different. This point is addressed in section 7.2.

c) Coherence - National Accounts

The extent to which statistics are reconcilable with National Accounts. A comparison with National accounts for selected sectors is carried out in section 3.2.2.

d) Coherence - internal

The extent to which statistics are consistent within a given data set. This check is consistently carried out within the framework of the normal data validation cycle, as explained above. Certain additional aspects of this are explained in 7.3.

e) Comparability - geographical

The extent to which statistics are comparable between geographical areas. […] Asymmetries for statistical mirror flows should be described. A comparison of asymmetries in energy trade is carried out in section 7.4.

f) Comparability - over time

The extent to which statistics are comparable or reconcilable over time. An analysis of comparability over time of the main energy aggregates is carried out in section 7.5.

7.1. Coherence – cross domain

External consistency is related to the coherence between energy data and similar statistics belonging to different statistical frameworks.

When originating from different sources, and in particular from statistical surveys of different nature and/or frequencies, statistics may not be completely coherent in the sense that they may be based on different approaches, classifications and methodological standards. For this reason, it is very interesting to assess the coherence of Eurostat energy data with data collections from organisations which do not use the same reporting tools.

7.1.1. Separate domains in the European Commission

An analysis of the plausibility or consistency checks between separate domains available in the same institution is carried out. The availability implies a certain level of "control" over the methodologies by the concerned institution. Checks could also be made between results from correlated micro-data and macro-data sources. Other plausibility checks could be based on known correlations between different phenomena.

Essentially these checks are based on the plausibility of results describing the "same" phenomenon within different statistical domains. One example is energy trade figures in both the energy statistics and the trade statistics. Another example is the correlation between fuel consumption in road transport in the energy statistics and transport activity reported in the transport statistics.

The data source selected for this exercise is DG Energy of the European Commission (DG ENER). This section presents the analysis of Crude oil imports data reported to Eurostat and to DG ENER under two difference legal acts:

- Crude oil imports are reported to Eurostat on an annual basis according to Annex B of Regulation (EC) No 1099/2008 on energy statistics
- Crude oil imports are reported to DG Energy on a monthly basis according to Regulation (EC) No 2964/95 introducing registration for crude oil imports and deliveries in the Community

The two datasets have been compiled and the results for 2014 are presented in the table below.

Table 27. Comparison on crude oil imports into the EU between DG ENER and Eurostat data

Country of Origin	2014			
	DG ENER	Eurostat	Differences	
	Quantity (kt)	Quantity (kt)	Absolute value	% in Eurostat data
TOTAL	**524 608**	**520 732**	**3 876**	**0.7**
Abu Dhabi	353	-	**-**	**-**
Algeria	21 718	20 602	**1 116**	**5.4**
Angola	16 197	16 486	**289**	**1.8**
Azerbaijan	22 634	21 940	**694**	**3.2**
Brazil	2 770	3 092	**322**	**10.4**
Cameroon	2 117	1 781	**336**	**18.9**
Canada	2 532	3 533	**1 001**	**28.3**
Colombia	6 939	7 358	**419**	**5.7**
Congo	2 080	2 015	**65**	**3.2**
Congo (DR)	76	55	**21**	**37.7**
Czech Republic	-	27	**-**	**-**
Denmark	4 322	4 881	**559**	**11.5**
Ecuador	97	104	**7**	**6.4**
Egypt	5 501	5 975	**474**	**7.9**
Equatorial Guinea	-	3 384	**-**	**-**
Estonia	-	32	**-**	**-**
Finland	-	0	**-**	**-**
France	-	50	**-**	**-**
Gabon	1 597	1 397	**200**	**14.3**
Georgia	-	153	**-**	**-**
Germany	-	39	**-**	**-**
Greece	-	81	**-**	**-**
Hong Kong	-	87	**-**	**-**
Hungary	-	17	**-**	**-**
Iran	445	446	**1**	**0.1**
Iraq	22 655	22 628	**27**	**0.1**
Italy	-	397	**-**	**-**
Kazakhstan	32 452	31 697	**755**	**2.4**
Kuwait	4 524	4 816	**292**	**6.1**
Latvia	-	1	**-**	**-**
Libya	16 768	16 350	**418**	**2.6**
Lithuania	-	63	**-**	**-**
Malta	-	0	**-**	**-**
Mexico	9 596	10 851	**1 255**	**11.6**
Near and Middle East Asia	-	16	**-**	**-**
Netherlands	-	692	**-**	**-**
Nigeria	44 918	45 156	**238**	**0.5**
Norway	62 953	64 797	**1 844**	**2.8**
Oman	-	0	**-**	**-**
Other African Countries	8 666	5 061	**3 605**	**71.2**
Other Asian Countries	88	39	**49**	**126.3**
Other Countries	81	-	**-**	**-**
Other European countries	13 964	773	**13 191**	**1 706.4**
Other countries of former Soviet Union	362	0	**362**	**-**
Other American / Latin America	731	199	**532**	**267.3**

Country of Origin	2014			
	DG ENER	Eurostat	Differences	
	Quantity (kt)	Quantity (kt)	Absolute value	% in Eurostat data
countries				
Other Middle East Countries	-	-	**-**	**-**
Papua New Guinea	112	228	**116**	**51.0**
Poland	-	420	**-**	**-**
Qatar	479	-	**-**	**-**
Russian Federation	144 010	150 297	**6 287**	**4.2**
Saudi Arabia	44 159	44 218	**59**	**0.1**
Slovakia	-	12	**-**	**-**
Syria	9	-	**-**	**-**
Trinidad and Tobago	-	292	**-**	**-**
Tunisia	862	1 217	**355**	**29.2**
Turkey	-	139	**-**	**-**
Turkmenistan	-	184	**-**	**-**
Ukraine	42	41	**1**	**3.6**
United Arab Emirates	-	339	**-**	**-**
United Kingdom	21 931	19 779	**2 152**	**10.9**
United States	770	124	**646**	**521.0**
Venezuela	5 032	6 183	**1 151**	**18.6**
Yemen	67	-	**-**	**-**
Not specified	-	188	**-**	**-**

When talking about "total crude oil imports", we are referring to the total countries of origin included in the report.

During the analysis several mistakes were observed on the reporting of crude oil imports to Eurostat, which were already known (please see above the trade mirroring exercise conclusions). According to the instructions provided by Eurostat to the countries, the imports of primary fuels should be reported as imports by ultimate origin of production, while the exports should be reported by country of final consumption. This means that:

- Countries can export only primary fuels that they have produced themselves
- Countries can import primary fuels only from countries that produced the fuel
- Primary fuels in transit are to be excluded from reporting as imports and exports, regardless of the type of customs procedures used.

Unfortunately, not all countries are reporting data according to these instructions, as it can be seen. Imports have been reported from various European countries which in fact do not produce crude oil.

When it comes to the instructions of the data collected by DG Energy, we have the following definitions:

- "Import" means each quantity of crude oil which enters the customs territory of the Community for purposes other than transit. 'Delivery'

means each quantity of crude oil coming from another Member State for purposes other than transit. Imports or deliveries carried out on behalf of companies situated outside the importing country and intended for refining under contract and subsequent export in their entirety in the form of refined products shall be excluded.

- However, oil extracted from the seabed over which a Member State exercises exclusive rights for the purposes of exploitation shall not be considered, when it enters the customs territory of the Community, as being an import within the meaning of the previous paragraph.

On the other hand, no information was found on the "other" aggregates (e.g. Other European Countries) from DG Energy's data. Therefore, it is not known if the same situation is present also in DG Energy's data.

The highest share in total crude oil imports in 2014 still belongs to Russia, (DG Energy: 27.5%, Eurostat: 28.9%), followed by Norway (DG Energy: 12.0%, Eurostat: 12.4%).

The countries with the most consistent data in 2014 (less than 5% difference) in the two data sources are the following:

- Iran: 0.1%
- Iraq: 0.1%
- Saudi Arabia: 0.1%
- Nigeria: 0.5%
- Angola: 1.8%
- Kazakhstan: 2.4%
- Libya: 2.6%
- Norway: 2.8%
- Azerbaijan: 3.2%
- Congo: 3.2%
- Ukraine: 3.6%
- Russian Federation: 4.2%

On the other side, the countries with the highest discrepancies for 2014 data are the following (in thousand tonnes):

- United States: 521.0
- Papua New Guinea: 51.0
- Congo (DR): 37.7
- Tunisia: 29.2
- Canada: 28.3

Even if they have recorded high discrepancies, the share of these countries in total imports is insignificant (DG Energy: 0.8%, Eurostat: 1.0%). Among the countries with the highest shares, a difference of 5.4% was recorded for Algeria, while 10.9% was recorded for the United Kingdom.

When looking to the "other" categories, we can see that the share in total crude oil imports is not the same: in DG Energy's data it represents 4.6% (23 892 kt), while in Eurostat's data it represents only 1.2% (6 276 kt).

A very high difference in terms of absolute values can be seen for "Other European Countries" (13 191 kt), followed by "Other African Countries" (3 605 kt). Only these two categories account for 94.7% of DG Energy's data reported under these categories, and 93.0% of DG Energy's data reported under the same categories.

Overall, the total crude oil imports (kt) seem to be quite consistent between the two data sources.

7.1.2. Other data sources

An analysis of the plausibility or consistency checks between the data available in the European Commission (Eurostat) and the data/information available outside is carried out in this section. This implies that there is no "control" over the methodology on the basis of which the external data are collected, and sometimes only a limited knowledge of it.

Statistical indicators might also be compiled by national institutions such as the National Statistical Authority, Ministries or other governmental bodies; by private entities (ports, airports, companies, etc.) and by international organisations (World Bank, United Nations, International Monetary Fund, etc.) for their own needs.

7.1.2.1. Eurostat and British Petroleum data

The first data source chosen for this exercise is British Petroleum (BP). This section presents the analysis of the available data reported to Eurostat and to British Petroleum.

BP is collecting data on energy from various Competent National Authorities (e.g. Ministries, Statistical Offices, etc.) from a multitude of countries, as well as from various published data (e.g. American Wind Energy Association, European Photovoltaic Industry Association, International Geothermal Association, etc. For a more detailed list, please see the following link: http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/using-the-review/links-to-the-contributors.html). Nevertheless, it does not have the same country coverage as Eurostat's data. The results of British Petroleum are disseminated in a publication, which is called the "Statistical Review of World Energy" (http://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html), covering the following topics: Oil, Natural gas, Coal, Nuclear energy, Hydroelectricity, Renewable energy, Primary energy, Electricity and CO2 emissions.

The BP data is collected from the countries via a dedicated questionnaire which is sent to them at the beginning of each year (Y). After mid-June, the data collected in year Y is published and the data for Y-2 are final, same as the Eurostat data.

The following table presents the result of the comparison of both data sources (BP and Eurostat). The variables were selected based on a good comparability of their definition in both sources.

Table 28. Comparison between Eurostat and British Petroleum data

BP variable	Eurostat variable	2014			
		BP	Eurostat	Differences	
				Absolute value	% in Eurostat data
Oil production	Primary production of Crude oil (Eurostat) + NGL (Eurostat)	67.2 Million tonnes	69.0 Million tonnes	1.8	2.6
Oil consumption	Total inland consumption + Total bunkers + Refinery Fuel and Loss – Return Streams from Petrochemical plants	591.2 Million tonnes	597.9 Million tonnes	6.7	1.1
Imports of crude oil and NGL	Imports of crude oil and NGL	582 182 thousand tonnes	533 068 thousand tonnes	49 114	9.2
Exports of crude oil and NGL	Exports of crude oil and NGL	116 768 thousand tonnes	101 583 thousand tonnes	15 185	14.9
Natural gas production	Primary production of Natural gas	117.4 Million toe	118.0 Million toe	0.6	0.5
Natural gas consumption	Gross inland consumption of gas	346.0 Million toe	343.9 Million toe	2.1	0.6
Imports of natural gas (pipeline+LGN)	Imports of natural gas (pipeline+LGN)	379.9 Billion cubic metres	384.9 Billion cubic metres	5	1.3
Exports of natural gas (pipeline+LGN)	Exports of natural gas (pipeline+LGN)	95.3 Billion cubic metres	113.7 Billion cubic metres	18.4	16.2
Coal production	Primary production of solid fuels	539.1 Million tonnes	539.1 Million tonnes	0.0	0.0
Coal consumption	Gross inland consumption of solid fuels	267.2 Million toe	268.5 Million toe	1.3	0.5
Nuclear consumption	Gross electricity generation (GEG) Nuclear Main activity electricity only + Main activity CHP plants	877.1 TWh	876.3 TWh	0.8	0.1
Hydroelectricity consumption	GEG Main activity electricity only Hydro + GEG Autoproducer electricity only Hydro - GEG Main activity electricity only Pumped Hydro - GEG Autoproducer electricity only Pumped Hydro	373.4 TWh	375.0 TWh	1.6	0.4

The main conclusion is that both sets of data are highly comparable, usually observing only small differences at EU level. The exception is trade data, both for oil and natural gas, where differences reach 16%. This highlights the problems linked to trade reporting, which were also underlined in the above sections.

7.1.2.2. Eurostat and various renewable energy associations

It is more challenging to compare data from associations, which are obtained from completely different sources (often from equipment manufacturers, industry associations, etc.). This exercise is conducted for several renewable energy associations.

It is worth mentioning that the definition of level 5 validation implies that there is no control on the methodology or definitions used by different entities. This could lead to visible differences, for example in the case of different definitions used for "installed capacity".

a. European Wind Energy Association (EWEA)

Data on installed wind capacity (MW) from this association, available in their website (http://www.ewea.org/statistics/european/), are compared in the table below with Eurostat data for year 2014.

Table 29. Comparison on installed wind capacity (MW) between EWEA and Eurostat

Country	Value from Eurostat	Value from EWEA	% difference
Belgium	1930	1959	1.5
Bulgaria	700	690.5	-1.36
Czech Republic	278	281.5	1.26
Denmark	4895	4845	-1.02
Germany	39193	39165	-0.07
Estonia	334	302.7	-9.37
Ireland	2211	2271.7	2.75
Greece	1978	1979.8	0.09
Spain	22975	22986.5	0.05
France	9068	9285	2.39
Croatia	339	346.5	2.21
Italy	8683	8662.9	-0.23
Cyprus	147	146.7	-0.2
Latvia	69	61.8	-10.43
Lithuania	288	279.3	-3.02
Luxembourg	58	58.3	0.52
Hungary	329	329.2	0.06
Malta	0		-
Netherlands	2865	2805	-2.09
Austria	2086	2095	0.43
Poland	3836	3833.8	-0.06
Portugal	4856	4914.4	1.2
Romania	3244	2953.6	-8.95
Slovenia	4	3.2	-20
Slovak Republic	3	3.1	3.33
Finland	627	627	0

Country	Value from Eurostat	Value from EWEA	% difference
Sweden	5097	5424.8	6.43
United Kingdom	12987	12440.3	-4.21

Taking into account the different data sources and methodologies, there seem to be an acceptable level of comparability between both datasets, with differences below 5%, except for Slovenia (where absolute values are very small), Latvia, Estonia, Romania and Sweden. There are no differences above 20% in any case.

b. Solar Power Europe

Data on installed photovoltaic capacity (MW) from this association, available in their website (http://www.solarpowereurope.org/home/), are compared in the table below with Eurostat data for year 2014.

Table 30. Comparison on installed photovoltaic capacity (MW) between Solar Power Europe and Eurostat

Country	Value from Eurostat	Value from Solar Power	% difference
Belgium	3024	3104	2.6
Bulgaria	1026	1022	-0.4
Czech Republic	2068	2134	3.2
Denmark	607	608	0.2
Germany	38234	38235	0
Estonia	0		-
Ireland	1		-
Greece	2596	2596	0
Spain	4787	5388	12.6
France	5654	5632	-0.4
Croatia	33	33	0
Italy	18609	18313	-1.6
Cyprus	64		-
Latvia	0		-
Lithuania	69		-
Luxembourg	110		-
Hungary	77		-
Malta	55	23	-58.2
Netherlands	1048	1042	-0.6
Austria	785	767	-2.3
Poland	27	34	25.9
Portugal	415	414	-0.2
Romania	1293	1223	-5.4
Slovenia	223		-
Slovak Republic	476	524	10.1
Finland	11		-
Sweden	60		-
United Kingdom	5372	5230	-2.6

Excluding the countries for which Solar Power Europe does not have data, the differences of data published by both sources are relatively small, always below 5% with the exception of Malta (58.2%), Poland (25.9%), Spain (12.6%) and Slovakia (10.1%). By far, the most significant difference

in absolute numbers is Spain.

c. International Hydropower Association (IHA)

Data on installed hydro capacity (MW) from this association, available in their website (https://www.hydropower.org/), are compared in the table below with Eurostat data for year 2014. Pumped hydro is excluded.

Table 31. Comparison on installed hydro capacity (MW) between International Hydropower Association and Eurostat

Country	Value from Eurostat	Value from IHA	% difference
Belgium	119	120	0.84
Bulgaria	2206	2265	2.67
Czech Republic	1080	1065	-1.39
Denmark	8	9	12.5
Germany	4424	4452	0.63
Estonia	5	8	60
Ireland	237	237	0
Greece	2690	2697	0.26
Spain	14076	13293	-5.56
France	18129	18382	1.4
Croatia	1900	1848	-2.74
Italy	14506	14325	-1.25
Cyprus	0		
Latvia	1590	1576	-0.88
Lithuania	117	116	-0.85
Luxembourg	34	34	0
Hungary	57	56	-1.75
Malta	0		-
Netherlands	37	37	0
Austria	8060	7968	-1.14
Poland	582	569	-2.23
Portugal	4299	4455	3.63
Romania	6256	6456	3.2
Slovenia	1116	1074	-3.76
Slovak Republic	1607	1606	-0.06
Finland	3248	3198	-1.54
Sweden	15897	16315	2.63
United Kingdom	1723	1690	-1.92
Norway	29802	28718	-3.64

Differences are small, always below 5%, with the exception of Estonia, Denmark and Spain. The only significant case among these three countries is Spain, because the absolute numbers in the other two are very low. On the other hand, although the difference in percentage for Norway is very small (3.6%), the difference in absolute installed capacity is high.

Overall, we can state that the differences between data from Eurostat and the analysed renewable energy associations are low and datasets from both sources are coherent.

7.2. Coherence – sub-annual versus annual

An interesting exercise is the comparison of aggregated Eurostat energy monthly data against Eurostat energy annual data for the flow and the same year.

Short-term statistics are not usually as accurate as annual ones. The reason is that timeliness plays against accuracy. For M-3 monthly data, Member States only have up to 3 months to collect and to process the requested information, while for annual statistics they have up to 11 months.

For annual statistics many Member States collect data from a very big proportion of the statistical population, often even covering 100%. Sometimes, this cannot be done for monthly statistics because of time and financial restraints. Therefore, it is often unavoidable that aggregated monthly statistics differ from annual statistics for those countries which do not build up annual statistics by aggregating monthly data.

Despite the above mentioned facts, it is interesting to compare both data sets to establish the level of agreement between the two. If a good agreement is given, no action is necessary; in case of big differences, the reason has to be found and corrective action should be implemented. Some Member States indicated in their quality reports that certain types of industries (e.g. small producers) are underrepresented for the collection of monthly statistics. This shows at least that they are aware of certain shortcomings which might affect monthly data collections.

The level of consistency between the two datasets depends on different factors:

- The way annual statistics are produced: if annual statistics are not based on separate surveys, but are based on the compilation of monthly data collections, then the agreement of the two data sets should be high.
- The number of providers: if it is small, then under-coverage in monthly surveys can be easily avoided. On the other hand, if this number is high, the level of agreement will be lower. There is no harmonised fixed acceptable maximum difference for the agreement between monthly and annual data.

This comparison between monthly and annual data is already carried out for several flows of all fossil fuels within the framework of the early CO_2 estimates annual exercise.

A single example has been reproduced here. The following table shows a comparison of aggregated monthly data [nrg_103m] against annual data [nrg_103a] for the year 2014 for gross inland consumption of natural gas in EU-28 countries.

Table 32. Gross inland consumption of natural gas (TJ - GCV) - aggregated monthly data against annual data for 2014

Countries	2014 annual data (A)	2014 aggregated monthly data (B)	Relative difference = [(B-A)/A*100]
European Union (28 countries)	15,951,323	16,038,719	0.5%
Belgium	586,118	578,598	-1.3%
Bulgaria	109,908	106,221	-3.4%
Czech Republic	287,592	287,317	-0.1%
Denmark	130,877	129,368	-1.2%
Germany	2,934,985	3,042,405	3.7%
Estonia	20,262	20,262	0.0%
Ireland	173,172	173,190	0.0%
Greece	115,570	115,314	-0.2%
Spain	1,100,956	1,101,056	0.0%
France	1,516,418	1,516,357	0.0%
Croatia	93,943	88,462	-5.8%
Italy	2,358,847	2,358,852	0.0%
Cyprus	0	0	-
Latvia	50,318	50,304	0.0%
Lithuania	96,041	95,730	-0.3%
Luxembourg	39,414	39,224	-0.5%
Hungary	324,785	324,618	-0.1%
Malta	0	0	-
Netherlands	1,351,762	1,352,961	0.1%
Austria	299,813	296,802	-1.0%
Poland	623,574	624,820	0.2%
Portugal	161,580	166,555	3.1%
Romania	435,628	449,656	3.2%
Slovenia	29,122	29,157	0.1%
Slovakia	175,489	148,059	-15.6%
Finland	117,049	115,651	-1.2%
Sweden	36,939	36,939	0.0%
United Kingdom	2,781,161	2,790,841	0.3%
Norway	229,780	171,480	-25.4%
Turkey	1,870,315	1,861,748	-0.5%

As observed, annual and monthly data for natural gas are overall very coherent, with only some small differences in data, usually under 5%. Only Norway (25.4%) and Slovakia (15.6%) show higher differences. For Bulgaria, when the country started to report transited gas a specific case occurred related to difference in measuring at Entry and Exit points. Therefore in MOS Gas there is a difference between Gross inland consumption (Calculated) and Gross inland consumption (Observed). It was

noted with the first new MOS Gas reporting in January 2013, Remarks, p.2 and this explanation was accepted by Eurostat. Therefore this has been taken into account in the summary table.
More significant is the fact that several countries show exactly the same number (a 0.0% difference). This could be the result of using monthly statistics to build up annual statistics (because the country produces reliable monthly statistics, which wouldn't require in principle any improvement measures). But it could also be the result of retrospectively correcting monthly statistics with annual data (because national monthly statistics are not good enough). In the latter case, actions should be taken at national level to improve monthly statistics.

The following table repeats the exercise for crude oil.

Table 33. Gross inland consumption of crude oil (thousand tonnes) - aggregated monthly data against annual data for 2014

Countries	2014 annual data (A)	2014 aggregated monthly data (B)	Relative difference = [(B-A)/A*100]
European Union (28 countries)	550,313	549,637	-0.1%
Belgium	32,121	32,123	0.0%
Bulgaria	5,154	5,132	-0.4%
Czech Republic	7,476	7,476	0.0%
Denmark	6,917	6,909	-0.1%
Germany	91,591	91,654	0.1%
Estonia	0	0	-
Ireland	2,752	2,752	0.0%
Greece	20,691	20,690	0.0%
Spain	59,029	59,030	0.0%
France	54,647	54,442	-0.4%
Croatia	2,389	2,347	-1.8%
Italy	58,981	58,904	-0.1%
Cyprus	0	0	-
Latvia	0	0	-
Lithuania	7,497	7,496	0.0%
Luxembourg	0	0	-
Hungary	6,530	6,524	-0.1%
Malta	0	0	-
Netherlands	49,779	49,818	0.1%
Austria	8,435	8,372	-0.7%
Poland	24,132	24,133	0.0%
Portugal	10,792	10,813	0.2%
Romania	10,318	10,373	0.5%
Slovenia	0	0	-
Slovakia	5,220	5,250	0.6%
Finland	11,349	10,888	-4.1%
Sweden	18,839	18,839	0.0%
United Kingdom	55,674	55,672	0.0%
Norway	13,141	17,313	31.7%
Turkey	19,865	19,865	0.0%

As observed, annual and monthly data for crude oil are even more coherent, with only some small differences in data, usually under 1%. Only Norway (31.7%) shows a significant difference. We observe again the case where several countries show exactly the same number (a 0.0% difference). As in the previous case, if this is the result of retrospectively correcting monthly statistics with annual data (because national monthly statistics are not good enough), actions should be taken at national level to improve monthly statistics.

Natural gas and crude oil have been selected for its importance in the energy mix. The aggregated monthly data for these two fuels are very coherent with annual data. On the other hand, for other fuels (e.g. solid fuels) the comparison might be significantly worse. For that reason, the fuel lignite/brown coal (the most important solid fuel at EU level) is selected for the next analysis, as indicated in the following table.

Table 34. Gross inland consumption of lignite + sub-bituminous coal (in thousand tonnes) - aggregated monthly data against annual data for 2014

Countries	2014 annual data (A)	2014 aggregated monthly data (B)	Relative difference = [(B-A)/A*100]
European Union (28 countries)	406,926	421,500	3.58%
Belgium	0	0	-
Bulgaria	31,440	31,225	-0.68%
Czech Republic	38,350	38,660	0.81%
Denmark	0	0	-
Germany	176,956	177,042	0.05%
Estonia	0	20,254	*Note* [8]
Ireland	0	1	-
Greece	51,878	49,023	-5.50%
Spain	2,170	1,694	-21.94%
France	153	161	5.23%
Croatia	46	44	-4.35%
Italy	478	0	*Note* [9]
Cyprus	0	0	-
Latvia	0	0	-
Lithuania	1	0	-
Luxembourg	0	0	-
Hungary	9,382	9,381	-0.01%
Malta	-	0	-
Netherlands	31	47	51.61%
Austria	98	94	-4.08%
Poland	63,845	63,793	-0.08%
Portugal	0	0	-
Romania	26,074	24,406	-6.40%
Slovenia	3,573	3,157	-11.64%
Slovakia	2,451	2,518	2.73%
Finland	0	0	-
Sweden	0	0	-

[8] Estonia misclassified this amount of solid fuels and included it in different categories in monthly and annual. Whereas in monthly it is classified as lignite/brown coal, in annual it appears as oil shale and oil sands". For this reason, a sad smiley is included in the summary table.

[9] For Italy, it seems that there is also a misclassification issue for solid fuels, included in different categories in monthly and annual. However, in this case it is not so straightforward to see where the misclassification takes place. For this reason, a sad smiley is included in the summary table.

Countries	2014 annual data (A)	2014 aggregated monthly data (B)	Relative difference = [(B-A)/A*100]
United Kingdom	0	0	-
Norway	0	0	-

Turkey is excluded from this analysis because it is not reporting monthly data on solid fuels to Eurostat.

As observed, annual and monthly data for lignite/brown coal can still be considered as coherent, with differences still remaining in an acceptable range. Cases where differences are very high are nevertheless not significant in terms of amount. For the particular case of the Netherlands, the flow of brown coal is irrelevant in their overall statistics and therefore it has not been evaluated in the summary table.

We can conclude that annual-monthly coherence is overall very good. However, if this is the result of retrospectively correcting monthly statistics with annual data (because national monthly statistics are not good enough), actions should be taken at national level to improve monthly statistics.

Annex 10 displays a table with a more detailed analysis of monthly versus annual data for 2014 including more fuels and more flows (only for information, they are not used in this report for analytic purposes). Among other reasons, the classification and grouping done in Table 34 to facilitate comparison of monthly versus annual is not done in Annex 10.

7.3. Coherence – internal consistency

When originating from a single source, statistics are normally coherent in the sense that elementary results derived from the concerned survey can be reliably combined in numerous ways to produce more complex results. For this reason, checks of coherence in the area of energy statistics are difficult, since there is a high degree of normalisation among the energy-data producers. More particularly, Eurostat collaborates on methodological issues with the following international organisations: IEA (International Energy Agency), International Energy Forum (IEF), the Energy Community, UN Statistical Commission, IRENA (International Renewable Energy Agency), Asia Pacific Economic Cooperation (APEC), Latin-American Energy Organisation (OLADE), Organization of Petroleum Exporting Countries (OPEC) and United Nations Statistics Division (UNSD). This means that in most of the cases data are fully comparable and in the most important cases joint questionnaires between Eurostat, IEA and UN are used. Eurostat verifies to the extent possible if the reported data respect the prescribed methodology. The underlying data collection methods are however the responsibility of countries providing data. The methodology is harmonised for all EU and OECD countries, thus including major world economies such as Australia, Canada, Japan, Korea and United States.

7.4. Comparability – geographical

When different countries report on the same statistical variable, it is very interesting to observe how close the observations are. In the energy domain, the most significant possibility to assess geographical comparability is the trade mirroring exercise, where flows of an energy commodity reported by the importing country can be compared with its counterpart reported by the exporting country. In the Energy Statistics Regulation (Annex A, 2.1.4), unless specified differently, 'imports' refer to ultimate origin (the country in which the energy product was produced) for use in the country and 'exports' refer to the ultimate country of consumption of the produced energy product. The table below presents the 20 most important asymmetries (in TJ – absolute value) for statistical mirror flows on imports/exports for year 2014 indicating the related pairs of countries. All these asymmetries concern Natural gas.

Table 35. Most important asymmetries (including missing partners) in the trade mirroring exercise for reference year 2014

Product	Country of export	Country of import	Value reported by the country of export	Value reported by the country of import	Absolute difference
4100 - Natural gas in TJ (GCV)	Norway	Germany	1 765 974	811 005	954 969
4100 - Natural gas in TJ (GCV)	Norway	Netherlands	34 324	562 108	527 784
4100 - Natural gas in TJ (GCV)	Bulgaria	Turkey	0	490 769	490 769
4100 - Natural gas in TJ (GCV)	Norway	Belgium	575 134	216 103	359 031

Product	Country of export	Country of import	Value reported by the country of export	Value reported by the country of import	Absolute difference
4100 - Natural gas in TJ (GCV)	Netherlands	Germany	749 442	1 093 730	344 288
4100 - Natural gas in TJ (GCV)	Norway	France	612 368	825 171	212 803
4100 - Natural gas in TJ (GCV)	Spain	Portugal	113 178	0	113 178
4100 - Natural gas in TJ (GCV)	Norway	Spain	59 039	169 237	110 198
4100 - Natural gas in TJ (GCV)	United Kingdom	Belgium	173 066	64 509	108 557
4100 - Natural gas in TJ (GCV)	Germany	Ukraine	0	104 636	104 636
4100 - Natural gas in TJ (GCV)	Norway	Italy	0	101 575	101 575
4100 - Natural gas in TJ (GCV)	Belgium	France	26 405	119 771	93 366
4100 - Natural gas in TJ (GCV)	Germany	Poland	0	90 034	90 034
4100 - Natural gas in TJ (GCV)	Netherlands	Belgium	354 556	281 118	73 438
4100 - Natural gas in TJ (GCV)	Germany	Italy	0	64 427	64 427
4100 - Natural gas in TJ (GCV)	United Kingdom	Netherlands	67 866	121 923	54 057
4100 - Natural gas in TJ (GCV)	Netherlands	Italy	300 783	248 793	51 990
4100 - Natural gas in TJ (GCV)	Norway	United Kingdom	1 009 027	961 348	47 679
4100 - Natural gas in TJ (GCV)	Germany	Netherlands	0	42 708	42 708
4100 - Natural gas in TJ (GCV)	Austria	Italy	0	40 157	40 157

The fact that all main asymmetries in trade relate to natural gas is a consequence both of the big amounts traded and the difficulty to trace the trading operations. The most important cases concern Norway, Germany, The Netherlands, Bulgaria, Turkey, Belgium, France, Spain and Portugal. A clear recommendation to countries is to put in place better bilateral communication mechanisms to improve trade reporting. One remark should be done on the third case between Bulgaria and Turkey, where it is evident that Turkey data are not accurate.

If we exclude Natural gas, the table below presents the 20 most important asymmetries for statistical mirror flows on imports/exports for year 2014 for the rest of products, indicating the related pairs of countries.

Table 36. Most important asymmetries (including missing partners) in the trade mirroring exercise for reference year 2014 (excluding Natural gas)

Product and unit	Country of export	Country of import	Value reported by the country of export	Value reported by the country of import	Absolute difference
2117 - Other Bituminous Coal in thousand tonnes	Netherlands	Germany	27 273	0	**27 273**

Product and unit	Country of export	Country of import	Value reported by the country of export	Value reported by the country of import	Absolute difference
3105 - Crude Oil in thousand tonnes	Norway	Netherlands	19 404	8 353	**11 051**
3105 - Crude Oil in thousand tonnes	Norway	Germany	7 345	15 183	**7 838**
3105 - Crude Oil in thousand tonnes	United Kingdom	Netherlands	10 959	4 436	**6 523**
6000 – Electricity in Gigawatt-hour	Denmark	Germany	4 649	0	**4 649**
6000 – Electricity in Gigawatt-hour	Germany	Denmark	0	3 826	**3 826**
6000 – Electricity in Gigawatt-hour	Bulgaria	FYROM	3 410	0	**3 410**
3106 - Natural Gas Liquids	Belgium	Netherlands	:	3 393	**3 393**
6000 – Electricity in Gigawatt-hour	Romania	Hungary	4 634	1 269	**3 365**
3105 - Crude Oil in thousand tonnes	United Kingdom	Germany	6 523	9 727	**3 204**
6000 – Electricity in Gigawatt-hour	Romania	Bulgaria	1 144	4 233	**3 089**
6000 – Electricity in Gigawatt-hour	Austria	Germany	4 118	7 144	**3 026**
3105 - Crude Oil	Norway	Belgium	1	2 727	**2 726**
6000 - Electricity	FYROM	Greece	0	2 630	**2 630**
6000 - Electricity	Estonia	Latvia	6 390	3 806	**2 584**
6000 - Electricity	Germany	Austria	15 679	13 143	**2 536**
6000 - Electricity	Slovakia	Ukraine	2 440	0	**2 440**
3250 - Naphta	Netherlands	Belgium	2 702	383	**2 319**
2117 - Other Bituminous Coal	Netherlands	Belgium	2 253	0	**2 253**
6000 - Electricity	Norway	Sweden	12 067	9 856	**2 211**

The table shows that the main affected countries are again The Netherlands, Norway, Germany and Denmark. In particular, Norway appears in the main cases involving crude oil, due to the high volumes traded by this country. Especially significant is the case for other bituminous coal between The Netherlands and Germany, where Germany is reporting imports for use, while The Netherlands is reporting exports according to trade principles, therefore causing an asymmetry. A proposal to improve this reporting asymmetry has been proposed by the Netherlands and accepted by Eurostat. Therefore, this discrepancy should disappear in the future.

7.5. Comparability – over time

In this section the evolution over time of one of the main energy aggregates (gross inland consumption) is displayed. As mentioned above, plausibility checks and validation of time series are one of the key components of the normal data validation cycle and Eurostat frequently requests corrections, clarifications and further explanations from reporting countries in relation to the plausibility of time series.

The following two figures display the evolution over time of the gross inland consumption of all fuels. Countries have been split in two graphs with the only reason to facilitate readability.

Figure 7. Gross inland consumption of all fuels (1)

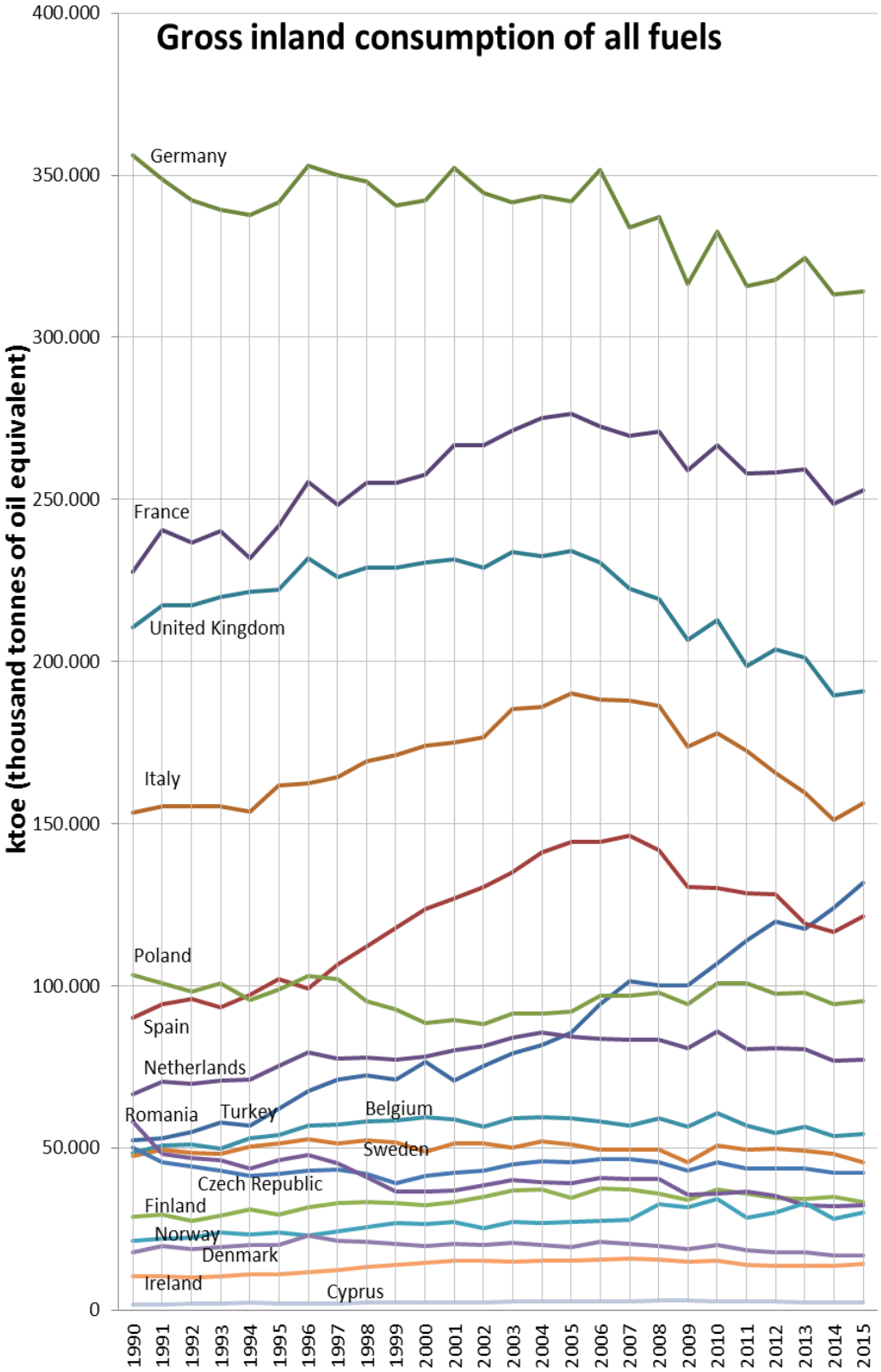
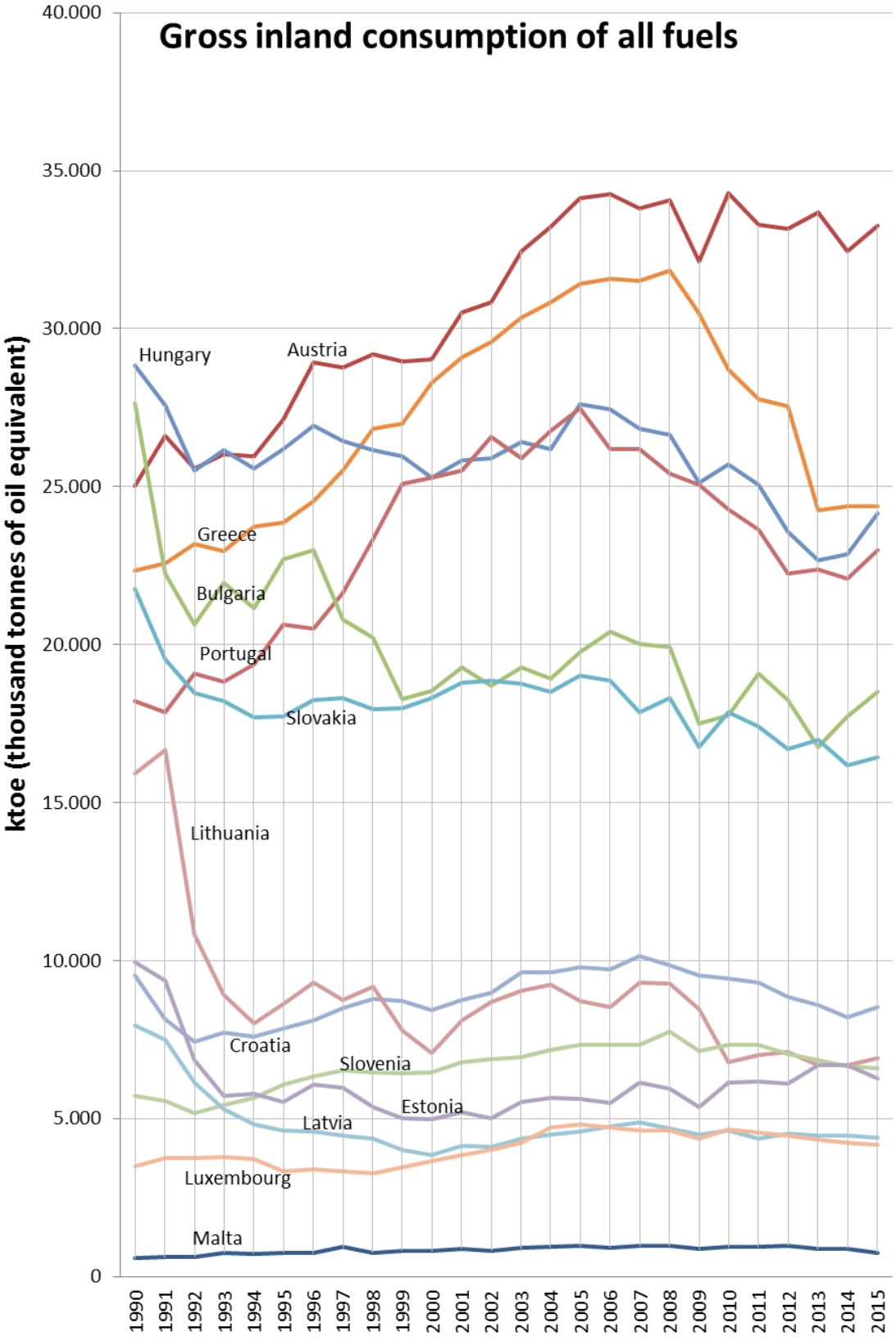


Figure 8. Gross inland consumption of all fuels (2)



As observed, the evolution over time of gross inland consumption is related to the economic situation of the countries. The short-term shape of the

curves reflects the situation of energy supply in a country, with peaks and downs depending on the annual level of industrial activity and other related factors. The long-term evolution of the gross inland consumption reflects the results of the strategic choices of the countries in the energy area (e.g. energy intensity of the industrial sector, adoption of energy efficiency measures, etc.). No particular country assessment is made in this report in relation to the evolution of gross inland consumption over time. Eurostat assesses the evolution of each variable for each fuel and each single country when performing the validation checks and selecting the content of the communication and requests for clarifications/corrections exchanged with countries within the framework of the regular data validation cycles.

8. SUMMARY

This report shows summarised information and conclusions as regards European energy statistics data quality, using the information included in the quality reports sent by individual Member States to Eurostat in 2016 (for reference year 2014), in addition to other sources, like metadata information, websites of individual countries and other organisations, as well as data from the public free data set maintained by Eurostat.

European energy statistics are analysed according to the main quality components defined in the ESS, which are relevance, accuracy, timeliness and punctuality, accessibility and clarity, comparability and coherence.

This section presents a summary table offering an overview of the results of each country as regards the analysis carried out in this report in relation to each quality component.

The table below shows an approximate evaluation of each country by means of happy, neutral or sad smileys. These smileys reflect exclusively the results of the analysis carried out in this report (with the limitations of the quality reporting exercise), which are based on the information provided by countries in their quality reports and that from the Eurostat database. Sad smileys should be understood as a point to be investigated further. The analysis is not exhaustive and cannot cover the characterisation of every quality component for every data point. The thresholds used to display the appropriate smiley in each case are indicated in Annex 11. Although they have been selected in order to offer a balanced distribution of the smileys they are subject to a certain degree of subjectivity. Different results would have been obtained if different analysis had been carried out or if different thresholds had been selected.

For this reason, the sole purpose of the table is to offer a visual overview and is not intended to be taken as a basis for drawing detailed conclusions as regards the data quality of each country. Please note that non-evaluated cells are indicated as "--" (because of non-applicable, fuel not used in the country, lack of information or other factors, like 0.0 differences in case where a certain difference is to be expected, e.g. statistical difference or monthly vs annual). Please note that sad smileys are displayed only if the criteria described in Annex 11 apply and only if there is no clear explanation or justification for the result explained in the report. When a country transmitted a valid and logic justification for a certain result in the analysis, no red smiley has been displayed.

The total number of green happy smileys is 563 (72.4% of the total), while there are 89 black neutral smileys (11.4%) and 65 red sad smileys (8.4%). 61 cells remained blank (7.8%).

Table 37. Summary table (see below for the title of each column and in Annex 11 for the methodology)

Country	1	2	3											4		5					6		7			
			3.1					3.2	3.3					4.1	4.2	5.1	5.2	5.3	5.4	5.5	6.1	6.2	7.1	7.2	7.3	7.4
			3.1.1	3.1.2	3.1.3	3.1.4	3.1.5		3.3.1	3.3.2	3.3.3	3.3.4	3.3.5													
BE	😐	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	☺	☹	☹	☺	☺	☺	☺	☺	☹	☹	☺	--	--	☹
BG	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	😐	☺	☺	☹	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐
CZ	☺	☺	☺	☺	☺	--	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	--	☺	☺
DK	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	😐	☺	😐	☹	😐	😐	☹	☺	☺	☺	☺	--	😐
DE	☹	😐	☺	☺	☺	--	☺	☺	☺	☺	☺	☺	☺	😐	😐	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	☹
EE	☺	☺	☹	☺	☺	--	--	☺	☹	😐	😐	☺	☺	☹	☺	☺	☺	☺	☺	☺	☺	☺	--	--	☹	😐
IE	😐	☺	😐	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺	☺	☺	☹	☹	--	--	--	☺
EL	☺	😐	😐	☺	☺	☺	☺	☺	😐	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☹	☺	--	☹	😐
ES	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	☺	☺	☺	☺	☺	☹	--	--	☹	😐
FR	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	😐	☺	☺	☺	☺	--	☺	☹	😐
HR	☺	☺	☺	☺	--	--	☺	☺	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺	☺	☺	☺	☹	☺	😐	☺
IT	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	☺	☹	😐	☺	☺	☺	☺	☺	☺	☺	--	☺	☹	☹
CY	😐	☺	😐	☺	--	☺	☺	☺	☺	☹	☺	--	☺	😐	😐	☺	☺	☺	☺	☺	☹	☹	--	--	--	☺
LV	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	☺	☺	☺	😐	☺	☺	☺	☺	☺	☺	☺	--	--	--	😐
LT	☺	☺	☺	☺	☺	--	☺	☺	☺	😐	😐	☺	☺	☺	😐	☺	☺	☺	☺	☺	☺	☺	☺	--	--	☺
LU	☺	☺	☺	☺	--	☺	--	☺	☺	☺	☺	☺	☺	😐	😐	☺	☺	☺	☺	☺	☹	☹	☺	--	--	☺
HU	😐	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	😐	😐	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐
MT	☺	😐	☺	😐	--	--	☺	☺	☹	--	😐	--	☺	☹	😐	--	☺	☹	☺	☺	☹	☹	--	--	--	☺
NL	☺	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺	☺	☺	☹	😐	😐	😐	😐	😐	☺	☺	☺	☺	--	☹
AT	☺	☺	☺	☺	☺	--	☺	☺	😐	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐	😐
PL	☹	☺	☺	☺	☺	☺	☺	☺	😐	☺	😐	☺	☺	☹	😐	☺	☺	☺	☺	☹	☺	☺	☺	--	☺	😐
PT	☺	☺	☺	☺	☺	--	☺	☺	☺	☺	☺	☺	☺	☹	😐	☺	☺	☺	☺	☺	☺	☺	😐	☺	--	😐
RO	😐	☺	😐	😐	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☹	😐
SI	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	--	☹	☺
SK	☹	😐	☺	😐	☺	☺	☺	☺	😐	☺	☺	😐	☺	☺	😐	☺	☺	☺	☺	☹	☺	☹	☹	☺	☺	😐
FI	☺	☺	☺	😐	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺	😐	--	☺
SE	☺	☺	😐	😐	😐	☺	☺	☺	☺	☹	☺	☺	☺	☺	☺	☺	☺	☹	😐	☺	☺	☺	--	--	--	😐
UK	☹	☺	☺	☺	☺	☺	☺	☺	☺	😐	☺	☺	☺	☺	☺	☺	☺	☹	☺	☺	☺	☺	☺	--	--	☹
NO	--	☺	☹	☹	☹	☺	☺	☺	☺	☺	☺	☺	☺	😐	--	☺	☺	☺	☺	☺	☺	☺	☹	☹	--	☹
TR	--	☺	☺	☺	☺	--	☺	☺	☺	☺	☺	☺	☺	😐	--	☺	☺	☺	☹	☺	☺	☺	☺	--	--	😐

Below are the captions of the summary table (the title of each column):

(1) Completeness (3.2.1 and 3.2.2)
(2) Knowledge of nature and main causes of errors (Annex 4)
(3) Accuracy
(3.1) Analysis of the statistical difference
(3.1.1) All products – 0000 (Table 10)
(3.1.2) Oil and petroleum products – 3000 (Table 12)
(3.1.3) Gas – 4000 (Table 12)
(3.1.4) Electricity – 6000 (Table 12)
(3.1.5) Renewables – 5500 (Table 12)
(3.2) Statistical pull (Table 11)
(3.3) Long-term variation of stock changes
(3.3.1) All products – 0000 (Table 13)
(3.3.2) Solid fuels – 2000 (Table 13)
(3.3.3) Oil and petroleum products – 3000 (Table 13)
(3.3.4) Gas – 4000 (Table 13)
(3.3.5) Renewables – 5500 (Table 13)
(4) Data revisions
(4.1) Percentage of national data collections covered by a data revision policy (Table 18)
(4.2) Evolution of gross inland consumption for all fuels for reference year 2005 (Table 21)
(5) Punctuality: transmissions of 2014 annual data collections to Eurostat
(5.1) Solid fuels (Table 24)
(5.2) Electricity and heat (Table 24)
(5.3) Natural Gas (Table 24)
(5.4) Oil and petroleum products (Table 24)
(5.5) Renewables and wastes (Table 24)
(6) Accessibility and clarity
(6.1) Availability of national methodology documentation (Annex 8)
(6.2) Availability of national metadata (Annex 9)
(7) Comparability and coherence
(7.1) Monthly versus annual natural gas (Table 32)
(7.2) Monthly versus annual crude oil (Table 33)
(7.3) Monthly versus annual brown coal (Table 34)
(7.4) Geographical – trade mirroring (Table 35 and Table 36)

9. CONCLUSIONS AND RECOMMENDATIONS

The various analyses carried out in this report allow us to draw some conclusions and propose recommendations at different levels:

For Eurostat:

- Carry out a detailed evaluation of completeness of the statistical outputs by comparing transmitted data with requirements laid down in Regulation (EC) 1099/2008.
- Publish the information received in the national quality reports in the form of metadata. Once the information is available, countries should complete it where necessary. In the meantime, explore the possibility to publish the national quality reports in a different format in the website.
- Improve and extend the availability of metadata for annual energy statistics, including ESMS sheets for imports and exports.
- Asses periodically the use of administrative sources in energy statistics.
- Investigate cases with confidential data on an individual basis to assess whether they comply with principles set up in Regulation (EC) No 223/2009
- Implement quantitative evaluation of the accuracy (confidence intervals) of gross inland consumption, energy available for final consumption and final energy consumption at EU level for the next quality reporting cycle. This quantitative characterisation of the main balance aggregates at European level is needed in order to know how accurate energy statistics are.
- Create clear instructions/procedures on the validation checks that are to be carried out at each level (countries and Eurostat, as defined by the ESS policy on shared-validation).

For countries:

- Complete missing information (e.g. characterisation of national surveys) when national quality reports are available via ESS Metadata Handler.
- Develop a revision policy that should be consistent with the one adopted at European level (for countries not having done it yet).
- Develop quality/methodology or metadata systems in order to improve the clarity of national energy statistics (for countries not having done it yet).
- The specific cases mentioned on completeness, revisions, high statistical differences and all cases where a red smiley is given in Table 37 should be further investigated by countries.
- Analyse how to improve monthly statistics if they are retrospectively corrected to match annual data.
- For the next quality reporting cycle, analyse how to move towards a better quantitative evaluation of the accuracy of the main balance aggregates (e.g. gross inland consumption, energy available for final consumption and final energy consumption) at national level (e.g. by estimating the accuracy of certain variables with standard confidence intervals).

In summary, the second energy statistics quality reporting exercise aimed at obtaining more comparable information on the way statistics are collected and compiled by Member States, as well as how they are used and linked to the statistical processes at European level. Interesting information has been transmitted by countries, which should be made publicly available and completed more in detail afterwards. The next quality reporting cycle should focus on a more quantitative evaluation of the quality of statistical outputs at European level.

ANNEX 1. MAPPING NATIONAL DATA SOURCES VS EUROSTAT DATASETS

Table 38. Data collections (data sources) at national level and their contribution to Eurostat data collections

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
		ENERGY_SOLID_A	ENERGY_ELECT_A	ENERGY_NTGAS_A	ENERGY_PETRO_A	ENERGY_RENEW_A	ENERGY_NUCLEAR_A	ENERGY_SOLID_M	ENERGY_ELEC3_M	ENERGY_MOSGAS_M	ENERGY_MOSOIL_M	ENERGY_SEGELE_M	ENERGY_SEGGAS_M	ENERGY_JODIOIL_M
BE	Energy data collection at regional institutions	X	X	X		X								
BE	Annual gas data collection for transport			X										
BE	Monthly gas data collection			X						X			X	
BE	Annual derived coal products questionnaire	X												
BE	Monthly coal questionnaire	X						X						
BE	Annual data collection nuclear industry						X							
BE	Short term electricity - injections + import and export								X			X		
BE	Data collection CSO tickets and strategic stocks										X			
BE	Monthly electricity production		X				X		X					
BE	Biobalance				X	X					X			
BE	Monthly oil questionnaire				X						X			X
BG	Electricity, heat, natural gas, solid and liquid fuels supplied to end-users			X										
BG	Supply of biofuels					X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
BG	Fuels and energy consumption	X	X	X	X	X								
BG	Statistics on nuclear energy						X							
BG	Characteristics of solar collectors					X								
BG	Balance of Energy Transformation Processes - Briquettes	X												
BG	Balance of Energy Transformation Processes - Petroleum products			X	X									
BG	Realization of energy products	X	X	X	X	X								
BG	Questionnaire for electricity and heat production	X	X	X		X								
BG	Monthly Electricity Questionnaire								X			X		
BG	Monthly Natural Gas Questionnaire			X						X			X	
BG	Monthly Oil and Petroleum Products Questionnaire										X			X
BG	Monthly Solid Fuels Questionnaire	X						X						
CZ	Les 8-01					X								
CZ	ENERGO					X								
CZ	Eng (MPO) 6—12 Monthly questionnaire — liquid biofuels													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
CZ	Eng (MPO) 5—01, Annual questionnaire — production and supply of electricity, heat and gases													
CZ	Eng (MPO) 4—01, Annual questionnaire — Renewables and wastes					X								
CZ	Eng (MPO) 1—12, Monthly questionnaire — solid fuels							X						
CZ	Monthly Statistical Form on Crude Oil, Petroleum Products and Biofuels for Business, Stockkeeping and Consumer Organizations (EPS 1-12)				X						X			X
CZ	Monthly Statistical Form on Crude Oil, Petroleum Products and Biofuels for Refineries and Petroleum Products Manufacturers (EPR 1-12)				X						X			
CZ	Annual Statistical Form on Fuels an Energy Consumption for Production of Selected Products (EP 9-01)		X	X										
CZ	Annual Statistical Form on Energy Processes at Fuels Transformation (for fuels upgrading) (EP 8-01)	X	X	X	X									

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
CZ	Annual Statistical Survey on Fuels and Energy Consumption and Fuels Stocks (EP 5-01)	X	X	X	X	X								
CZ	Annual Statistical Form for Survey on Generation and Distributution of Energy and Heat (EP 10-01)	X	X		X									
CZ	Annual Statistical Form on Fuels Sources and Distribution (EP 7-01)	X		X										
DK	Consumption at power plants							X	X	X		X		
DK	Annual production and consumption of biogas outside the transformation sector (and autoproducers delivering to grid)													
DK	Annual consumption of straw and wood chips outside the transformation sector													
DK	Annual survey on heat pumps													
DK	Annual survey on solar heat		X											
DK	Annual survey on biodiesel													
DK	Monthly gas works gas survey													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
DK	Annual electricity end use survey													
DK	Annual electricity and heat survey (delivering to grid)	X	X	X	X	X								
DK	Monthly electricity survey		X			X			X			X		
DK	Annual coal and coke end use survey	X												
DK	Monthly coal and coke survey	X						X						
DK	Annual natural gas end use survey			X										
DK	Monthly natural gas, North Sea			X						X			X	
DK	Monthly natural gas survey supply									X			X	
DK	Oil end use survey				X									
DK	Monthly oil survey				X						X			X
DK	Survey of energy consumption for manufacturing companies													
DK	Wood pellet survey													
DK	Fire wood survey													
DE	Monatserhebungen in der Kohlenwirtschaft							X						
DE	Statistische Zahlen der deutschen Solarwärmebranche					X								
DE	EEG-Jahresabrechnung (EEG-Mengentestat) / "EEG in Zahlen"					X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
DE	Erhebung des Energieverbrauchs privater Haushalte für die Jahre 2011-2013					X								
DE	Amtliche Mineralöldaten für die Bundesrepublik Deutschland				X	X					X			X
DE	Der Kohlenbergbau in der Energiewirtschaft der Bundesrepublik Deutschland	X												
DE	BDEW-Strombilanz		X											
DE	(083) Erhebung über Stromabsatz und Erlöse der Elektrizitätsversorgungsunternehmen und Stromhändler													
DE	(082P) Erhebung über Abgabe, Ein- und Ausfuhr von Erdgas und Erdölgas sowie Erlöse der Produzenten			X										
DE	(082) Erhebung über Aufkommen, Abgabe, Ein- und Ausfuhr von Gas sowie Erlöse der Gasversorgungsunternehmen und der Gashändler			X										
DE	(075) Erhebung über die Abgabe von Flüssiggas													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
DE	(073) Erhebung über Gewinnung, Verwendung und Abgabe von Klärgas													
DE	(070) Erhebung über die Stromeinspeisung bei Netzbetreibern		X											
DE	(067) Erhebung über Stromerzeugungsanlagen der Betriebe des Verarbeitenden Gewerbes sowie des Bergbaus und der Gewinnung von Steinen und Erden	X	X		X									
DE	(063) Erhebung über Biotreibstoffe					X								
DE	(062) Erhebung über Geothermie													
DE	(060) Erhebung über die Energieverwendung der Betriebe des Verarbeitenden Gewerbes sowie des Bergbaus und der Gewinnung von Steinen und Erden	X	X	X	X	X								
DE	(069) Erhebung über Aufkommen, Verwendung und Abgabe von Erdgas und Erdölgas der Produzenten													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
DE	(064) Erhebung über Erzeugung, Bezug, Verwendung und Abgabe von Wärme		X	X										
DE	(068) Monatsbericht über die Gasversorgung									X				
DE	BDEW-Schnellstatistik								X					
DE	(066K) Monatsbericht über die Elektrizitäts und Wärmeerzeugung der Stromerzeugungsanlagen für die allgemeine Versorgung	X	X	X	X	X	X		X	X				
DE	(066N) Monatsbericht über die Elektrizitätsversorgung der Netzbetreiber													
EE	Energy consumption and production, annual statistics	X	X	X	X	X								
EE	Energy consumption and production, short term statistics							X	X	X	X	X	X	X
IE	Electricity in Transport													
IE	Solar PV		X			X								
IE	Non Energy Fuels				X									
IE	Heat Pumps													
IE	Other Biogas													
IE	Landfill Gas													
IE	Biofuels					X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
IE	Wind Autoproducers		X			X								
IE	Solar New Builds					X								
IE	Solar Thermal Upgrades					X								
IE	Municipal and Other Waste					X								
IE	Wood Waste					X								
IE	Wood Fuel Suppliers					X								
IE	Combined Heat and Power			X										
IE	Annual Gas			X										
IE	Electricity Consumption		X											
IE	Electricity Generation	X	X			X			X					
IE	Monthly Gas			X						X			X	
IE	Oil				X						X			X
IE	Solid Fuel	X			X			X						
IE	Electricity Supply	X	X	X		X			X			X		
EL	short term monthly oil													X
EL	short term monthly natural gas												X	
EL	short term monthly electricity survey											X		
EL	Annual rewenables survey					X								
EL	Annual oil survey				X									
EL	Annual natural gas survey			X										
EL	Annual solid survey	X												
EL	Annual electricity survey		X											
EL	Monthly oil statistics										X			
EL	Monthly natural gas survey									X				
EL	Monthly solid survey							X						

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
EL	Monthly electricity survey								X					
EL	short term monthly oil													X
EL	short term monthly natural gas												X	
EL	short term monthly electricity survey											X		
EL	Annual rewenables survey					X								
EL	Annual oil survey				X									
EL	Annual natural gas survey			X										
EL	Annual solid survey	X												
EL	Annual electricity survey		X											
EL	Monthly oil statistics										X			
EL	Monthly natural gas survey									X				
EL	Monthly solid survey							X						
EL	Monthly electricity survey								X					
ES	Monthly foreign trade							X						
ES	Statistics of coal production (Monthly)							X						
ES	Annual foreign trade	X												
ES	Statistics of coal production (Annual)	X												
ES	Thermal renewable energy statistics					X								
ES	Estadística de la Industria de Gas Natural (anual)	X		X										

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
ES	ESTADÍSTICA DE COMERCIALIZADORAS DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA (anual)		X											
ES	ESTADÍSTICA DE PRODUCTORAS (MENSUAL) DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA								X					
ES	ESTADÍSTICA DE PRODUCTORAS (anual) DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA	X	X	X		X								
ES	Estadística de destilación de carbones (mensual)							X						
ES	Estadística de destilación de carbones (anual)	X												
ES	Production of fresh fuel elements													
ES	Production of nuclear heat													
ES	Annual average burnup of discharged fuel elements													
ES	AOS				X									
ES	RESOLUCION PRODUCTOS PETROLIFEROS				X	X					X			X
ES	RESOLUCION GAS NATURAL			X						X				

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
FR	Collecte annuelle sur les consommations de produits pétroliers dans les armées													
FR	Collecte annuelle sur l'industrie nucléaire						X							
FR	Collecte mensuelle sur les livraisons de produits pétroliers				X									X
FR	Collecte mensuelle sur les stocks et la production de pétrole brut				X						X			X
FR	Collecte mensuelle auprès des raffineries				X						X			X
FR	Enquête Logement				X	X								
FR	Collecte annuelle relative aux données des obligations d'achat dans le secteur de l'électricité		X			X								
FR	Collecte mensuelle auprès des acteurs du secteur du gaz			X						X			X	
FR	Collecte mensuelle auprès des acteurs du secteur de l'électricité	X						X	X			X		
FR	Enquête mensuelle "Combustibles minéraux solides"	X						X						
FR	Enquête annuelle sur les ventes de GPL													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
FR	Enquête annuelle sur les ventes de produits pétroliers				X									
FR	Enquête annuelle sur l'activité de la pétrochimie				X									
FR	French Customs Statistics	X			X	X		X			X			X
FR	Enquête sur les consommations d'énergie dans le tertiaire													
FR	Enquête annuelle sur les consommations d'énergie dans l'industrie	X	X			X								
FR	Enquête annuelle sur la consommation de combustibles et d'énergie non électrique dans l'industrie sidérurgique	X												
FR	Enquête annuelle sur les réseaux de chaleur et de froid	X	X			X								
FR	Enquête annuelle sur les statistiques gazières			X										
FR	Enquête annuelle sur le transport et la distribution d'électricité		X											
FR	Enquête annuelle sur la production d'électricité	X	X			X	X							
HR	The Statistical Survey on Road Transport of Goods (PA/T-11)				X									

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
HR	The Annual Report on Airports (PZ/G-21)													
HR	Annual Report on Inland Waterways Transport (PR/G-11)													
HR	The Annual Report on Air Transport (PZ/G-11)													
HR	Quarterly Report of Maritime and Coastal Transport (PP/T-11)													
HR	The Quarterly Report on urban transport (PG/T-11)			X										
HR	The Quarterly Report on Road LineTransport of Passengers (PA/M-11)													
HR	The Annual Report on railway transport (PŽ/G-11)		X											
HR	Extrastat – Trade in goods with non- EU countries 2014	X	X	X	X			X	X			X		X
HR	Intrastat - Trade in goods between EU Member States 2014		X	X	X	X			X	X	X	X	X	
HR	The Annual Report on Construction Works (GRAĐ-12 form)													
HR	The Annual Survey on Biofuels Production and Market (ERG-3OB)					X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
HR	The Annual Survey on the Production of Pellets and Briquettes from Biomass, Wood Chips and Charcoal (ERG-2OB)					X								
HR	The Annual Survey on the production of biogas and biomass and production of electricity and heat from biogas and biomass (ERG-1OB)					X								
HR	The Monthly Survey on Imports, Exports, Stocks and Deliveries, and consumption of coal and coke (ERG-1/U	X						X						
HR	Monthly Survey on Imports, Exports, stocks and Deliveries of Natural Gas (ERG-1/P)									X			X	
HR	The Monthly Survey on Imports, Exports and Stocks of Crude Oil and Petroleum Products (ERG-2/N)										X			X
HR	The Monthly Survey on Oil Refineries (ERG-1/N)										X			X
HR	The Monthly Survey on Power Stations (ERG-1/EL)								X	X				

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
HR	Annual Survey on the Consumption of Raw Materials and Energy Products in Industry (IND-21/REPRO/G)	X	X	X	X	X								
HR	The Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M)								X	X	X	X	X	X
HR	The PRODCOM Survey on Industry (IND-21/PRODCOM)		X	X	X	X								
IT	Production of the petrochemical industry				X						X			X
IT	Production of oil refineries				X						X			X
IT	Import, export and consumption of petroleum products				X						X			X
IT	Questionnaire on natural gas			X						X			X	
IT	Import, export and consumption of coal products	X						X		X				
IT	Data collection on derived heat from renewable sources and heat from heat pumps, solar collectors and geothermal source (GSE-00001)		X			X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
IT	TER-00007 Annual Statistics of heat production and consumption in CHP plants in Italy		X			X								
IT	TER-00001 Annual statistics of electricity production and consumption in Italy		X			X								
CY	Electricity consumption - annual		X											
CY	Fuel consumption and allocation by economic activity				X									
CY	Other information on renewable sources		X			X								
CY	Electricity autoproducers (combustible fuels)		X		X									
CY	Electricity Production from Renewable Sources monthly		X			X			X			X		
CY	Electricity Production monthly (Transmission System Operator)		X						X			X		
CY	Vassiliko Cement Works Public Company Ltd: Alternative Fuels					X								
CY	Vassiliko Cement Works Public Company Ltd: Imports, Consumption and Stocks of Fuels	X			X			X			X			X

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
CY	Electricity Authority of Cyprus: Imports, Consumption and Stocks of Fuels		X		X				X		X			X
CY	National Stock Holding Entity (COSMOS)										X			X
CY	Local Petroleum Trading Companies' Imports, Sales and Stocks				X						X			X
CY	Foreign Trade Statistics (annual)	X			X						X			
CY	Foreign Trade Statistics (monthly)							X			X			X
LV	Household energy consumption survey (1-EPM)	X			X	X								
LV	Survey on import, production and sale of solid fuel (2-solid fuels)							X						
LV	Survey on electricity production and fuel consumption (2-energetics)								X			X		
LV	Survey on work of cogeneration plants (2-cogeneration)								X			X		
LV	Survey on oil delivery to ships and aircrafts (2-bunkering)													X
LV	Survey on consumption of natural gas (2-gas)									X			X	

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
LV	Survey on electricity production and fuel consumption (1-energetics)		X			X								
LV	Survey on consumption of natural gas (1-GAS)			X										
LV	Survey "Heat and Electricity Production" (1-energy with annexes)	X	X	X	X	X								
LV	Survey "Purchase and Consumption of Energy Resources" (2-EK)	X	X		X	X								
LT	Statistical survey on crude oil and petroleum products (EN-16)										X			X
LT	Statistical survey on natural gas (EN-15)			X						X			X	
LT	Statistical survey on the production and distribution of electricity (EN-12)		X						X			X		
LT	Statistical survey on fuel and energy supply (EN-11)							X	X	X	X	X		X
LT	Grude oil and petroleum products balance survey (EN-06)				X									
LT	Electricity distribution survey (EN-03)		X			X								
LT	Fuel and energy consumption annual statistical survey (EN-10)	X	X	X	X	X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
LT	Fuel and energy balance annual statistical survey (EN-01)	X	X	X	X	X								
LU	Energy sector survey		X	X	X									
LU	Biofuel statistics					X								
LU	Environmental primes					X								
LU	Annual survey with gas network operator			X										
LU	Annual survey with electricity distributor		X			X								
LU	Structural Business Survey		X	X	X									
LU	Survey on households' expenditures	X	X	X	X	X								
LU	Monthly survey with gas network operator			X						X			X	
LU	Monthly survey with electricity distributor		X			X			X			X		
LU	Monthly oil survey				X						X			X
LU	Survey with ETS	X				X								
LU	Intra- Extrastat Survey	X			X	X		X			X			X
HU	Questionnaires on wood products					X								
HU	International Trade in Goods Statistics	X			X	X		X			X			
HU	V533 Survey on small-scale power plants not subject to licence		X			X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
HU	V512 electricity delivery for final consumers by section of national economy		X											
HU	V510 electricity delivery via distribution network		X											
HU	V461 data of system load by hour		X											
HU	V451D daily, monthly and yearly electricity generation by power plants within the system coordination and import export electricity											X		
HU	V433 electricity delivery via transmission network		X						X			X		
HU	V410 electricity delivery via transmission network		X											
HU	V306 and V308 monthly data of small-scale power plants		X	X		X			X	X				
HU	V214 electricity and heat data of large-scale power plants			X					X	X				
HU	G510 Monthly balance of natural gas DSO			X						X				
HU	G410 Monthly balance of natural gas TSO			X						X			X	
HU	G216 Monthly balance of natural gas storage			X						X			X	

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
HU	OSAP 2261 Crude oil and petroleum products flows				X	X				X	X		X	X
HU	OSAP 2221 Energy balance of energy sector, energy commodities	X	X	X	X	X	X							
HU	OSAP 1335c Survey on energy use, Transport sector	X	X	X	X	X								
HU	OSAP 1335b Survey on energy use, Agriculture sector	X	X	X	X	X								
HU	OSAP 1335a Survey on energy use, Commercial and public services sector	X	X	X	X	X								
HU	OSAP 1329 Monthly energy balance report				X	X		X	X	X	X		X	X
HU	OSAP 1321 Energy balance, Industry sector	X	X	X	X	X								
MT	Imports/Exports				X									
MT	Renewable data		X			X								
MT	Electricity consumption data		X											
MT	Electricity data		X						X			X		
MT	Oil Balance and Sectoral consumption				X						X			X
NL	Enrichement capacity						X							
NL	Production of biofuels					X								
NL	Caloric values				X									

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
NL	Grid connections that supply electricity to the grid		X						X					
NL	Estimates of small items	X		X	X	X								
NL	International trade statictics of goods	X			X	X		X			X			
NL	Coal stocks	X						X						
NL	Natural gas stocks			X						X				
NL	Production of oil				X									
NL	Supply of electricity		X						X			X		
NL	Supply of natural gas			X						X			X	
NL	Supply of electricity and natural gas via the national grid		X	X										
NL	Energy consumption in Industry	X	X	X										
NL	Crude oil and petroleum products				X	X					X			X
NL	Means of electricity production	X	X	X			X							
NL	Production, transformation & consumption of energy	X	X	X		X		X	X	X				
NL	Annual average burnup of definitively discharged irradiated fuel elements						X							
NL	Survey on sold wood boilers for heat >18 kW to enterprises					X								
NL	Survey on sold solar systems		X			X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
NL	NEa register data on biofuels					X								
NL	Survey on household wood use					X								
NL	CertiQ Registratie voor Garanties van Oorsprong van Hernieuwbare elektriciteit en warmte		X			X			X					
AT	Material Input Statistics (including energetic input)	X	X	X	X	X								
AT	International Trade in Goods Statistics	X		X				X						
AT	Short term statistics in industry and construction		X											
AT	Emission trading scheme (ETS)	X	X					X						
AT	Direct reporting by companies	X	X	X		X		X						
AT	Reserves of Crude Oil and Petroleum Products				X						X			
AT	Monthly Oil Statistics				X	X					X			X
AT	Monthly natural gas statistics			X						X			X	
AT	Monthly electricity statistics	X	X			X		X	X			X		
AT	Useful energy analysis in industries													
AT	Energy consumption of small to medium sized industries	X	X	X	X	X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
AT	Energy consumptions in the service sector	X	X	X	X	X								
AT	Energy consumptions of households	X	X	X	X	X		X						
PL	G-11n - report on the prices of petroleum products													
PL	G-11e - report on electricity prices according to the category of standard end-users													
PL	G-11g - report on natural gas prices according to standard categories of end-users													
PL	GAZ-2 - report on natural gas trade from methane discharge from mines			X						X			X	
PL	GAZ-1 - report on trading with coke oven gas	X												
PL	GAZ-3 - report on activities of gas companies	X		X						X			X	
PL	RAF-2 - report on production, trade, stocks and infrastructure for crude oil and oil products				X						X			X
PL	RAF-1 - report on the transformation process in companies producing and processing the oil products				X						X			X

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
PL	G-10.4(Ob)k - report of enterprise dealing with trading in electricity													
PL	G-10.4(P)k - report on the activity of operator of electricity transmission system													
PL	G-10.4(D)k - report on energy enterprise dealing with distribution of electricity													
PL	G-10.1(w)k - report on operation of hydro power plants/wind power plants													
PL	G-10.1k - Report on thermal power plant operation													
PL	G-10.7 - report of electricity flows (according to voltage) in the network of electrical enterprises dealing with electricity distribution													
PL	G-10.7 (P) -report on electricity flows (according to voltage) in the highest tension system													
PL	G-10.m - monthly data on electricity		X						X	X				

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
PL	G-10.8 - report on sales/supply and consumption of electricity according to administrative division units		X									X		
PL	G-10.6 - report on capacity and production of hydro power plants, wind power plants and other renewable sources		X			X								
PL	G-10.5 report on the condition of electrical devices													
PL	G-10.3 - report on capacity and production of electricity and heat by the CHP autoproducers		X			X								
PL	G-10.2 - report on thermal power plant operation		X											
PL	G-09.11 Report on demethanization and management of methane from black coal mines													
PL	G-09.10 Report on the environmental effects of black coal mining activity													
PL	G-09.9 Report on the black coal resources													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
PL	G-09.8 Report on the public law and civil law payments implemented by black coal mining													
PL	G-09.7 Report on investment in black coal mining													
PL	G-09.6 eport on employment, productivity, remuneration and fulfilled working time in black coal mining													
PL	G-09.5 Report on revenues, costs and results of operations in black coal mining													
PL	G-09.4 Report on import and intra-EU acquisition of black coal													
PL	G-09.3 Report on production and sale of coal lignite							X						
PL	G-09.2 Report on the mechanical coal processing	X												
PL	G-09.1 Report on hard coal trade							X						
PL	MG-21 Import of coking coal for coke production													
PL	MG-20 The capital expenditures in coke oven industry													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
PL	MG-19 The employment and work time in coke oven industry													
PL	MG-18 The employment by age in coke oven industry													
PL	MG-17 The balance of coke													
PL	MG-16 Consumption of coking coal													
PL	MG-15 Production and sale in coke oven industry							X						
PL	G-03 Questionnaire on energy commodities consumption	X	X	X		X					X			
PL	G-02b Questionnaire on Energy Commodities Balances and Heating Infrastructure	X				X								
PL	G-02a Questionnaire on Energy Commodities Balances													
PL	G-02o - report on heat from renewable sources					X								
PT	Oil data collection				X						X			X
PT	Gas Natural data collection			X						X			X	
PT	Coal data collection	X						X						
PT	Monthly Electricity data collection		X			X			X			X		
PT	Annual Electricity and Heat and Renewables data collection		X			X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
RO	Monthly Administrative Sources (MAD)							X	X	X	X	X	X	X
RO	"ELTS" – Energy resources used to produce electricity in month... the year…								X					
RO	PTS_ Crude oil balance processing in the month... the year...										X			
RO	CTS _ Coal resources and their uses in the month... year…							X						
RO	GTS - Natural gas resources and their destinations in the month ... the year…									X				
RO	Administrative Sources (AD)	X	X	X	X	X	X							
RO	"P" – inputs/outputs of refineries in year….				X									
RO	E02_production of electricity and heat	X	X	X		X								
RO	E01_energy resources and consumption in year….	X	X	X	X	X								
SI	Monthly Electricity and heat Survey								X	X		X		
SI	Annual Electricity and Heat Survey	X	X	X	X	X	X							
SI	Annual statistical survey on the consumption of energy, fuels and selected petroleum products	X	X	X	X	X								

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
SI	Annual solid, liquid, gaseous fuels collection survey	X		X	X									
SI	Monthly solid, liquid, gaseous fuels collection survey			X	X			X		X	X		X	X
SI	Household energy consumption survey													
SK	Energ 8-12 Monthly Questionnaire on Solid Fuels and Selected Gaseous Fuels							X						
SK	Energ 6-01 Annual Questionnaire on Sources and Distribution of Fuels and Energy	X	X	X	X	X								
SK	Energ 5-01 Annual Questionnaire of Solid Fuels Retail	X												
SK	Energ 4-01 Annual Questionnaire on Electricity and Heat Production	X	X	X	X	X								
SK	Energ 3-01 Annual Questionnaire on Renewable Sources of Fuels and Energy		X			X								
SK	Energ 2-01 Annual Questionnaire on Production of Fuels from Crude Oil				X									

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
SK	Energ 7-12 Monthly Questionnaire on Electricity and Heat Production								X			X		
SK	Monthly report on crude oil, petroleum products and natural gas									X	X		X	X
FI	Specific survey on heat values, densities and production capacities for petroleum products and biofuels.				X	X								
FI	Domestic sales and stocks of petroleum products				X	X					X			X
FI	Oil refinery intake and output (incl. biofuel)				X	X					X			X
FI	Biogas plant register					X								
FI	Solid wood fuels in heating and power plants					X								
FI	Monthly electricity (production and consumption) statistics								X	X		X		
FI	Natura gas consumption by sector (incl. biogas injected to natural gas pipeline)			X										
FI	Imports of natural gas			X						X			X	
FI	Average burnup of definitively discharged irradiated fuel elements						X							

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
FI	Small scale power and heat istallations		X											
FI	Power plant register		X											
FI	Calculation model for home appliances		X											
FI	Electricity consumption by sector		X											
FI	Inventory on peat stocks	X												
FI	Peat production and sales	X						X						
FI	Dedicated energy enquiry to iron and steel industry	X						X						
FI	Agriculture and horticulture energy consumption	X	X	X	X	X								
FI	Estimation model for space and water heating	X	X	X	X	X								
FI	Hard coal consumption and stocks	X						X	X					
FI	Energy use in manufacturing	X	X	X	X	X								
FI	Production of electricity and heat	X	X	X		X	X							
FI	Foreign trade statistics	X	X		X	X		X			X			X
SE	Fordonsgas - Vehicle gas survey			X										
SE	Monthly electricity								X			X		
SE	Foreign trade of goods	X						X						
SE	Statistics on nuclear energy						X							

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
SE	KvBr - Quarterly Fuel Statistics	X		X	X			X	X					
SE	Stock report				X						X			X
SE	Måbra - Monthly fuel, gas and inventory statistics	X		X	X	X		X		X	X		X	X
SE	ISEN - Energy consumption in the mining and manufacturing industry		X	X	X									
SE	AREL - Electricity Supply, Districy heating, and supply of natural gas	X	X	X		X								
UK	Coal authority survey - monthly (admin data)	X												
UK	ISSB - iron and steel statistics bureau	X						X						
UK	Coal survey - quarterly	X						X						
UK	Liquid biofuel production, exports and imports					X								
UK	RTFO - renewable transport fuel obligation					X								
UK	CHPQA		X											
UK	Restats		X			X								
UK	Nuclear production survey						X							
UK	Fuel mix disclosure form													
UK	Quarterly auto-genarators survey					X								
UK	Monthly and annual electricity distributors survey													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
UK	Electricity annual suppliers survey		X			X								
UK	Electricity - monthly suppliers survey													
UK	MPP - annual survey		X			X								
UK	MPP (major power producermonthly survey)	X						X	X			X		
UK	Petroleum conversion factors				X									
UK	OSS oil stocking system													
UK	Annual survey of oil sectoral fuel use													
UK	LPG													
UK	Supermarket fuel sales													
UK	Intrastat (trade data) and non-EU equivalent	X	X			X		X			X			
UK	DORS (Downstream Oil Reporting System)				X						X			X
UK	GM10												X	
UK	LNG import survey			X						X	X			
UK	PPRS - petroeum production reporting system			X	X					X	X		X	X
UK	Downstream annual gas (AG2)													
UK	Downstream annual gas (AG1)			X										
UK	Downstream quarterly gas (QG1)													

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
NO	Coal survey, monthly	X						X						
NO	External trade statistics, monthly							X	X	X	X		X	X
NO	External trade statistics, annual	X	X	X	X	X						X		
NO	Coal survey, annually	X												
NO	Bio gas, domestic use, annualy													
NO	Fuel wood use, annually					X								
NO	Refinery and terminal statistics				X						X			X
NO	Production of oil and natural gas			X	X					X	X		X	X
NO	Natural gas, domestic use, annualy			X										
NO	Sales of petroleum products, monthly													X
NO	Energy use in the manufacturing sector, annually													
NO	Sales of petroleum products, annually				X									
NO	District heating, annually		X											
NO	Electricity, monthly								X	X		X		
NO	Electricity, annually		X			X								
TR	Energy Balance Data Collection	X		X	X	X								
TR	Annual Statistical Survey on Electricity		X											

Country	National data sources	Eurostat data collections												
		Annual solid fuels	Annual electricity and heat	Annual gas	Annual oil	Annual renewables and wastes	Annual Nuclear	Monthly solid	Monthly electric.	Monthly gas	Monthly oil	Short-term elect.	Short-term gas	Short-term oil
TR	Monthly Survey on Electricity													
TR	Monthly Solid Fuel Statistics Survey							X						
TR	Energy Market Database System			X	X					X	X		X	X

ANNEX 2. INFORMATION ON NATIONAL DATA COLLECTION METHODS AND ADMINISTRATIVE DATA

Table 39. Data collections (data sources) at national level and methods used in 2014

Country	List of national data sources. At the end in brackets: method of data collection
Belgium	• Energy data collection at regional institutions (Use of administrative data (e.g. customs data or business registers))
Belgium	• Annual gas data collection for transport (Use of administrative data (e.g. customs data or business registers))
Belgium	• Monthly gas data collection (Other (measurement, mixture of several sources…).)
Belgium	• Annual derived coal products questionnaire (Other sectorial survey (industry, agriculture, etc.))
Belgium	• Monthly coal questionnaire (Business survey without threshold)
Belgium	• Annual data collection nuclear industry (Business survey without threshold)
Belgium	• Short term electricity - injections + import and export (Business survey without threshold)
Belgium	• Data collection CSO tickets and strategic stocks ()
Belgium	• Monthly electricity production (Business survey without threshold)
Belgium	• Biobalance (Business survey without threshold)
Belgium	• Monthly oil questionnaire (Business survey with threshold)
Bulgaria	• Electricity, heat, natural gas, solid and liquid fuels supplied to end-users (Business survey without threshold)
Bulgaria	• Supply of biofuels (Business survey without threshold)
Bulgaria	• Fuels and energy consumption (Business survey without threshold)
Bulgaria	• Statistics on nuclear energy (Business survey without threshold)
Bulgaria	• Characteristics of solar collectors (Business survey without threshold)
Bulgaria	• Balance of Energy Transformation Processes - Briquettes (Business survey without threshold)
Bulgaria	• Balance of Energy Transformation Processes - Petroleum products (Business survey without threshold)
Bulgaria	• Realization of energy products (Business survey without threshold)
Bulgaria	• Questionnaire for electricity and heat production (Business survey without threshold)
Bulgaria	• Monthly Electricity Questionnaire (Business survey without threshold)
Bulgaria	• Monthly Natural Gas Questionnaire (Business survey without threshold)
Bulgaria	• Monthly Oil and Petroleum Products Questionnaire (Business survey without threshold)
Bulgaria	• Monthly Solid Fuels Questionnaire (Business survey without threshold)
Czech Republic	• Les 8-01

Country	List of national data sources. At the end in brackets: method of data collection
Czech Republic	• ENERGO
Czech Republic	• Eng (MPO) 6—12 Monthly questionnaire — liquid biofuels
Czech Republic	• Eng (MPO) 5—01, Annual questionnaire — production and supply of electricity, heat and gases
Czech Republic	• Eng (MPO) 4—01, Annual questionnaire — Renewables and wastes
Czech Republic	• Eng (MPO) 1—12, Monthly questionnaire — solid fuels
Czech Republic	• Monthly Statistical Form on Crude Oil, Petroleum Products and Biofuels for Business, Stockkeeping and Consumer Organizations (EPS 1-12)
Czech Republic	• Monthly Statistical Form on Crude Oil, Petroleum Products and Biofuels for Refineries and Petroleum Products Manufacturers (EPR 1-12)
Czech Republic	• Annual Statistical Form on Fuels an Energy Consumption for Production of Selected Products (EP 9-01)
Czech Republic	• Annual Statistical Form on Energy Processes at Fuels Transformation (for fuels upgrading) (EP 8-01)
Czech Republic	• Annual Statistical Survey on Fuels and Energy Consumption and Fuels Stocks (EP 5-01)
Czech Republic	• Annual Statistical Form for Survey on Generation and Distributution of Energy and Heat (EP 10-01)
Czech Republic	• Annual Statistical Form on Fuels Sources and Distribution (EP 7-01)
Denmark	• Consumption at power plants (Census)
Denmark	• Annual production and consumption of biogas outside the transformation sector (and autoproducers delivering to grid) (Census)
Denmark	• Annual consumption of straw and wood chips outside the transformation sector (Estimations)
Denmark	• Annual survey on heat pumps (Use of administrative data (e.g. customs data or business registers))
Denmark	• Annual survey on solar heat (Estimations)
Denmark	• Annual survey on biodiesel (Census)
Denmark	• Monthly gas works gas survey (Business survey without threshold)
Denmark	• Annual electricity end use survey (Census)
Denmark	• Annual electricity and heat survey (delivering to grid) (Business survey without threshold)
Denmark	• Monthly electricity survey (Statistical compilation)
Denmark	• Annual coal and coke end use survey (Census)
Denmark	• Monthly coal and coke survey (Census)

Country	List of national data sources. At the end in brackets: method of data collection
Denmark	• Annual natural gas end use survey (Census)
Denmark	• Monthly natural gas, North Sea (Census)
Denmark	• Monthly natural gas survey supply (Other (measurement, mixture of several sources…).)
Denmark	• Oil end use survey (Census)
Denmark	• Monthly oil survey (Census)
Denmark	• Survey of energy consumption for manufacturing companies (Business survey with threshold)
Denmark	• Wood pellet survey (Business survey with threshold)
Denmark	• Fire wood survey (Household survey)
Germany	• Monatserhebungen in der Kohlenwirtschaft (Business survey without threshold)
Germany	• "Statistische Zahlen der deutschen Solarwärmebranche (Business survey without threshold)"
Germany	• EEG-Jahresabrechnung (EEG-Mengentestat) / "EEG in Zahlen" (Statistical compilation)
Germany	• Erhebung des Energieverbrauchs privater Haushalte für die Jahre 2011-2013 (Household survey)
Germany	• Amtliche Mineralöldaten für die Bundesrepublik Deutschland (Business survey without threshold)
Germany	• Der Kohlenbergbau in der Energiewirtschaft der Bundesrepublik Deutschland (Business survey without threshold)
Germany	• BDEW-Strombilanz (Statistical compilation)
Germany	• (083) Erhebung über Stromabsatz und Erlöse der Elektrizitätsversorgungsunternehmen und Stromhändler (Business survey without threshold)
Germany	• (082P) Erhebung über Abgabe, Ein- und Ausfuhr von Erdgas und Erdölgas sowie Erlöse der Produzenten (Business survey without threshold)
Germany	• (082) Erhebung über Aufkommen, Abgabe, Ein- und Ausfuhr von Gas sowie Erlöse der Gasversorgungsunternehmen und der Gashändler (Business survey without threshold)
Germany	• (075) Erhebung über die Abgabe von Flüssiggas (Business survey with threshold)
Germany	• (073) Erhebung über Gewinnung, Verwendung und Abgabe von Klärgas (Business survey with threshold)
Germany	• "(070) Erhebung über die Stromeinspeisung
Germany	• bei Netzbetreibern (Business survey without threshold)"
Germany	• (067) Erhebung über Stromerzeugungsanlagen der Betriebe des Verarbeitenden Gewerbes sowie des Bergbaus und der Gewinnung von Steinen und Erden (Business survey with threshold)
Germany	• (063) Erhebung über Biotreibstoffe (Business survey without threshold)
Germany	• (062) Erhebung über Geothermie (Business survey without threshold)
Germany	• "(060) Erhebung über die Energieverwendung
Germany	• der Betriebe des Verarbeitenden
Germany	• Gewerbes sowie des Bergbaus und der
Germany	• Gewinnung von Steinen und Erden (Business survey with threshold)"

Country	List of national data sources. At the end in brackets: method of data collection
Germany	• (069) Erhebung über Aufkommen, Verwendung und Abgabe von Erdgas und Erdölgas der Produzenten (Business survey without threshold)
Germany	• "(064) Erhebung über Erzeugung, Bezug,
Germany	• Verwendung und Abgabe von Wärme (Business survey with threshold)"
Germany	• (068) Monatsbericht über die Gasversorgung (Business survey without threshold)
Germany	• BDEW-Schnellstatistik (Other (measurement, mixture of several sources…).)
Germany	• (066K) Monatsbericht über die Elektrizitäts und Wärmeerzeugung der Stromerzeugungsanlagen für die allgemeine Versorgung (Business survey with threshold)
Germany	• (066N) Monatsbericht über die Elektrizitätsversorgung der Netzbetreiber (Business survey without threshold)
Estonia	• Energy consumption and production, annual statistics (Other (measurement, mixture of several sources…).)
Estonia	• Energy consumption and production, short term statistics (Other (measurement, mixture of several sources…).)
Ireland	• Electricity in Transport (Use of administrative data (e.g. customs data or business registers))
Ireland	• Solar PV (Estimations)
Ireland	• Non Energy Fuels (Use of administrative data (e.g. customs data or business registers))
Ireland	• Heat Pumps (Use of administrative data (e.g. customs data or business registers))
Ireland	• Other Biogas (Census)
Ireland	• Landfill Gas (Census)
Ireland	• Biofuels (Use of administrative data (e.g. customs data or business registers))
Ireland	• Wind Autoproducers (Census)
Ireland	• Solar New Builds (Use of administrative data (e.g. customs data or business registers))
Ireland	• Solar Thermal Upgrades (Use of administrative data (e.g. customs data or business registers))
Ireland	• Municipal and Other Waste (Use of administrative data (e.g. customs data or business registers))
Ireland	• Wood Waste (Sample census (e.g. use of a threshold))
Ireland	• Wood Fuel Suppliers (Census)
Ireland	• Combined Heat and Power (Census)
Ireland	• Annual Gas (Use of administrative data (e.g. customs data or business registers))
Ireland	• Electricity Consumption (Use of administrative data (e.g. customs data or business registers))
Ireland	• Electricity Generation (Census)
Ireland	• Monthly Gas (Census)
Ireland	• Oil (Sample census (e.g. use of a threshold))
Ireland	• Solid Fuel (Sample census (e.g. use of a threshold))

Country	List of national data sources. At the end in brackets: method of data collection
Ireland	• Electricity Supply (Use of administrative data (e.g. customs data or business registers))
Greece	• short term monthly oil
Greece	• short term monthly natural gas
Greece	• short term monthly electricity survey
Greece	• Annual rewewables survey
Greece	• Annual oil survey
Greece	• Annual natural gas survey
Greece	• Annual solid survey
Greece	• Annual electricity survey
Greece	• Monthly oil statistics
Greece	• Monthly natural gas survey
Greece	• Monthly solid survey
Greece	• Monthly electricity survey
Spain	• Monthly foreign trade (Census)
Spain	• Statistics of coal production (Monthly) (Census)
Spain	• Annual foreign trade (Census)
Spain	• Statistics of coal production (Annual) (Census)
Spain	• Thermal renewable energy statistics (Other (measurement, mixture of several sources…).)
Spain	• Estadística de la Industria de Gas Natural (anual) (Other (measurement, mixture of several sources…).)
Spain	• ESTADÍSTICA DE COMERCIALIZADORAS DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA (anual) (Other (measurement, mixture of several sources…).)
Spain	• ESTADÍSTICA DE PRODUCTORAS (MENSUAL) DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA (Other (measurement, mixture of several sources…).)
Spain	• ESTADÍSTICA DE PRODUCTORAS (anual) DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA (Other (measurement, mixture of several sources…).)
Spain	• Estadística de destilación de carbones (mensual) (Census)
Spain	• Estadística de destilación de carbones (anual) (Census)
Spain	• Production of fresh fuel elements (Census)
Spain	• Production of nuclear heat (Census)
Spain	• Annual average burnup of discharged fuel elements (Census)
Spain	• AOS (Modelling)
Spain	• RESOLUCION PRODUCTOS PETROLIFEROS (Census)

Country	List of national data sources. At the end in brackets: method of data collection
Spain	• RESOLUCION GAS NATURAL (Census)
France	• Collecte annuelle sur les consommations de produits pétroliers dans les armées (Census)
France	• Collecte annuelle sur l'industrie nucléaire (Business survey without threshold)
France	• Collecte mensuelle sur les livraisons de produits pétroliers (Business survey without threshold)
France	• Collecte mensuelle sur les stocks et la production de pétrole brut (Business survey without threshold)
France	• Collecte mensuelle auprès des raffineries (Business survey without threshold)
France	• Enquête Logement (Household survey)
France	• Collecte annuelle relative aux données des obligations d'achat dans le secteur de l'électricité (Business survey without threshold)
France	• Collecte mensuelle auprès des acteurs du secteur du gaz (Business survey with threshold)
France	• Collecte mensuelle auprès des acteurs du secteur de l'électricité (Business survey with threshold)
France	• Enquête mensuelle "Combustibles minéraux solides" (Business survey without threshold)
France	• Enquête annuelle sur les ventes de GPL (Business survey without threshold)
France	• Enquête annuelle sur les ventes de produits pétroliers (Business survey without threshold)
France	• Enquête annuelle sur l'activité de la pétrochimie (Business survey without threshold)
France	• French Customs Statistics (Use of administrative data (e.g. customs data or business registers))
France	• Enquête sur les consommations d'énergie dans le tertiaire (Business survey without threshold)
France	• Enquête annuelle sur les consommations d'énergie dans l'industrie (Business survey with threshold)
France	• Enquête annuelle sur la consommation de combustibles et d'énergie non électrique dans l'industrie sidérurgique (Business survey without threshold)
France	• Enquête annuelle sur les réseaux de chaleur et de froid (Business survey without threshold)
France	• Enquête annuelle sur les statistiques gazières (Business survey without threshold)
France	• Enquête annuelle sur le transport et la distribution d'électricité (Business survey without threshold)
France	• Enquête annuelle sur la production d'électricité (Business survey without threshold)
Croatia	• The Statistical Survey on Road Transport of Goods (PA/T-11) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Annual Report on Airports (PZ/G-21) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• Annual Report on Inland Waterways Transport (PR/G-11) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Annual Report on Air Transport (PZ/G-11) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• Quarterly Report of Maritime and Coastal Transport (PP/T-11) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Quarterly Report on urban transport (PG/T-11) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Quarterly Report on Road LineTransport of Passengers (PA/M-11) (Other sectorial survey (industry, agriculture, etc.))

Country	List of national data sources. At the end in brackets: method of data collection
Croatia	• The Annual Report on railway transport (PŽ/G-11) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• Extrastat – Trade in goods with non- EU countries 2014 (Use of administrative data (e.g. customs data or business registers))
Croatia	• Intrastat - Trade in goods between EU Member States 2014 (Business survey with threshold)
Croatia	• The Annual Report on Construction Works (GRAĐ-12 form) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Annual Survey on Biofuels Production and Market (ERG-3OB) (Census)
Croatia	• The Annual Survey on the Production of Pellets and Briquettes from Biomass, Wood Chips and Charcoal (ERG-2OB) (Census)
Croatia	• The Annual Survey on the production of biogas and biomass and production of electricity and heat from biogas and biomass (ERG-1OB) (Census)
Croatia	• The Monthly Survey on Imports, Exports, Stocks and Deliveries, and consumption of coal and coke (ERG-1/U (Other sectorial survey (industry, agriculture, etc.))
Croatia	• Monthly Survey on Imports, Exports, stocks and Deliveries of Natural Gas (ERG-1/P) (Census)
Croatia	• The Monthly Survey on Imports, Exports and Stocks of Crude Oil and Petroleum Products (ERG-2/N) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Monthly Survey on Oil Refineries (ERG-1/N) (Census)
Croatia	• The Monthly Survey on Power Stations (ERG-1/EL) (Census)
Croatia	• Annual Survey on the Consumption of Raw Materials and Energy Products in Industry (IND-21/REPRO/G) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M) (Other sectorial survey (industry, agriculture, etc.))
Croatia	• The PRODCOM Survey on Industry (IND-21/PRODCOM) (Other sectorial survey (industry, agriculture, etc.))
Italy	• Production of the petrochemical industry (Census)
Italy	• Production of oil refineries (Census)
Italy	• Import, export and consumption of petroleum products (Census)
Italy	• Questionnaire on natural gas (Census)
Italy	• Import, export and consumption of coal products (Census)
Italy	• Data collection on derived heat from renewable sources and heat from heat pumps, solar collectors and geothermal source (GSE-00001) (Other (measurement, mixture of several sources…).)
Italy	• TER-00007 Annual Statistics of heat production and consumption in CHP plants in Italy (Statistical compilation)
Italy	• TER-00001 Annual statistics of electricity production and consumption in Italy (Statistical compilation)
Cyprus	• Electricity consumption - annual (Use of administrative data (e.g. customs data or business registers))
Cyprus	• Fuel consumption and allocation by economic activity (Business survey without threshold)
Cyprus	• Other information on renewable sources (Other (measurement, mixture of several sources…).)
Cyprus	• Electricity autoproducers (combustible fuels) (Other (measurement, mixture of several sources…).)
Cyprus	• Electricity Production from Renewable Sources monthly (Statistical compilation)

Country	List of national data sources. At the end in brackets: method of data collection
Cyprus	• Electricity Production monthly (Transmission System Operator) (Statistical compilation)
Cyprus	• Vassiliko Cement Works Public Company Ltd: Alternative Fuels (Statistical compilation)
Cyprus	• Vassiliko Cement Works Public Company Ltd: Imports, Consumption and Stocks of Fuels (Statistical compilation)
Cyprus	• Electricity Authority of Cyprus: Imports, Consumption and Stocks of Fuels (Statistical compilation)
Cyprus	• National Stock Holding Entity (COSMOS) (Use of administrative data (e.g. customs data or business registers))
Cyprus	• Local Petroleum Trading Companies' Imports, Sales and Stocks (Census)
Cyprus	• Foreign Trade Statistics (annual) (Use of administrative data (e.g. customs data or business registers))
Cyprus	• Foreign Trade Statistics (monthly) (Use of administrative data (e.g. customs data or business registers))
Latvia	• Household energy consumption survey (1-EPM) (Sample census (e.g. use of a threshold))
Latvia	• Survey on import, production and sale of solid fuel (2-solid fuels) (Census)
Latvia	• Survey on electricity production and fuel consumption (2-energetics) (Census)
Latvia	• Survey on work of cogeneration plants (2-cogeneration) (Census)
Latvia	• Survey on oil delivery to ships and aircrafts (2-bunkering) (Census)
Latvia	• Survey on consumption of natural gas (2-gas) (Census)
Latvia	• Survey on electricity production and fuel consumption (1-energetics) (Census)
Latvia	• Survey on consumption of natural gas (1-GAS) (Census)
Latvia	• Survey "Heat and Electricity Production" (1-energy with annexes) (Census)
Latvia	• Survey "Purchase and Consumption of Energy Resources" (2-EK) (Business survey with threshold)
Lithuania	• Statistical survey on crude oil and petroleum products (EN-16) (Census)
Lithuania	• Statistical survey on natural gas (EN-15) (Census)
Lithuania	• Statistical survey on the production and distribution of electricity (EN-12) (Census)
Lithuania	• Statistical survey on fuel and energy supply (EN-11) (Sample census (e.g. use of a threshold))
Lithuania	• Grude oil and petroleum products balance survey (EN-06) (Census)
Lithuania	• Electricity distribution survey (EN-03) (Census)
Lithuania	• Fuel and energy consumption annual statistical survey (EN-10) (Sample census (e.g. use of a threshold))
Lithuania	• Fuel and energy balance annual statistical survey (EN-01) (Business survey with threshold)

Country	List of national data sources. At the end in brackets: method of data collection
Luxembourg	• Energy sector survey (Other sectorial survey (industry, agriculture, etc.))
Luxembourg	• Biofuel statistics (Use of administrative data (e.g. customs data or business registers))
Luxembourg	• Environmental primes (Use of administrative data (e.g. customs data or business registers))
Luxembourg	• Annual survey with gas network operator (Census)
Luxembourg	• Annual survey with electricity distributor (Census)
Luxembourg	• Structural Business Survey (Business survey without threshold)
Luxembourg	• Survey on households' expenditures (Household survey)
Luxembourg	• Monthly survey with gas network operator (Census)
Luxembourg	• Monthly survey with electricity distributor (Census)
Luxembourg	• Monthly oil survey (Census)
Luxembourg	• Survey with ETS (Use of administrative data (e.g. customs data or business registers))
Luxembourg	• Intra- Extrastat Survey (Business survey with threshold)
Hungary	• Questionnaires on wood products (Business survey with threshold)
Hungary	• International Trade in Goods Statistics (Sample census (e.g. use of a threshold))
Hungary	• V533 Survey on small-scale power plants not subject to licence (Use of administrative data (e.g. customs data or business registers))
Hungary	• V512 electricity delivery for final consumers by section of national economy (Use of administrative data (e.g. customs data or business registers))
Hungary	• V510 electricity delivery via distribution network (Use of administrative data (e.g. customs data or business registers))
Hungary	• V461 data of system load by hour (Use of administrative data (e.g. customs data or business registers))
Hungary	• V451D daily, monthly and yearly electricity generation by power plants within the system coordination and import export electricity (Use of administrative data (e.g. customs data or business registers))
Hungary	• V433 electricity delivery via transmission network (Use of administrative data (e.g. customs data or business registers))
Hungary	• V410 electricity delivery via transmission network (Use of administrative data (e.g. customs data or business registers))
Hungary	• V306 and V308 monthly data of small-scale power plants (Use of administrative data (e.g. customs data or business registers))
Hungary	• V214 electricity and heat data of large-scale power plants (Use of administrative data (e.g. customs data or business registers))

Country	List of national data sources. At the end in brackets: method of data collection
Hungary	• G510 Monthly balance of natural gas DSO (Use of administrative data (e.g. customs data or business registers))
Hungary	• G410 Monthly balance of natural gas TSO (Use of administrative data (e.g. customs data or business registers))
Hungary	• G216 Monthly balance of natural gas storage (Use of administrative data (e.g. customs data or business registers))
Hungary	• OSAP 2261 Crude oil and petroleum products flows (Census)
Hungary	• OSAP 2221 Energy balance of energy sector, energy commodities (Business survey without threshold)
Hungary	• OSAP 1335c Survey on energy use, Transport sector (Other sectorial survey (industry, agriculture, etc.))
Hungary	• OSAP 1335b Survey on energy use, Agriculture sector (Other sectorial survey (industry, agriculture, etc.))
Hungary	• OSAP 1335a Survey on energy use, Commercial and public services sector (Other sectorial survey (industry, agriculture, etc.))
Hungary	• OSAP 1329 Monthly energy balance report (Business survey without threshold)
Hungary	• OSAP 1321 Energy balance, Industry sector (Other sectorial survey (industry, agriculture, etc.))
Malta	• Imports/Exports (Use of administrative data (e.g. customs data or business registers))
Malta	• Renewable data (Use of administrative data (e.g. customs data or business registers))
Malta	• Electricity consumption data (Use of administrative data (e.g. customs data or business registers))
Malta	• Electricity data (Use of administrative data (e.g. customs data or business registers))
Malta	• Oil Balance and Sectoral consumption (Other (measurement, mixture of several sources…).)
Netherlands	• Enrichement capacity (Census)
Netherlands	• Production of biofuels (Census)
Netherlands	• Caloric values ()
Netherlands	• Grid connections that supply electricity to the grid (Sample census (e.g. use of a threshold))
Netherlands	• Estimates of small items (Estimations)
Netherlands	• International trade statictics of goods (Sample census (e.g. use of a threshold))
Netherlands	• Coal stocks (Census)
Netherlands	• Natural gas stocks (Census)
Netherlands	• Production of oil (Census)
Netherlands	• Supply of electricity (Census)

Country	List of national data sources. At the end in brackets: method of data collection
Netherlands	• Supply of natural gas (Census)
Netherlands	• Supply of electricity and natural gas via the national grid (Census)
Netherlands	• Energy consumption in Industry (Business survey with threshold)
Netherlands	• Crude oil and petroleum products (Sample census (e.g. use of a threshold))
Netherlands	• Means of electricity production (Sample census (e.g. use of a threshold))
Netherlands	• Production, transformation & consumption of energy (Sample census (e.g. use of a threshold))
Netherlands	• Annual average burnup of definitively discharged irradiated fuel elements (Census)
Netherlands	• Survey on sold wood boilers for heat >18 kW to enterprises (Census)
Netherlands	• Survey on sold solar systems (Census)
Netherlands	• NEa register data on biofuels (Use of administrative data (e.g. customs data or business registers))
Netherlands	• Survey on household wood use (Household survey)
Netherlands	• CertiQ Registratie voor Garanties van Oorsprong van Hernieuwbare elektriciteit en warmte (Use of administrative data (e.g. customs data or business registers))
Austria	• Material Input Statistics (including energetic input) (Business survey with threshold)
Austria	• International Trade in Goods Statistics (Other (measurement, mixture of several sources…).)
Austria	• Short term statistics in industry and construction (Business survey with threshold)
Austria	• Emission trading scheme (ETS) (Use of administrative data (e.g. customs data or business registers))
Austria	• Direct reporting by companies (Other sectorial survey (industry, agriculture, etc.))
Austria	• Reserves of Crude Oil and Petroleum Products (Statistical compilation)
Austria	• Monthly Oil Statistics (Statistical compilation)
Austria	• Monthly natural gas statistics (Census)
Austria	• Monthly electricity statistics (Census)
Austria	• Useful energy analysis in industries (Business survey without threshold)
Austria	• Energy consumption of small to medium sized industries (Business survey with threshold)
Austria	• Energy consumptions in the service sector (Business survey without threshold)

Country	List of national data sources. At the end in brackets: method of data collection
Austria	• Energy consumptions of households (Household survey)
Poland	• G-11n - report on the prices of petroleum products (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-11e - report on electricity prices according to the category of standard end-users (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-11g - report on natural gas prices according to standard categories of end-users (Other sectorial survey (industry, agriculture, etc.))
Poland	• GAZ-2 - report on natural gas trade from methane discharge from mines (Other (measurement, mixture of several sources…).)
Poland	• GAZ-1 - report on trading with coke oven gas (Other (measurement, mixture of several sources…).)
Poland	• GAZ-3 - report on activities of gas companies (Other (measurement, mixture of several sources…).)
Poland	• RAF-2 - report on production, trade, stocks and infrastructure for crude oil and oil products (Other (measurement, mixture of several sources…).)
Poland	• RAF-1 - report on the transformation process in companies producing and processing the oil products (Other (measurement, mixture of several sources…).)
Poland	• G-10.4(Ob)k - report of enterprise dealing with trading in electricity (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.4(P)k - report on the activity of operator of electricity transmission system (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.4(D)k - report on energy enterprise dealing with distribution of electricity (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.1(w)k - report on operation of hydro power plants/wind power plants (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.1k - Report on thermal power plant operation (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.7 - report of electricity flows (according to voltage) in the network of electrical enterprises dealing with electricity distribution (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.7 (P) -report on electricity flows (according to voltage) in the highest tension system (Other (measurement, mixture of several sources…).)
Poland	• G-10.m - monthly data on electricity (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.8 - report on sales/supply and consumption of electricity according to administrative division units (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.6 - report on capacity and production of hydro power plants, wind power plants and other renewable sources (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.5 report on the condition of electrical devices (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-10.3 - report on capacity and production of electricity and heat by the CHP autoproducers (Other (measurement, mixture of several sources…).)
Poland	• G-10.2 - report on thermal power plant operation (Other (measurement, mixture of several sources…).)
Poland	• G-09.11 Report on demethanization and management of methane from black coal mines (Business survey with threshold)
Poland	• G-09.10 Report on the environmental effects of black coal mining activity (Business survey with threshold)
Poland	• G-09.9 Report on the black coal resources (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-09.8 Report on the public law and civil law payments implemented by black coal mining (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-09.7 Report on investment in black coal mining (Other sectorial survey (industry, agriculture, etc.))

Country	List of national data sources. At the end in brackets: method of data collection
Poland	• G-09.6 eport on employment, productivity, remuneration and fulfilled working time in black coal mining (Business survey with threshold)
Poland	• G-09.5 Report on revenues, costs and results of operations in black coal mining (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-09.4 Report on import and intra-EU acquisition of black coal (Business survey with threshold)
Poland	• G-09.3 Report on production and sale of coal lignite (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-09.2 Report on the mechanical coal processing (Business survey with threshold)
Poland	• G-09.1 Report on hard coal trade (Business survey with threshold)
Poland	• MG-21 Import of coking coal for coke production (Other sectorial survey (industry, agriculture, etc.))
Poland	• MG-20 The capital expenditures in coke oven industry (Other sectorial survey (industry, agriculture, etc.))
Poland	• MG-19 The employment and work time in coke oven industry (Other sectorial survey (industry, agriculture, etc.))
Poland	• MG-18 The employment by age in coke oven industry (Other sectorial survey (industry, agriculture, etc.))
Poland	• MG-17 The balance of coke (Other sectorial survey (industry, agriculture, etc.))
Poland	• MG-16 Consumption of coking coal (Other sectorial survey (industry, agriculture, etc.))
Poland	• MG-15 Production and sale in coke oven industry (Other sectorial survey (industry, agriculture, etc.))
Poland	• G-03 Questionnaire on energy commodities consumption (Statistical compilation)
Poland	• G-02b Questionnaire on Energy Commodities Balances and Heating Infrastructure (Statistical compilation)
Poland	• G-02a Questionnaire on Energy Commodities Balances (Statistical compilation)
Poland	• G-02o - report on heat from renewable sources (Statistical compilation)
Portugal	• Oil data collection (Use of administrative data (e.g. customs data or business registers))
Portugal	• Gas Natural data collection (Use of administrative data (e.g. customs data or business registers))
Portugal	• Coal data collection (Use of administrative data (e.g. customs data or business registers))
Portugal	• Monthly Electricity data collection (Use of administrative data (e.g. customs data or business registers))
Portugal	• Annual Electricity and Heat and Renewables data collection (Use of administrative data (e.g. customs data or business registers))
Romania	• Monthly Administrative Sources (MAD) (Other sectorial survey (industry, agriculture, etc.))
Romania	• "ELTS" – Energy resources used to produce electricity in month... the year… (Census)
Romania	• PTS_ Crude oil balance processing in the month... the year... (Census)
Romania	• CTS _ Coal resources and their uses in the month... year… (Statistical compilation)
Romania	• GTS - Natural gas resources and their destinations in the month ... the year… (Census)
Romania	• Administrative Sources (AD) (Other sectorial survey (industry, agriculture, etc.))
Romania	• "P" – inputs/outputs of refineries in year…. (Census)
Romania	• E02_production of electricity and heat (Census)

Country	List of national data sources. At the end in brackets: method of data collection
Romania	• E01_energy resources and consumption in year…. (Sample census (e.g. use of a threshold))
Slovenia	• Monthly Electricity and heat Survey (Census)
Slovenia	• Annual Electricity and Heat Survey (Census)
Slovenia	• Annual statistical survey on the consumption of energy, fuels and selected petroleum products (Business survey with threshold)
Slovenia	• Annual solid, liquid, gaseous fuels collection survey (Census)
Slovenia	• Monthly solid, liquid, gaseous fuels collection survey (Census)
Slovenia	• Household energy consumption survey (Household survey)
Slovak Republic	• Energ 8-12 Monthly Questionnaire on Solid Fuels and Selected Gaseous Fuels (Business survey with threshold)
Slovak Republic	• Energ 6-01 Annual Questionnaire on Sources and Distribution of Fuels and Energy (Business survey with threshold)
Slovak Republic	• Energ 5-01 Annual Questionnaire of Solid Fuels Retail (Business survey without threshold)
Slovak Republic	• Energ 4-01 Annual Questionnaire on Electricity and Heat Production (Business survey with threshold)
Slovak Republic	• Energ 3-01 Annual Questionnaire on Renewable Sources of Fuels and Energy (Business survey without threshold)
Slovak Republic	• Energ 2-01 Annual Questionnaire on Production of Fuels from Crude Oil (Business survey without threshold)
Slovak Republic	• Energ 7-12 Monthly Questionnaire on Electricity and Heat Production (Business survey with threshold)
Slovak Republic	• Monthly report on crude oil, petroleum products and natural gas (Business survey without threshold)
Finland	• Specific survey on heat values, densities and production capacities for petroleum products and biofuels. (Other sectorial survey (industry, agriculture, etc.))
Finland	• Domestic sales and stocks of petroleum products (Business survey without threshold)
Finland	• Oil refinery intake and output (incl. biofuel) (Census)
Finland	• Biogas plant register (Census)
Finland	• Solid wood fuels in heating and power plants (Other sectorial survey (industry, agriculture, etc.))
Finland	• Monthly electricity (production and consumption) statistics (Statistical compilation)
Finland	• Natura gas consumption by sector (incl. biogas injected to natural gas pipeline) (Census)
Finland	• Imports of natural gas (Census)
Finland	• Average burnup of definitively discharged irradiated fuel elements (Census)
Finland	• Small scale power and heat istallations (Business survey without threshold)
Finland	• Power plant register (Use of administrative data (e.g. customs data or business registers))

Country	List of national data sources. At the end in brackets: method of data collection
Finland	• Calculation model for home appliances (Modelling)
Finland	• Electricity consumption by sector (Business survey without threshold)
Finland	• Inventory on peat stocks (Other (measurement, mixture of several sources…).)
Finland	• Peat production and sales (Sample census (e.g. use of a threshold))
Finland	• Dedicated energy enquiry to iron and steel industry (Sample census (e.g. use of a threshold))
Finland	• Agriculture and horticulture energy consumption (Statistical compilation)
Finland	• Estimation model for space and water heating (Modelling)
Finland	• Hard coal consumption and stocks (Business survey with threshold)
Finland	• Energy use in manufacturing (Other sectorial survey (industry, agriculture, etc.))
Finland	• Production of electricity and heat (Business survey with threshold)
Finland	• Foreign trade statistics (Business survey with threshold)
Sweden	• Fordonsgas - Vehicle gas survey (Other sectorial survey (industry, agriculture, etc.))
Sweden	• Monthly electricity (Business survey with threshold)
Sweden	• Foreign trade of goods (Business survey with threshold)
Sweden	• Statistics on nuclear energy (Other sectorial survey (industry, agriculture, etc.))
Sweden	• KvBr - Quarterly Fuel Statistics (Other sectorial survey (industry, agriculture, etc.))
Sweden	• Stock report (Business survey without threshold)
Sweden	• Måbra - Monthly fuel, gas and inventory statistics (Other sectorial survey (industry, agriculture, etc.))
Sweden	• ISEN - Energy consumption in the mining and manufacturing industry (Other sectorial survey (industry, agriculture, etc.))
Sweden	• AREL - Electricity Supply, Districy heating, and supply of natural gas (Other sectorial survey (industry, agriculture, etc.))
United Kingdom	• Coal authority survey - monthly (admin data) (Census)
United Kingdom	• ISSB - iron and steel statistics bureau (Census)
United Kingdom	• Coal survey - quarterly (Business survey without threshold)
United Kingdom	• Liquid biofuel production, exports and imports (Business survey without threshold)
United Kingdom	• RTFO - renewable transport fuel obligation (Census)
United Kingdom	• CHPQA (Census)

Country	List of national data sources. At the end in brackets: method of data collection
United Kingdom	• Restats (Business survey without threshold)
United Kingdom	• Nuclear production survey (Census)
United Kingdom	• Fuel mix disclosure form (Sample census (e.g. use of a threshold))
United Kingdom	• Quarterly auto-genarators survey (Business survey with threshold)
United Kingdom	• Monthly and annual electricity distributors survey (Census)
United Kingdom	• Electricity annual suppliers survey (Sample census (e.g. use of a threshold))
United Kingdom	• Electricity - monthly suppliers survey (Sample census (e.g. use of a threshold))
United Kingdom	• MPP - annual survey (Census)
United Kingdom	• MPP (major power producermonthly survey) (Sample census (e.g. use of a threshold))
United Kingdom	• Petroleum conversion factors (Sample census (e.g. use of a threshold))
United Kingdom	• OSS oil stocking system (Census)
United Kingdom	• Annual survey of oil sectoral fuel use (Census)
United Kingdom	• LPG (Census)
United Kingdom	• Supermarket fuel sales (Sample census (e.g. use of a threshold))
United Kingdom	• Intrastat (trade data) and non-EU equivalent (Business survey with threshold)
United Kingdom	• DORS (Downstream Oil Reporting System) (Census)
United Kingdom	• GM10 (Census)
United Kingdom	• LNG import survey (Census)
United Kingdom	• PPRS - petroleum production reporting system (Census)
United Kingdom	• Downstream annual gas (AG2) (Business survey with threshold)

Country	List of national data sources. At the end in brackets: method of data collection
United Kingdom	• Downstream annual gas (AG1) (Business survey with threshold)
United Kingdom	• Downstream quarterly gas (QG1) (Business survey with threshold)
Norway	• Coal survey, monthly (Business survey with threshold)
Norway	• External trade statistics, monthly (Use of administrative data (e.g. customs data or business registers))
Norway	• External trade statistics, annual ()
Norway	• Coal survey, annually (Business survey without threshold)
Norway	• Bio gas, domestic use, annualy (Business survey without threshold)
Norway	• Fuel wood use, annually (Household survey)
Norway	• Refinery and terminal statistics (Business survey without threshold)
Norway	• Production of oil and natural gas (Other (measurement, mixture of several sources…).)
Norway	• Natural gas, domestic use, annually (Business survey without threshold)
Norway	• Sales of petroleum products, monthly (Business survey with threshold)
Norway	• Energy use in the manufacturing sector, annually (Business survey with threshold)
Norway	• Sales of petroleum products, annually (Business survey with threshold)
Norway	• District heating, annually (Business survey without threshold)
Norway	• Electricity, monthly (Use of administrative data (e.g. customs data or business registers))
Norway	• Electricity, annually (Use of administrative data (e.g. customs data or business registers))
Turkey	• Energy Balance Data Collection (Other (measurement, mixture of several sources…).)
Turkey	• Annual Statistical Survey on Electricity (Census)
Turkey	• Monthly Survey on Electricity (Census)
Turkey	• Monthly Solid Fuel Statistics Survey (Sample census (e.g. use of a threshold))
Turkey	• Energy Market Database System (Use of administrative data (e.g. customs data or business registers))

The following table presents the answers provided by countries to certain questions of the ESWG survey on the use of administrative data. Table headers of the table columns refer to the following questions of the survey:

1. EU ETS - Do you use this information as one of the sources for compiling and/or cross checking energy statistics?
2. EU ETS - If not, would you please let us know why? Do you have problems (such as legislative obstacles) to access these reports for the purpose of the compilation of national energy statistics? Do you receive this information from elsewhere (such as surveys of companies, census of companies)? Do you believe the information is not relevant or in other way not suitable to be used? Are there other reasons?
3. EED - Do you use this information as one of the sources for compiling and/or cross checking energy statistics?
4. EED - If not, would you please let us know why?
5. Are there any administrative data sources that you could use for the purpose of compilation of national energy statistics, but you cannot access them?
6. Do you require any help of the European Commission (Eurostat) for implementation of Article 17a allowing you to get access to the needed administrative data?

Table 40. Information related to the use of administrative sources

	1.	**2.**	**3.**	**4.**	**5.**	**6.**
Belgium	Our regional colleagues use this data to compile their regional energy balance which in turn is used by the federal level to create the national energy balance. We do not have access to these data sources.	We do not have access to these data sources. We have never informed to access these data, due to a lack of time to prospect the use of this data.	No	This is confidential data and we cannot access this data. These cannot be used, even for statistical purposes.	We have never investigated if there are other administrative data sources available due to a lack of time.	
Bulgaria	Verified reports of the "big emitters" are published on the web page of Executive Environment Agency. We cross check the information from verified reports with the information from our statistical surveys on the consumption of energy products.		No, we do not use this information neither for compiling no for cross checking energy statistics.	Currently we do not use any data of energy audits, as information is incomplete. Information collected by these reports is foreseen to be improved. Thereafter for the purpose of the future compilation of national energy statistics under the terms of the amended Regulation No 199/28, we will use these reports.	No	No
Czech Republic	Yes		Yes		No	No

	1.	2.	3.	4.	5.	6.
Denmark	Yes, to a limited extent.		No	We were not aware of it and will look into it.	Not to our knowledge.	
Germany	No.	First, there are legal obstacles; we have no access to this data. Secondly: The data is not comparable to the energy balances (due to different sectoral classifications). Even if we would have access to the data, we see little benefit in it.	No.	First, there are legal obstacles; we have no access to this data. Secondly: The data is not relevant, because the information is eclectic and fragmentary, and only available on a very disaggregated level that is not suitable to compile an aggregated and comprehensive energy balance.	No.	No.
Estonia	Yes		No	Not relevant for Statistical Office.	Yes	No
Ireland	Yes		No	Audits are being carried out but no provision has being made to collate statistical data from the Audits.	Yes, Electricity and Gas metered data.	The CSO has the legal mandate to access this administrative data but to date has had difficulty in doing so.
Greece			Energy audit results will be available for statistical process in 218.		Access to administrative data is granted for energy statistics in most fields.	
Spain						

	1.	2.	3.	4.	5.	6.
France	No	Lack of time and budget	Yes and no	We did a survey in 212-213 (enquête Phebus), for which 23 housing audits (diagnostics de performance énergétique) were produced. Large discrepancies appear when comparing conventional energy consumption measured through theses audits with real consumption. But they do not necessarily mean that there is a problem statistics, as it may be explained by other causes (like rebound effect for example).	No	No
Croatia	No	We collect data through our regular annual surveys.	No	Register of buildings does not exist neither arranged data which could be used.	Yes	We have four gas distributors who refuse to deliver individual data by metering points of the final consumer.
Italy	Yes		Yes		No	No
Cyprus	Yes we do. We obtain these data from the national Environment Agency and we cross-check them with data we get directly from ETS enterprises.		No, we do not use this source	I am not truly familiar with the information gathered for the purpose of this Directive. We rely on data from surveys carried out by the Statistical Service of Cyprus to obtain the necessary information.	We manage to obtain the data from administrative sources without any problems.	No, that wouldn't be necessary.

	1.	2.	3.	4.	5.	6.
Latvia	From year 216 till the beginning of year 217, the CSB of Latvia broke down the energy resource use statistics by the primary energy resources utilised by EU ETS Latvian operators and non-ETS operators (activity data). We compared the data on ETS enterprises available to the CSB with information regarding the volume of energy consumed by the ETS enterprises available to the Ministry of Environmental Protection and Regional Development and now we are making the ETS and non-ETS balances for the period 25–214.	The CSB of Latvia has data on the ETS, but we use the information for comparisons, not in energy balance.	No, we do not use the data.	We do not use energy audit data, as energy audit will be carried out in Latvia this year. When the data are collected, we will compare them with the statistical data we have.	We receive the information on the volume of electricity consumption at 4-digits of the NACE from electricity distribution company. The information on oil products for making comparisons is taken from the State Revenue Service website. In Latvia there are no other administrative data that may be used for energy balance.	No
Lithuania	No.	We receive information about energy consumption from the companies using our questionnaires.	No	We do not analyse any information contained in energy audit reports. In near future, we will try to access these reports (if there isn't legislative obstacles ?) and will evaluate the possibility of using them for the compilation of energy statistics.	No	No
Luxembourg	yes		No	We don't use these statistics because the estimations made during these audits are based on theoretical assumptions and don't correspond to a real consumption	No	No

	1.	2.	3.	4.	5.	6.
Hungary	HEA crosschecks the list of data providers with the 'ETS list'. Although HEA does not have direct access to ETS data provided by companies to the responsible office (National Inspectorate for Environment and Nature), we regularly crosscheck aggregated data with Hungarian Meteorological Service (organization responsible for IPCC reports).	HEA intends to access ETS data provided by companies. Bilateral negotiations have been launched between HEA and the responsible office.	HEA have not used this information for crosschecking energy statistics yet.	There is no existing centralised database yet, but such a database for this purpose is already being constructed.	No, there is no relevant administrative data source that HEA cannot access.	No, we do not require any help from Eurostat regarding this issue.
Malta	Yes, such data is used		Yes, such data is used		No we have access to all administrative sources	

	1.	2.	3.	4.	5.	6.
Netherlands	Yes		No, companies that use a lot energy are not obliged to do these audits, because they already participate in other energy saving schemes. We already have access to the data of these schemes and use these data in case we doubt our own data. However, comparison is sometimes difficult due to different statistical units and data of these other schemes is also not always perfect. Furthermore, organisation and performance of these audits is still in an early stage.	Comparing data of the different sources at the statistical unit level is time consuming.	Administrative data held by private organisations. For this we need to have amendments of implementing acts of the national statistics law. This is not easy to obtain.	We think that it is most appropriate to manage these issues at the national level (subsidiarity).

	1.	2.	3.	4.	5.	6.
Austria	We use		Partly if the enterprises submit them to us on voluntary base	The national energy efficiency act does not allow the coordinating institution to submit the energy audits to third parties. To submit them to Statistics Austria would require an own regulation. Therefore we ask our respondents to submit their energy audits to us.	Energy audits	No
Poland	Yes		Yes		No	No
Portugal	Yes		No	Don't there are any legislative obstacles. However, the information from audits under Directive 212/27/EU is not systematized.	All our national energy statistics is based on administrative data sources.	No
Romania	No.	We receive this information from elsewhere (such as surveys of companies, census of companies).	NO	We receive this information from elsewhere (such as surveys of companies, census of companies).	Not to our knowledge.	
Slovenia	Yes-for cross checking.		No.	At the moment it could be used only as additional/partial information. Ministry of infrastructure is preparing a register of buildings and when register (incl. energy data) will be completed we will evaluate our survey vs admin data and probably started to use the data from the register for the energy statistics.	No obstacles, very good cooperation. We are already using admin data from the database of Ministry of infrastructure to for some domains of energy statistics.	No
Slovak Republic	We have and agreement on data exchange with Ministry of Environment, which compares the data.		No	At present we do not know exactly how this data could be useful for us.	No	No

	1.	2.	3.	4.	5.	6.
Finland	Yes we do, the plant level data is available for us. We also work very closely together with ghg-inventory unit at Statistics Finland. Direct data collection on energy consumption in industry is partly replaced by using micro data from admin data sources, such as emission trading data		Not yet, we have an intention to start the co-operation with Motiva which is the relevant organisation in Finland. The plan is to start to make use of the data in 218.	We don't have the access to the data. The authorization procedure is already under way. The data owner is state owned private company.	No, Generally Statistics Finland has right to all administrative data.	No, I don't think so. We already have possibility to get access to admin data of other organisations.
Sweden	No	We have an on-going project on using data from a EU ETS database to verify energy statistics.	No.	different survey/statistical objects, which are different than what is used in energy statistics (work places level vs. organisation level). Also the surveys done in energy audits do not use scientifically approved methods to collect data.	Yes. Confidentiality issues are the problem. The NSI and SEA (the Swedish Energy Agency) should discuss which statistical sources are available and how to use this to develop energy statistics.	No
United Kingdom	Use for cross checking only	Use for cross checking only, and as a de minimus for sub-sectors, as demand must exceed EU-ETS data. We don't have factors to gross-up data – so rely on our surveys of energy providers for producing our energy statistics.	No.	While companies provide their energy consumption as part of their energy audit through the Energy Savings Opportunity Scheme (ESOS) this is not made public and will only be disclosed to Government agencies if the business is audited by the Environment Agency as part of monitoring compliance.	No	No

	1.	2.	3.	4.	5.	6.
Norway	It is not used as a primary data source. We have a survey for energy use in the manufacturing industries where we make sure that all enterprises included in the EU-ETS is included.	The reason for not using the EU-ETS data as a primary source for energy use, is that it does not fully cover the data needed for the consumption of energy in the manufacturing industries. In the energy statistics, it is also a need for energy consumption data that are not covered under the EU-ETS and it is also a need of more information about the energy use than what is possible to find in the EU-ETS data.In 2014/2015 a project was undertaken comparing these two data-sources (EU-ETS data and Energy consumption in the manufacturing industries). Parts of the coverage in these two data sources are the same, but there are differences. The EU-ETS data only covers the energy use of which the enterprises are obliged to have covered by emission permits. In energy statistics, there is also a need to systematize the energy use by purpose and if the energy used are bought or produced for own use. This kind of information was not possible to obtain from the EU-ETS data. We do have access to the EU-ETS emission register data for Norway, but it is mainly used as a check of the enterprises that occurs in both data sets.	No.		No, legislated by The Statistics Act.	No.
Turkey		Turkey is not a part of EU emissions trading system (EU ETS).		There are several institutions working on EED in Turkey. When those works are completed, data sources regarding EED will be suitable to be used in the area of energy statistics.		

ANNEX 3. ACTIONS TAKING INTO ACCOUNT USERS' NEEDS

Table 41. Examples of actions taken at national level to consider users' needs

Country	Examples of actions taking into account users' needs
Belgium	
Bulgaria	
Czech Republic	We target only to the user needs and try to prepare different statistical data according to users needs (Ministries, EC, companies associations etc.). We do not target only to fill-in Join RES questionnaire (IEA/Eurostat).
Denmark	This database is widely used by municipalities and scientists for energy planning and research.;
Germany	Around every two years, official meetings with the main users take place;
Estonia	The Statistical Office conducts reputation surveys and user surveys. The survey is conducted at least once a year, the existing as well as potential consumers are interviewed.;
Ireland	We hold training courses for new respondents and we provide IT advice on computer queries regarding initial connection or intermittent problems.;
Greece	Users contact directly the competent service requesting information
Spain	
France	A meeting with user representatives is organized every year to gather their needs. The questionnaire can then be adapted to fulfil these needs; A meeting with user representatives is regularly organized; Frequent contacts with the French Professional Oil Committee; Consultation with numerous partners (see http://www.insee.fr/fr/methodes/default.asp?page=sources/ope-enq-logement-2013.htm);
Croatia	CBS monitor the extent to which the published statistics meet the expectations and needs of users, at the same time and to monitor the burden on the respondents with respect to their obligation to provide data for statistical purposes.; CBS monitor the extent to which the published statistics meet the expectations and needs of users, at the same time and to monitor the burden on the respondents with respect to their obligation to provide data for statistical purposes.;
Italy	We benefit from a call center and a dedicated email address to detect user needs. In the data collection system there are many notes areas for the user.;
Cyprus	
Latvia	CSB analyses data request from data users. ;
Lithuania	
Luxembourg	
Hungary	Questionnaires are updated every year within the National Data Collection Programme revision process;
Malta	Not available;

Country	Examples of actions taking into account users' needs
Netherlands	We publish the resulting data in database and press releases; We publish the resulting data in database and in press releases; We publish the resulting data in database ; We publish the resulting data in database and press releases and also published a background report; We publish the resulting data in database and press releases. We provide additional details on request.; We publish the resulting data in database and press releases. Several other research has been carried out with this data set, e.g. for regional authorities.; We explain how we use these data and publish in a report, press releases and via a database.; We publish the resulting data in database, in press releases and a report. On the demand of the trade association for solar thermal we have introduced additional questions in the solar thermal survey.; We consult stakeholders, especially those responsible for greenhouse gas emissions to make sure that possible improvement of the caloric values does not lead to problems regarding consistency with their data set.; We publish the resulting data in database, in press releases and a report. We provided break downs by end use sector and by size class.; We publish the resulting data in database, in press releases and a report. A 10 page document was written on the methodology.; The main user problem is confidentiality of production of biogasoline. We asked companies for permission to publish, but the companies refused.; We publish the resulting data in database, in press releases and a report;
Austria	Survey is especially designed for NSI intern input to other statistics (I/O, energy statistics, environmental statistics, …); Periodically feed-back talks with main users; Generally: Feedback (e.g. yearly meeting of main stakeholders (so called: Fachbeirat)), extending availability of publicated data;
Poland	Updating of the list of energy commodities and introduction to the survey of new statistical classifications.; Publications, internet portal, providing data to individual clients; Expand the range of data collection if needed;
Portugal	Through analysis the many information requests from different users (Government, energy stakeholders, media,scholars, embassies, companies, etc.) and from Eurostat and AIE we try to adapte our surveys. ; Mainly through the many requests we receive, namely Government, Eurostat, AIE.;
Romania	we try to accommodate the reasonable requests by adapting the questionnaire ;
Slovenia	User needs are communicated through Energy Statistics Advisory Committee. The priority of this committee is that any changes in the energy sector are adequately reflected in the changes and amendments of statistical surveys
Slovak Republic	
Finland	Data collection and instructions are amended accordingly e.g. new requirements for wind production (on-shore wind and off-shore wind) and CHP data. It means negotiations with other data collection parties.; Feedback from users, e.g. researchers; Close contacts to the LUKE are maintained and experiences are exchanged. The aim is to deepen further the cooperation between LUKE and StatFin.; The EU legislation mainly regulates the compilation of statistics on the external and internal trade. The needs of decision makers and other users are taken into account at EU level. ; Keeping regular contacs to interest groups.; General feedback procedures.; Close contacts to the Bioenergy association and annual meetings.; Feedback from respondents are usually treated before next collection cycle. Data users are able to send comments and questions via email.; The more sophisticated estimation model for calculating produced solar energy is under construction. ; The launch of LNG terminals will mean the modification to the data collection.; Bi-annual meetings on co-operations with the Petroleum and Biofuels association and its member companies.; All feedback is received and analyzed. If necessary or possible, the contents of the enquiry will be furher improved by the feedback.; We produce reports, that are useful for users.;
Sweden	The population is not very well defined; however the total values of the survey are well aligned when compared with values from other survey.; Support is given to repondents in order to classify the goods/services correctly. Only the minimum information demandaded by EU-regulations is collected in this survey to reduce the burden on respondents.; The survey has been adding additional information to be collected from respondents, as new needs from users arises.; The survey has been adding additional information to be collected from companise, as new needs from users arises.; This is not public information, it is only sent to IEA and Eurostat.;

Country	Examples of actions taking into account users' needs
United Kingdom	Moved 5 years from monthly to quarterly to reduce burden on suppliers; Biannually DECC run survey of user needs. Also other feedback listened to. All publications include named statisticians details so we make ourselves available to users.; Biannually DECC run survey of user needs. Also other feedback listened to. All publications include named statisticians details so we make ourselves available to users. ; Biannually DECC run survey of user needs. Also other feedback listened to. All publications include named statisticians details so we make ourselves available to users. Additionally expanded data collection for large renewable sites.; Not a DECC data collection;
Norway	Data is used by serveral divisions at Statistics Norway; Advisory committee of main users and collaboration with relevant institutions and organisations.; Advisory committee of main users and collaboration with The Norwegian Water Resources and Energy Directorate and other relevant institutions and organisations. ; New questionnaire from 2015; The production figures is a part of the publication "Extraction and related services" http://www.ssb.no/en/energi-og-industri/statistikker/oljev/aar; Data is used by other devisions in Statistics Norway and in international reporting to Eurostat and IEA; The data is used by other divisions at Statistics Norway, The Norwegian Petroleum Directorate, The Norwegian Water Resources and Energy Directorate, Norwegian Environment Agency, oil compaines and other organizations ; Yearly meeting whith important users of the statistics, an advisory commitee.;
Turkey	We revise the questionnaire design according to industry sectors. Before the revision we visit industry sector and learn their production processes; We revising the questionnaire design according to the information demands of national and international organizations. ; Due to providing the data on-line through the data base system, all information on the requested data are located in the System Usage Guide and the Statement Forms are predefined for each license owner. We take into account the user needs according to their information demands on this subject.

ANNEX 4. NATURE AND CAUSES FOR STATISTICAL ERRORS

Table 42. Nature and causes for measurement, processing, sampling and classification errors

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
Belgium	Mistakes are made in volumes by reporting enterprises;			Even if we discussed the classification with the concerned enterprises, there are still problems in coal classification. They use a different classification in their daily use so it's quite difficult for them.; Different classification of products and sectors are often used.;
Bulgaria	Random errors of data provided by the respondents: wrong values. Corrections are made before the aggregation of data at national level.; Random errors of data provided by the respondents: wrong values, missing data. Corrections are made before the aggregation of data at national level.; Random errors of data provided by the respondents: wrong measures, values or products, missing data. Corrections are made before the aggregation of data at national level.; Random errors of data provided by the respondents: wrong or missing values. Corrections are made before the aggregation of data at national level.; Random errors of data provided by the respondents: wrong data. Corrections are made before the aggregation of data at national level.;			Random errors of reported data on the imported petroleum products used as refinery feedstocks.;
Czech Republic	Mistakes of respondents; Incorrect measuring unit, incorrect calorific value; respondents errors (mainly errors concerning Imports/Exports data in comparison with Intrastat/Extrastat); respondents use not correct and prescribed unit; bad inclusion of generation plant by technology	Errors at feeding data for processing	Changes in Business Register - cessation of a firm, merger and demerger of companies	
Denmark	Simple estimation based on expected			

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
	kWh and m2 in new installations;			
Germany				
Estonia	Measurement of solid biofuel (wood) is related in moisture content and that is caused inaccuracies;			
Ireland	Any significant changes from previous months are noted and the respondent is asked to clarify why there is a substantial difference; Respondent errors; CHP data provided does not reflect real world values. Results from the annual CHP survey is used instead.;	Transcription errors possible but rare Data entry errors possible but rare; Data is copied from web based entry data into an Excel spreadsheet and submitted via eDamis;	Non-probability sampling due to the cut-off threshold as no smaller solid fuels distributors are surveyed at all due to the response burden and difficulty identifying all the units.; It is possible that some smaller or domestic wind auto producer sites may be missing from the survey.; Undercoverage likely; Statutory monthly levy returns from all large companies who import, supply and distribute oil in Ireland. ; The grant is only eligible for homes built before 2006. See Solar Thermal new Builds for coverage of newer homes; Data is collected for new homes with a building energy rating and solar thermal installations. Not all homes have a building energy rating. The sample is grossed up to the total population using data on new builds for the relevant year.; Undercoverage errors are possible due to the nature of the wood fuel supplier market however we endeaver to cover all units.; All boardmills are surveyed. For sawmills, sampling errors may occur due to the cut-off threshold	

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
			as no smaller sawmills are surveyed due to the response burden and difficulty identifying all the units. ;	
Greece				
Spain	Data in different units than requested; Different units; Some companies have difficulties in providing data by sector of activity of the consumer; Different unit;	Internal errors in the information send by the enterprises; Internal error in the information send by the companies;	The sample not includes all the group;	Different product; Different types of diesel; Different sectoral classifications in information providers;
France	Difficulty for plants to provide the relevant quantity in the proposed units or for detailed data (capacity/production by technology and / or fuel consumption).; Difficulty for respondents to know - the detailed activity sectors of their customers, to which gas is delivered. - the country of origin when gas is bought on a market place;			
Croatia		Control the list of selected local units. Outliers are checked by telephone with the responsible persons in the reporting units and if they are important, they go in the local unit to verify. use the web form and no processing errors ; using the rules of logical calculation control included in the data processing program, the possibility of errors is minimized; Control the list of selected local units. Outliers are checked by telephone with the responsible persons in the reporting units and if they are important, they go in the local unit to verify.	The percentage standard error (95% confidence) of the annual estimates for tonne transported, tonne kilometres performed and total kilometres travelled loaded for total goods transport and for national goods road transport shall not be greater than 5%.;	automatically compares with the classification list and no classification errors; Classification is entered into questionnaire.; using the rules of logical calculation control included in the data processing program, the possibility of classification errors is minimized; Using the rules of logical calculation control included in the data processing program, the possibility of errors is minimized;

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
		use the web form and no processing errors; Control the list of selected local units. The data is grouped by more than three statistical units. Outliers are checked by telephone with the responsible persons in the reporting units and if they are important, they go in the local unit to verify.		
Italy	Inconsistency between input of primary energy sources and output of secondary energy sources; The units of the population sometimes compile the survey with inconsistent data among them (production and power or production and fuel quantity); Inconsistency between data referred to the same plant; Frequent errors on multiply of Unit measures (thousand million / million); Errors on multiply of Unit measures;	Uncertainty on the list of units completeness;		Distribution of final consumption between sectors;
Cyprus	Not all enterprises keep good record of fuel consumption and energy output. Therefore some estimations have to be made.; The production of electricity from solar PVs under the net metering system is not included in this report. This is estimated by EAC at the end of each year therefore the reported monthly production is lower than actual production.; As more renewable energy units are installed every year, estimating their production becomes a difficult task.; Not all enterprises keep good record of fuel consumption. If data is supplied in monetary terms, we estimate the consumption of fuel using average price. ; The local companies usually trade in litres yet we ask for the	Trading companies may sometimes experience statistical differences and cannot identify the cause of the problem.; Preliminary data is provided 40 days after the end of the reference month which is quite a short period. As a result, some import transactions may appear in a later report thus creating inconsistencies.;		

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
	data in tonnes thus creating some measurement errors.;			
Latvia	Not correct calorific value of fuels (especially for fuelwood), not correct efficiency of heat plants or CHP (> 100%); Respondents sometimes confuse units of wood products. Wood briquettes and wood pellets shouldnt be shown in tonnes. Wood chips and wood residues should be shown in a loose m3, but firewood - in solid m3.; There is problem for respondent to evaluate wood fuel consumption; There could be some mistake when respondent report figures in kWh not in MWh; There could be some errors in fuel consumption: report natural gas consumption if Ggac not in m3;			
Lithuania	Random measurement errors are revealed when data for the current year are compared with data for the previous year.; Random measurement errors are revealed when data from the current year's report are compared with the data from the previous year's report or when company takes part in the survey for the first time.; Random measurement errors are revealed when company takes part in the survey for the first time.;	Statistical data control is carried out with the ORACLE data entry program capable of error check at the time of statistical data entry. Logical relations between values, arithmetic errors, coding errors, and missing values are searched for.; Statistical data control is carried out with the ORACLE data entry program capable of error check at the time of statistical data entry. Logical relations between values, arithmetic errors, coding errors, and missing values are searched for. ;	Sampling errors in the survey are large, particularly for less frequently used energy sources. Methodological improvements in the form of development and implementation of models are required, and intensive work is currently underway in this area. ;	
Luxembourg	inconsistency in basic data replied; some basic data missing; difficult to make the distinction between household and self-employed person; incorrect data reporting; basic data inconsistent;	if the questionnaire is not complete, we use default values;	sample is not specific to energy consumer; only cover installation of which the owner request a prime;	error in the code reported by the respondent;

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
Hungary	Erroneous reporting, often wrong units (e.g. cubic metre instead of thousand cubic metre) or renting transactions or only fiscal data available.; Biased gross production values;		Sample is not based on consumption but NACE and number of employees. There are frame errors due to GBR and filtering of units. ; Forest and harvests out of National Forest Database are out of sample;	The classification of petroleum products do not always correspond with the classification used by our data providers.;
Malta				
Netherlands	Inaccurate reporting by companies; Inaccurate response of companies; Sometimes data are wrong and have to be corrected manually. Not all errors will be detected.; Sometimes data lack due to failure of systems that measure or transmit data.; Wrong units are used by data suppliers; Households may not know how much wood they use.;	Sometimes humans make an error the units, confusing MW/ kW.;	Sampling error is about 5%.; Bias to selective respons may be possible. ;	Sometimes the wrong product is assigned;
Austria	If statistical definitions and accruals cannot be exactly derived from the firms reporting system; reporting in kWh instead of MWh;		The sampling error rises with respect to high variances in individual energy source quantities used in combination with low numbers of cases ;	Detailed statistical product classifications are often not integrated in the firm's reporting system and offer room for individual interpretation ; Change in NACE categories; Misclassificaton of CN-codes or countries;
Poland	Errors in calculating data from statistical units.; Not applicable; Wrong values, wrong units; confusion of units of measurement (MWh instead of GWh etc.); confusion of units of measurement (MWh instead of GWh etc.); Companies made a mistakes of the measurement units for example they give data in mln m3 instead of thousand m3;	Not applicable.; Most errors occur in data transmitted from individual units. Processing errors may be consequences of entry these erroneous data; Most errors occur in data transmitted from individual units. Processing errors may be consequences of entry these erroneous data. ; Respondents report for example 456 MWh instead of 465 MWh (displaced digits);	Not applicable.; Not applicable;	Not the phenomenon in the statistical units.; Not applicable; wrong classification of products or classification of economic activity; wrong classification of products (gas); Several problems on how to classify the activities of different stakeholders; In some cases there is no clear borderline between the products, e.g. between light fuel oil and heavy fuel oil, or between the ready-made products and the components.; Several problems on how to classify the

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
				activities of different stakeholders, companies have more than one activity and it's often hard to choose the main;
Portugal				Some errors result from wrong classification mainly from NACE or in filling out fields. When detected that undermines the quality of statistical information, the source of information is always questioned;
Romania	It is difficult for a respondent that uses more than one type of fuel to report the capacity and electricity and heat production breakdown by fuel type; The difficulties concerning the units of measurement (reporting in multiple or submultiples), the erroneous reporting of non-energy consumption, the significant technical difficulty of this statistical field. ; The difficulties concerning the units of measurement (reporting in multiple or submultiples);			Difficult correlation between CN codes and oil products production; difficult to discern between oil products;
Slovenia	Reporting units report in different measurement units. Some outstanding values occur in the data set mainly due to incorrect information from respondents. These data are corrected during editing process.”		"Sampling errors of estimates occur because only a selected random sample of units is included in the survey and not all units of the target population. Sampling errors are determined by the sampling plan, sample size and variability of the data.	
Slovak Republic				
Finland	Reported energy contents of used fuels differ sometimes from the data in other data sources. This is due to the different heat values used by the respondents of plants.; Measurement errors like wrong fuel classes, missing amounts of used	There were some processing errors with 2014 data for the first time. The data on heat sold was not transferred correctly to the database in certain autoproducer plants.;	Sample design doesn't take into account different fuel distribution by region (e.g natural gas). ;	Respondents may use wrong fuel codes or report fuel inputs at too aggregated level.; Incorrect commodity codes (CN headings) -> data is checked for validity errors.; Data are given in incorrect category

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
	energy, conceptual problems (total use vs. purchased for use) concern survey study conducted by LUKE. ; Incorrect or missing values of variables -> data is checked for validity errors.; Monthly consumption data is preliminary, i.e. reported figures are a bit different from the final ones. Instead data for stocks is considered as final.; Short term peat production data is preliminary.; Energy content of peat stacks is based on measurements of samples.; Coding of user points according to consumption sectors.; The questionnaire was very simple but some questions were misconstrued by some data providers. ; All the details of consumption by end uses is not known by sellers.; The borderline for processes of reported data is not fully equal with the international reporting; Monthly data is preliminary and can be revised later.; Companies have difficulties to provide values separately for fossil and non-fossil parts of products which is required.; Volumes and energy contents do not match;	Main heat source data of the Housing and Building Stock data are not updated; lacking data sources e.g. coefficients for specific annual consumption are partly estimated; some data sources (e.g. Household Budget Survey) are not updated every year; Part of the main data (collected by LUKE) is available only once in a three years. For the remaining years this data is estimated with various alternative techniques using LUKE data as basis.; Reports include very detailed data on industrial processes, which might cause misinterpretations in case of process changes.;		(variable, see section 19));
Sweden	The production database is continuosly revised. The publications are revised if larger errors are detected.; The company initially reports incorrect figures, which are later revised and corrected. Particular difficulties arise from coke ovens, steel mills and produced gases (since produced energy per fuel type can be interpreted differently); The unit initially reports incorrect figures, which are later revised and corrected; The company reports incorrect figures, wich are not consistent with other figures in this survey or figures reported in other surveys. The	Since it is a "cut off" survey with combined fuel consumption equivalent to 325 tons of oil equivalent (toe) or more. Some fuels that are a bit rare will not be detected in this survey. ; Manually done imputations; Due to the complexity of the survey and the reporting in both tonnes and m3, comparison of some values are difficult ot make and the quality controls are sometimes not feasable;		Respondents have difficulties reporting goods/services under the correct category due to the CN-numers very detailled and complex structure.; Some respondents have difficulties in correctly reporting the split of the delivery of natural gas and biogas, respectively, on a municipal level. ;

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
	incorrect figures are corrected after re-contact with the company. ; Measurement error can occur (natural due to the calibration of the pumps of filling stations and other causes) and also respondents initially reports incorrect figures, which are later revised and corrected; The company initially reports incorrect figures, which are later revised and corrected; Some revised figures from the large producers;	Partial non-response due to the fact that companies cannot supply all the needed information.;		
United Kingdom	Data different from admin data sources; Data different from quarterly survey; Occasionally wrong units reported by companies.; Site missing from dataset on occasion; Some issues with annual not equalling sum of months; Reconcilliation of monthly and annual; Misinterpretation of what data is being looked for. For domestioc wood, difficult to recall volumes and sources.; Wrong data recorded by firms;	Volume of data; Complex systems filled in by accountants who don't so occasionally incorrect flows and balances.;		Fuel oil not always understood by importers. Issues on duty point re bonded warehouses.; Incorrect codes can result in incorrect disposal info - domestic v exports.; DECC has issues with validation of sectoral breakdowns provided by some firms. Greater detail collected annually compared to quarterly; Some data misclassified by providers re sectoral use.;
Norway	It happens that wrong data are reported, but this is corrected: We compare reported data with previous reported data.; Provding answers in KWh instead of MWh, or in NOK instead of 1000 NOK; Some commen type of errors are wrong measurement units, lack of consistency between consumption of fuel, production of district heating and consumption of disctrict heating. ; wrong data could be reported if the households don't remember their wood consumption;	Missing data sometimes occurs; Errors rarely accrues, if so, it usually a comma mistake or something similar to this type of error.; The reporting unit have left out or reported to much sale for a given periode;		Split between consumer groups of electricity; Difficult somethimes to report correctly the split between consumer groups; Wrong use of HS numbers;
Turkey	Data entry errors while seperating of fuels to the delivery places, unit errors and arithmetic errors while balancing the supply and demand.; Measurement error occurs when the response provided differs from the real value. Such errors			Data entry errors while seperating of fuels to the delivery places, unit errors and arithmetic errors while balancing the supply and demand.;

Country	Nature and cause of measurement errors	Nature and cause of processing errors	Nature and cause of sampling errors	Nature and cause of classification errors
	may be attributable to the respondent, the interviewer, the questionnaire, the collection method or the respondent's record-keeping system. ;			

ANNEX 5. TARGET, FRAME AND SAMPLE OF NATIONAL DATA COLLECTIONS

Table 43. Target, frame and sample used per national data collection when available (based on the information provided by countries in their quality reports) and applicable (i.e. in sample surveys and surveys where not all the population is surveyed)

Country	National data source	Target	Frame	Sample
BG	Fuels and energy consumption	388462	296171	296171
BG	Characteristics of solar collectors	70	70	25
BG	Monthly Oil and Petroleum Products Questionnaire	202	202	50
BG	Monthly Solid Fuels Questionnaire	66	66	48
CZ	ENERGO	4000000	20000	20000
CZ	Annual Statistical Survey on Fuels and Energy Consumption and Fuels Stocks (EP 5-01)	28000	28000	22000
DK	Annual electricity and heat survey (delivering to grid)	766	623	623
DK	Wood pellet survey	161	161	52
DK	Fire wood survey	2700000	3700	2133
DE	Erhebung des Energieverbrauchs privater Haushalte für die Jahre 2011-2013	3.7E+07		15000
DE	(082) Erhebung über Aufkommen, Abgabe, Ein- und Ausfuhr von Gas sowie Erlöse der Gasversorgungsunternehmen und der Gashändler	1000	1000	924
DE	(075) Erhebung über die Abgabe von Flüssiggas	140	140	130
DE	(073) Erhebung über Gewinnung, Verwendung und Abgabe von Klärgas	1400	1400	1300
EE	Energy consumption and production, annual statistics	70000	70000	8000
IE	Landfill Gas	24	5	5
IE	Combined Heat and Power	360	19	19
EL	short term monthly oil	21	21	21
EL	short term monthly natural gas	4	4	4
EL	short term monthly electricity survey	5	5	5
EL	Annual renewables survey	50	50	50
EL	Annual oil survey	21	21	21
EL	Annual natural gas survey	15	15	15
EL	Annual solid survey	7	7	7
EL	Annual electricity survey	15	15	15
EL	Monthly oil statistics	21	21	21

Country	National data source	Target	Frame	Sample
EL	Monthly natural gas survey	4	4	4
EL	Monthly solid survey	5	5	5
EL	Monthly electricity survey	5	5	5
FR	Enquête Logement	2.8E+07	2.8E+07	42000
FR	Collecte mensuelle auprès des acteurs du secteur du gaz	200	200	15
FR	Collecte mensuelle auprès des acteurs du secteur de l'électricité	5000	5000	5
FR	Enquête sur les consommations d'énergie dans le tertiaire	3100000	3100000	20000
FR	Enquête annuelle sur les consommations d'énergie dans l'industrie	23000	23000	8500
HR	The Statistical Survey on Road Transport of Goods (PA/T-11)	53	21	21
HR	The Annual Report on Airports (PZ/G-21)	22	10	10
HR	The Annual Report on Air Transport (PZ/G-11)	29	6	6
HR	Quarterly Report of Maritime and Coastal Transport (PP/T-11)	1346	24	24
HR	The Quarterly Report on urban transport (PG/T-11)	65	16	16
HR	The Quarterly Report on Road LineTransport of Passengers (PA/M-11)	384	98	98
HR	The Annual Report on Construction Works (GRAĐ-12 form)	4593	4593	2588
HR	The Monthly Survey on Imports, Exports, Stocks and Deliveries, and consumption of coal and coke (ERG-1/U	28	28	7
HR	The Monthly Survey on Imports, Exports and Stocks of Crude Oil and Petroleum Products (ERG-2/N)	417	417	19
HR	Annual Survey on the Consumption of Raw Materials and Energy Products in Industry (IND-21/REPRO/G)	21100	21100	3501
HR	The Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M)	21100	21100	1917
HR	The PRODCOM Survey on Industry (IND-21/PRODCOM)	21100	21100	3501
CY	Fuel consumption and allocation by economic activity	5386	5386	1019
LV	Household energy consumption survey (1-EPM)	812500	812500	10997
LV	Survey "Heat and Electricity Production" (1-energy with annexes)	1218	1218	1218
LV	Survey "Purchase and Consumption of Energy Resources" (2-EK)	108380	44479	6000
LT	Statistical survey on fuel and energy supply (EN-11)	448	448	170
LT	Fuel and energy consumption annual statistical survey (EN-10)	13345	6810	993
LT	Fuel and energy balance annual statistical survey (EN-01)	5030	5030	2151
LU	Energy sector survey	6	6	2
LU	Structural Business Survey	28000	28000	4000
LU	Survey on households' expenditures	210000	210000	4500

Country	National data source	Target	Frame	Sample
LU	Intra- Extrastat Survey	4500	4500	3800
HU	Questionnaires on wood products	50000	35000	300
HU	OSAP 1335c Survey on energy use, Transport sector	13972	1920	881
HU	OSAP 1335b Survey on energy use, Agriculture sector	10613	1694	686
HU	OSAP 1335a Survey on energy use, Commercial and public services sector	264285	24850	2105
HU	OSAP 1321 Energy balance, Industry sector	65502	10996	3759
NL	Grid connections that supply electricity to the grid	5500	5000	5000
NL	Energy consumption in Industry	60000	5000	2500
NL	Crude oil and petroleum products	460	110	110
NL	Survey on household wood use	7000000	7000000	5000
NL	CertiQ Registratie voor Garanties van Oorsprong van Hernieuwbare elektriciteit en warmte	2500	2400	2400
AT	Material Input Statistics (including energetic input)	65000	65000	2350
AT	International Trade in Goods Statistics	160156	13966	13966
AT	Short term statistics in industry and construction	65000	65000	11000
AT	Useful energy analysis in industries	60000	60000	3000
AT	Energy consumption of small to medium sized industries	63000	63000	7260
AT	Energy consumptions in the service sector	260000	260000	21000
AT	Energy consumptions of households	12776	12776	8551
PL	G-11n - report on the prices of petroleum products	220	151	151
PL	G-11e - report on electricity prices according to the category of standard end-users	66	66	54
PL	GAZ-3 - report on activities of gas companies	110	110	104
PL	RAF-2 - report on production, trade, stocks and infrastructure for crude oil and oil products	880	880	490
PL	G-10.4(Ob)k - report of enterprise dealing with trading in electricity	104	52	52
PL	G-10.1(w)k - report on operation of hydro power plants/wind power plants	113	109	107
PL	G-10.m - monthly data on electricity	373	373	372
PL	G-10.6 - report on capacity and production of hydro power plants, wind power plants and other renewable sources	150	150	146
PL	G-10.3 - report on capacity and production of electricity and heat by the CHP autoproducers	78	78	77
PL	G-09.4 Report on import and intra-EU acquisition of black coal	148	133	133
RO	E02_production of electricity and heat	1857	1857	1617
RO	E01_energy resources and consumption in year….	61682	61682	17252

Country	National data source	Target	Frame	Sample
SI	Annual statistical survey on the consumption of energy, fuels and selected petroleum products	44000	1600	1506
SI	Household energy consumption survey	670000	650000	7000
FI	Specific survey on heat values, densities and production capacities for petroleum products and biofuels.	13	5	3
FI	Solid wood fuels in heating and power plants	13000	1300	1300
FI	Monthly electricity (production and consumption) statistics	500	500	375
FI	Power plant register	500	390	390
FI	Calculation model for home appliances	2836000	2836000	4566
FI	Peat production and sales	280	145	7
FI	Hard coal consumption and stocks	43	43	25
FI	Energy use in manufacturing	33000	32000	2000
FI	Production of electricity and heat	500	385	385
FI	Foreign trade statistics	33000	6743	6743
SE	KvBr - Quarterly Fuel Statistics	7000	7000	820
UK	Coal survey - quarterly	15	10	10
UK	Liquid biofuel production, exports and imports	8	8	7
UK	Fuel mix disclosure form	50	6	6
UK	Quarterly auto-genarators survey	1000000	100	100
UK	LPG	25	25	20
NO	Fuel wood use, annually	2300000	2300000	2000
NO	Energy use in the manufacturing sector, annually	20000	20000	2200
TR	Energy Balance Data Collection	72067	3500	2200
TR	Monthly Solid Fuel Statistics Survey	374	124	124

ANNEX 6. NON-RESPONSE RATE FOR ENERGY SURVEYS

Table 44. Information on non-response rate per national data source (based on information reported by countries)

Country	National data source	Non-response rate (%)	Comments
BE	Annual gas data collection for transport		I don't really have an insight in it. But the nvba.be confirm that all their members provide the data. The number of stations is growing each year and there may be new enterprises that manage them. There seems to be some companies that dispose of a private pomp for CNG and that are not in this collection of data.
BE	Annual derived coal products questionnaire		For reason of confidentiality, one of the enterprises doesn't give us all the data we would need. Since we don't have any legal basis for this, we have to deal with it.
BE	Monthly coal questionnaire	5%	Penalties can be applied to non-responding enterprises
BE	Monthly electricity production	5%	
BE	Biobalance	5%	Penalties will be applied to non-responding enterprises
BE	Monthly oil questionnaire	5%	Penalties will be applied to non-responding enterprises
BG	Fuels and energy consumption	81%	Missing data are collected by the suppliers via "Electricity, heat, natural gas, solid and liquid fuels supplied to end-users" Questionnaire. Consumption of fuels and energy at national level is FULLY COVERED.
BG	Monthly Oil and Petroleum Products Questionnaire	8%	1. Sample unit has stopped its activitity 2. Failure to make contact with the sample unit. These are units with insignificant share in the collected data.
CZ	Les 8-01	2%	
CZ	ENERGO	20%	
CZ	Eng (MPO) 6—12 Monthly questionnaire — liquid biofuels	5%	Data for non-response companies are estimated%
CZ	Eng (MPO) 5—01, Annual questionnaire — production and supply of electricity, heat and gases	10%	Data for non-response companies are completed from administrative data of Energy regulatory office (mainly district heating companies)%
CZ	Eng (MPO) 4—01, Annual questionnaire — Renewables and wastes	10%	Data for non-response companies are completed from administrative data of Energy regulatory office (mainly district heating companies)%
CZ	Eng (MPO) 1—12, Monthly questionnaire — solid fuels		
CZ	Monthly Statistical Form on Crude Oil, Petroleum Products and Biofuels for Business, Stockkeeping and Consumer Organizations (EPS 1-12)	5%	
CZ	Monthly Statistical Form on Crude Oil, Petroleum Products and Biofuels for Refineries and Petroleum Products Manufacturers (EPR 1-12)		

Country	National data source	Non-response rate (%)	Comments
CZ	Annual Statistical Form on Fuels an Energy Consumption for Production of Selected Products (EP 9-01)		
CZ	Annual Statistical Form on Energy Processes at Fuels Transformation (for fuels upgrading) (EP 8-01)		
CZ	Annual Statistical Survey on Fuels and Energy Consumption and Fuels Stocks (EP 5-01)	12%	
CZ	Annual Statistical Form for Survey on Generation and Distributution of Energy and Heat (EP 10-01)	4%	
CZ	Annual Statistical Form on Fuels Sources and Distribution (EP 7-01)	4%	
DK	Annual electricity and heat survey (delivering to grid)	8.20%	
DK	Survey of energy consumption for manufacturing companies	1.50%	98-99% of companies respond.
DK	Wood pellet survey	68%	Importers and producers are prioritised in the data collection process as they supply the market (total of wood pellets in Denmark).
DK	Fire wood survey		Latest survey
DE	Erhebung des Energieverbrauchs privater Haushalte für die Jahre 2011-2013	43%	
DE	(083) Erhebung über Stromabsatz und Erlöse der Elektrizitätsversorgungsunternehmen und Stromhändler	1%	
DE	(082P) Erhebung über Abgabe, Ein- und Ausfuhr von Erdgas und Erdölgas sowie Erlöse der Produzenten	1%	
DE	(082) Erhebung über Aufkommen, Abgabe, Ein- und Ausfuhr von Gas sowie Erlöse der Gasversorgungsunternehmen und der Gashändler	1%	
DE	(075) Erhebung über die Abgabe von Flüssiggas	1%	
DE	(073) Erhebung über Gewinnung, Verwendung und Abgabe von Klärgas	1%	
DE	(070) Erhebung über die Stromeinspeisung bei Netzbetreibern	1%	
DE	(067) Erhebung über Stromerzeugungsanlagen der Betriebe des Verarbeitenden Gewerbes sowie des Bergbaus und der Gewinnung von Steinen und Erden	1%	
DE	(063) Erhebung über Biotreibstoffe	1%	
DE	(062) Erhebung über Geothermie	1%	
DE	(060) Erhebung über die Energieverwendung der Betriebe des Verarbeitenden Gewerbes sowie des Bergbaus und der Gewinnung von Steinen und Erden	1%	

Country	National data source	Non-response rate (%)	Comments
DE	(069) Erhebung über Aufkommen, Verwendung und Abgabe von Erdgas und Erdölgas der Produzenten	1%	
DE	(064) Erhebung über Erzeugung, Bezug, Verwendung und Abgabe von Wärme	1%	
DE	(068) Monatsbericht über die Gasversorgung	1%	
DE	(066K) Monatsbericht über die Elektrizitäts und Wärmeerzeugung der Stromerzeugungsanlagen für die allgemeine Versorgung	1%	
DE	(066N) Monatsbericht über die Elektrizitätsversorgung der Netzbetreiber	1%	
EE	Energy consumption and production, annual statistics	19.90%	
EE	Energy consumption and production, short term statistics	5%	
IE	Electricity in Transport	2%	
IE	Non Energy Fuels	1%	
IE	Heat Pumps	1%	
IE	Other Biogas	10%	
IE	Biofuels	1%	
IE	Wind Autoproducers	10%	
IE	Solar New Builds	1%	
IE	Solar Thermal Upgrades	1%	
IE	Municipal and Other Waste	2%	
IE	Wood Waste	10%	100% of boardmills respond
IE	Wood Fuel Suppliers	40%	High non-response rate, however the larger suppliers usually respond
IE	Combined Heat and Power	10%	
IE	Solid Fuel	10%	There is unit non-response in some instances for the solid fuel survey. 1-2 out of 10 units. Data is estimated in these situations until there is a response. Some units will respond with surveys for 2 to 3 months at the one time.
EL	short term monthly oil		all obligated parties provide the required data%
EL	short term monthly natural gas		all the obligated companies provide the information which covers 100% of the population%
EL	short term monthly electricity survey		all the obligated companies provide the information which covers 100% of the population%

Country	National data source	Non-response rate (%)	Comments
EL	Annual rewenables survey		all the obligated companies provide the information which covers 99,5% of the population%
EL	Annual oil survey		all the obligated companies provide the information which covers 100% of the population%
EL	Annual natural gas survey		all the obligated companies provide the information which covers 100% of the population%
EL	Annual solid survey		all the obligated companies provide the information which covers 100% of the population%
EL	Annual electricity survey	0.50%	the main obligated companies provide the information which covers at least 99% of the population%
EL	Monthly oil statistics		all the obligated companies provide the information which covers 100% of the population%
EL	Monthly natural gas survey		all the obligated companies provide the information which covers 100% of the population%
EL	Monthly solid survey		almost all the obligated companies provide the information which covers at least 99% of the population%
EL	Monthly electricity survey		the main obligated companies provide the information which covers at least 97% of the population%
ES	Estadística de la Industria de Gas Natural (anual)	2%	
ES	ESTADÍSTICA DE COMERCIALIZADORAS DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA (anual)	5%	
ES	ESTADÍSTICA DE PRODUCTORAS (MENSUAL) DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA	5%	
ES	ESTADÍSTICA DE PRODUCTORAS (anual) DE LA INDUSTRIA DE LA ENERGÍA ELÉCTRICA	1%	
ES	AOS		CORES receives information from leading operators (aprox. 80% of market), main consumers (eg ADIF railway transport) and major industry associations
FR	Enquête Logement	30%	Including overseas departments, sample size = 54000,
FR	Collecte annuelle relative aux données des obligations d'achat dans le secteur de l'électricité		variable according to the year (decreasing)
FR	Enquête mensuelle "Combustibles minéraux solides"		Low rate of non-response, depending on the month
FR	Enquête sur les consommations d'énergie dans le tertiaire	33%	
FR	Enquête annuelle sur les consommations d'énergie dans l'industrie	10%	
FR	Enquête annuelle sur les réseaux de chaleur et de froid	12%	Definition of what should be considered as a district heating/cooling network needs to be still clarified (which status when heat is only sold to the contracting authority,…) ; this could widen the target population

Country	National data source	Non-response rate (%)	Comments
FR	Enquête annuelle sur les statistiques gazières	25%	NR rate < 10% in terms of gas deliveries
FR	Enquête annuelle sur le transport et la distribution d'électricité	3%	
FR	Enquête annuelle sur la production d'électricité	5%	
HR	Intrastat - Trade in goods between EU Member States 2014	0.50%	
HR	The Annual Report on Construction Works (GRAĐ-12 form)	12.40%	2,1% units are engaged in an activity other than construction 2,3% returned mail, 8,0% units have not send any answer
HR	The Monthly Survey on Imports, Exports and Stocks of Crude Oil and Petroleum Products (ERG-2/N)		Annual 2 or 0.84%
HR	The Monthly Survey on Oil Refineries (ERG-1/N)	2%	
HR	Annual Survey on the Consumption of Raw Materials and Energy Products in Industry (IND-21/REPRO/G)	5%	3%, in the wrong activity, 1%, the cessation of activities, 1%, the company did not want to fill in a questionnaire
HR	The Monthly Survey on Industrial Production and Persons Employed (IND-1/KPS/M)	0.50%	0,5%, the company did not want to fill in a questionnaire
HR	The PRODCOM Survey on Industry (IND-21/PRODCOM)	5%	3%, in the wrong activity, 1%, the cessation of activities, 1%, the company did not want to fill in a questionnaire
IT	Import, export and consumption of petroleum products	2%	
IT	Questionnaire on natural gas	10%	
IT	Data collection on derived heat from renewable sources and heat from heat pumps, solar collectors and geothermal source (GSE-00001)	50%	Target population is calculated considering reporting units, regardless the number of operating devices, which are millions!
CY	Fuel consumption and allocation by economic activity	3.60%	
LV	Household energy consumption survey (1-EPM)	39.90%	
LV	Survey on work of cogeneration plants (2-cogeneration)	2%	
LV	Survey "Heat and Electricity Production" (1-energy with annexes)	1%	
LV	Survey "Purchase and Consumption of Energy Resources" (2-EK)	4%	
LT	Statistical survey on fuel and energy supply (EN-11)	1%	
LT	Fuel and energy consumption annual statistical survey (EN-10)	2%	
LT	Fuel and energy balance annual statistical survey (EN-01)	2%	
LU	Survey on households' expenditures		sample adjusted to obtain at least 4500 responds

Country	National data source	Non-response rate (%)	Comments
HU	Questionnaires on wood products	25%	Target population: all legal forest owners; population frame: registered owners; sample: ownerships bigger than 300 hectares with harvest in the current year; 70-75% of the whole production volume is in the sample
HU	V306 and V308 monthly data of small-scale power plants	3.70%	
HU	OSAP 2221 Energy balance of energy sector, energy commodities	4.60%	
HU	OSAP 1335c Survey on energy use, Transport sector	15%	
HU	OSAP 1335b Survey on energy use, Agriculture sector	7.10%	
HU	OSAP 1335a Survey on energy use, Commercial and public services sector	22.60%	
HU	OSAP 1321 Energy balance, Industry sector	10.20%	
NL	Grid connections that supply electricity to the grid	1%	
NL	Energy consumption in Industry	5%	
NL	Crude oil and petroleum products	2%	For jodi non-response is much higher (about 15%)
NL	Means of electricity production	10%	
NL	Production, transformation & consumption of energy	5%	
NL	Survey on sold wood boilers for heat >18 kW to enterprises	10%	
NL	Survey on sold solar systems	10%	
NL	NEa register data on biofuels	100%	
NL	Survey on household wood use	89%	Three stage survey. Non-Response rate is calculated by multiplying response rates of each stage.
NL	CertiQ Registratie voor Garanties van Oorsprong van Hernieuwbare elektriciteit en warmte		For annual statistics non-respons is (almost) zero. For monthly, it may be a few percent
AT	Material Input Statistics (including energetic input)	2%	non response is low due to legal obligation to report data
AT	International Trade in Goods Statistics	0.50%	Imports: 0,8% ; Exports: 0,5%; Comment on 11.+12.: figures refer to INTRASTAT
AT	Useful energy analysis in industries	57.80%	
AT	Energy consumption of small to medium sized industries	92.10%	
AT	Energy consumptions in the service sector	85%	
AT	Energy consumptions of households	33.10%	
PL	G-11e - report on electricity prices according to the category of standard end-users	18%	

Country	National data source	Non-response rate (%)	Comments
PL	GAZ-3 - report on activities of gas companies	5%	only very small companies which have the negligible market shares do not respond
PL	RAF-2 - report on production, trade, stocks and infrastructure for crude oil and oil products	56%	only very small companies which have the negligible market shares do not respond
PL	G-10.1(w)k - report on operation of hydro power plants/wind power plants	2%	
PL	G-10.6 - report on capacity and production of hydro power plants, wind power plants and other renewable sources	2.60%	
PL	G-10.3 - report on capacity and production of electricity and heat by the CHP autoproducers	1.28%	
PL	G-09.4 Report on import and intra-EU acquisition of black coal	10%	
PT	Oil data collection	3%	
PT	Annual Electricity and Heat and Renewables data collection	1%	
RO	E02_production of electricity and heat	12.90%	
RO	E01_energy resources and consumption in year….	14.97%	
SI	Annual statistical survey on the consumption of energy, fuels and selected petroleum products	10.70%	Non-response rate and sample size are from 2014 survey.
SI	Annual solid, liquid, gaseous fuels collection survey		None
SI	Monthly solid, liquid, gaseous fuels collection survey		None
SI	Household energy consumption survey	59%	Non-response rate and sample size are from 2014 household survey.
SK	Energ 8-12 Monthly Questionnaire on Solid Fuels and Selected Gaseous Fuels	22.12%	we allow not to submit the questionnaire only to the enterprises with low consumption and do not influence the final data; many enterprises do not have solid fuels
SK	Energ 6-01 Annual Questionnaire on Sources and Distribution of Fuels and Energy	12.66%	we allow not to submit the questionnaire only to the enterprises with low consumption and do not influence the final data
SK	Energ 5-01 Annual Questionnaire of Solid Fuels Retail	18.18%	we allow not to submit the questionnaire only to the enterprises with low consumption and do not influence the final data
SK	Energ 4-01 Annual Questionnaire on Electricity and Heat Production	11.39%	we allow not to submit the questionnaire only to the enterprises with low consumption and do not influence the final data
SK	Energ 3-01 Annual Questionnaire on Renewable Sources of Fuels and Energy	10.53%	we allow not to submit the questionnaire only to the enterprises with low consumption and do not influence the final data
SK	Energ 7-12 Monthly Questionnaire on Electricity and Heat Production	2.32%	
SK	Monthly report on crude oil, petroleum products and natural gas	10.06%	
FI	Solid wood fuels in heating and power plants	0.70%	

Country	National data source	Non-response rate (%)	Comments
FI	Small scale power and heat istallations	10%	
FI	Calculation model for home appliances	64%	Electricity consumption of respondents is higher than that of non-respondents, weighting via post-stratification largely corrects this upward bias.
FI	Energy use in manufacturing	25%	
FI	Production of electricity and heat	1.80%	
FI	Foreign trade statistics	1.30%	
SE	Monthly electricity		Collection is mostly automatic as most companies are connected to the Nordic Energy Exchange and therefore the non-response rate is close to zero. However about 50 smaller electricity producing units are not included in the data collection and has to be estimated. Also, about 1900-2200 hydropower units are not included in the survey and are not estimated. Also, some wind power units are collected from another industry association and and delivered to Energiföretagen to be included in this survey.
SE	Foreign trade of goods		A test has shown that they survey does not fully comply with the following targets: 1) The yearly relative difference between the final total volyme for companies that did not initially respond to the survey and the total estimated volume of all companies should be max ± 5 %. 2) The yearly absolute relative difference between the final total volyme for all companies and the estimated volume of these non-respondents should be max ± 10 %.
SE	KvBr - Quarterly Fuel Statistics	8%	
SE	Måbra - Monthly fuel, gas and inventory statistics	1%	
SE	ISEN - Energy consumption in the mining and manufacturing industry	7%	
SE	AREL - Electricity Supply, Districy heating, and supply of natural gas	7%	This response rate is only achived after revisions in september after the reference period
UK	Liquid biofuel production, exports and imports	12%	Data only mandatory every other year - in that year 100% response obtained.
UK	Quarterly auto-genarators survey	5%	
UK	MPP (major power producermonthly survey)		Despite being voluntary survey, firms know that we can use legislation to collect info.
UK	LPG	20%	Small suppliers tend not to respond, these account for less than 5% of market
UK	DORS (Downstream Oil Reporting System)		Sample is all major refiners + importers (supply over 50,000 tonnes per year)

Country	National data source	Non-response rate (%)	Comments
UK	Downstream annual gas (AG2)	20%	Sample frame is companies with supply licence. A number of these are not active, and tend not to respond to questionnaire. Confident that larger firms in sample do respond. Feel that over 90% of activity recorded, and vast majority of activity picked up by AG1 form. Previous year response rate around 40%.
UK	Downstream annual gas (AG1)		survey is census of large suppliers, but not all suppliers in scope
UK	Downstream quarterly gas (QG1)		survey is census of large suppliers, but not all suppliers in scope
NO	Fuel wood use, annually	40%	
NO	Production of oil and natural gas		All producing oil and gas fields
NO	Energy use in the manufacturing sector, annually	4%	
NO	District heating, annually	2%	
NO	Electricity, annually	1%	
TR	Energy Balance Data Collection	18%	
TR	Monthly Solid Fuel Statistics Survey	16%	

ANNEX 7. NUMBER OF REVISIONS

This annex displays information as regards the total number of revisions of 2005, 2010 and 2012 data transmitted in the 2013 and 2014 cycles for each annual questionnaire.

Table 45. Total number of revisions of 2005 data sent in the 2013 and 2014 cycles for each annual questionnaire

Revisions of 2005 data	ENERGY_SOLID_A: Solid Fuels Statistics	ENERGY_ELECT_A: Electricity and Heat Statistics	ENERGY_NTGAS_A: Natural Gas Statistics	ENERGY_PETRO_A: Oil and petroleum products	ENERGY_RENEW_A: Renewable energy and wastes statistics	Total
Belgium	0	1	0	0	1	**2**
Bulgaria	0	0	0	0	0	**0**
Czech Republic	0	0	0	0	1	**1**
Denmark	0	0	0	0	0	**0**
Germany	0	1	2	0	0	**3**
Estonia	0	0	0	0	0	**0**
Ireland	0	0	0	1	0	**1**
Greece	0	0	0	1	0	**1**
Spain	1	6	1	0	3	**11**
France	0	3	0	2	0	**5**
Croatia	0	0	0	0	0	**0**
Italy	0	0	0	0	0	**0**
Cyprus	0	0	0	1	1	**2**
Latvia	3	4	0	0	1	**8**
Lithuania	0	0	0	0	0	**0**
Luxembourg	0	0	0	0	0	**0**
Hungary	0	1	2	4	2	**9**
Malta	0	2	0	1	3	**6**
Netherlands	2	1	0	3	0	**6**
Austria	0	0	0	0	0	**0**
Poland	1	2	1	2	1	**7**
Portugal	0	0	0	1	0	**1**
Romania	0	0	0	0	0	**0**
Slovenia	2	1	1	1	1	**6**
Slovak Republic	1	0	0	0	0	**1**
Finland	0	0	0	0	0	**0**
Sweden	1	3	0	0	1	**5**
United Kingdom	1	2	0	2	0	**5**

Table 46. Total number of revisions of 2010 data sent in the 2013 and 2014 cycles for each annual questionnaire

Revisions of 2010 data	ENERGY_SOLID_A: Solid Fuels Statistics	ENERGY_ELECT_A: Electricity and Heat Statistics	ENERGY_NTGAS_A: Natural Gas Statistics	ENERGY_PETRO_A: Oil and petroleum products	ENERGY_RENEW_A: Renewable energy and wastes statistics	Total
Belgium	0	1	0	0	1	**2**
Bulgaria	0	0	0	0	0	**0**
Czech Republic	0	0	0	0	1	**1**
Denmark	0	0	0	0	0	**0**
Germany	0	1	2	0	0	**3**
Estonia	0	0	0	0	0	**0**
Ireland	0	0	0	1	0	**1**
Greece	0	0	0	1	0	**1**
Spain	1	6	1	0	3	**11**
France	0	3	0	2	0	**5**
Croatia	0	0	0	0	0	**0**
Italy	0	0	0	0	0	**0**
Cyprus	0	0	0	1	1	**2**
Latvia	3	4	0	0	1	**8**
Lithuania	0	0	0	0	0	**0**
Luxembourg	0	0	0	0	0	**0**
Hungary	0	1	2	4	2	**9**
Malta	0	2	0	1	3	**6**
Netherlands	2	1	0	3	0	**6**
Austria	0	0	0	0	0	**0**
Poland	1	2	1	2	1	**7**
Portugal	0	0	0	1	0	**1**
Romania	0	0	0	0	0	**0**
Slovenia	2	1	1	1	1	**6**
Slovak Republic	1	0	0	0	0	**1**
Finland	0	0	0	0	0	**0**
Sweden	1	3	0	0	1	**5**
United Kingdom	1	2	0	2	0	**5**

Table 47. Total number of revisions of 2012 data sent in the 2013 and 2014 cycles for each annual questionnaire

Revisions of 2012 data	ENERGY_SOLID_A: Solid Fuels Statistics	ENERGY_ELECT_A: Electricity and Heat Statistics	ENERGY_NTGAS_A: Natural Gas Statistics	ENERGY_PETRO_A: Oil and petroleum products	ENERGY_RENEW_A: Renewable energy and wastes statistics	Total
Belgium	0	1	0	0	1	**2**
Bulgaria	0	0	0	0	0	**0**
Czech Republic	0	0	0	0	1	**1**
Denmark	0	0	0	0	0	**0**
Germany	0	1	2	0	0	**3**
Estonia	0	0	0	0	0	**0**
Ireland	0	0	0	1	0	**1**
Greece	0	0	0	1	0	**1**
Spain	1	6	1	0	3	**11**
France	0	3	0	2	0	**5**
Croatia	0	0	0	0	0	**0**
Italy	0	0	0	0	0	**0**
Cyprus	0	0	0	1	1	**2**
Latvia	3	4	0	0	1	**8**
Lithuania	0	0	0	0	0	**0**
Luxembourg	0	0	0	0	0	**0**
Hungary	0	1	2	4	2	**9**
Malta	0	2	0	1	3	**6**
Netherlands	2	1	0	3	0	**6**
Austria	0	0	0	0	0	**0**
Poland	1	2	1	2	1	**7**
Portugal	0	0	0	1	0	**1**
Romania	0	0	0	0	0	**0**
Slovenia	2	1	1	1	1	**6**
Slovak Republic	1	0	0	0	0	**1**
Finland	0	0	0	0	0	**0**
Sweden	1	3	0	0	1	**5**
United Kingdom	1	2	0	2	0	**5**

ANNEX 8. DOCUMENTATION ON METHODOLOGY AND QUALITY

Table 48. Links to documentation on methodology and quality at national level (as reported by countries in their quality reports)

Country	Links to national documentation on methodology and quality
Belgium	
Bulgaria	http://www.nsi.bg/en/content/5027/production-and-deliveries-electricity http://www.nsi.bg/en/content/5024/production-and-deliveries-natural-gas http://www.nsi.bg/en/content/5021/production-and-deliveries-oil-and-petroleum-products http://www.nsi.bg/en/content/5030/production-and-deliveries-solid-fuels
Czech Republic	Included in the statistical reports (metadata).
Denmark	http://www.dst.dk/da/Statistik/dokumentation/statistikdokumentation/erhvervenes-energiforbrug www.ens.dk
Germany	https://www.netztransparenz.de/de/EEG_Jahresabrechnungen.htm http://www.bmwi.de/DE/Themen/Energie/Energiedaten-und-analysen/erhebungsstudien.html https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/StromabsatzErloeseStromhaendler083.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/AbgabeEinAusfuhrErdgasErdoelgas082p.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/AbgabeFluessiggas075.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/GewinnungVerwendungAbgabeKlaergas073.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/StromeinspeisungNetzbetreiber070.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/Stromerzeugungsanlagen067.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/Biotreibstoffe063.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/Geothermie062.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/EnergieverwendungBetriebe060.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/AufkommenVerwendungAbgabeErdgasErdoelgas069.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/ErzeugungBezugVerwendungAbgabeWaerme064.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/MBGasversorgung068.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/MBElektrizitaetsWaermeerzeugungStromerzeugungsanl066K.pdf?__blob=publicationFile https://www.destatis.de/DE/Publikationen/Qualitaetsberichte/Energie/ElektrizitaetsversorgungNetzbetreiber066N.pdf?__blob=publicationFile

Country	Links to national documentation on methodology and quality
Estonia	http://pub.stat.ee/px-web.2001/I_Databas/Economy/07Energy/02Energy_consumption_and_production/01Annual_statistics/FE_01.htm http://pub.stat.ee/px-web.2001/I_Databas/Economy/07Energy/02Energy_consumption_and_production/02Short_term_statistics/FE_20.htm
Ireland	Not yet available
Greece	Web address: http://www.ypeka.gr, http://www.fuelstat.gr
Spain	http://www.comercio.gob.es/es-ES/comercio-exterior/estadisticas-informes/Paginas/estadisticas-comercio.aspx www.minetur.gob.es/energía/balances/Estadísticas/Paginas/Carbon.aspx and http://www.minetur.gob.es/energia/balances/Publicaciones/DestilacionCarbonAnuales/Paginas/DestilacionCarbonAnual.aspx "Resolución de la Dirección General de Política Energética y Minas, 29 de mayo de 2007 : http://www.boe.es/buscar/doc.php?id=BOE-A-2007-127500 " "Resolución de la Dirección General de Política Energética y Minas de 15 de diciembre de 2008 : http://www.boe.es/buscar/doc.php?id=BOE-A-2009-1009 "

Country	Links to national documentation on methodology and quality
France	http://www.cpdp.org/ http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-logement-2013.htm see annex of the quarterly national renewables outlook : http://www.statistiques.developpement-durable.gouv.fr/energie-climat/r/energies-renouvelables.html?cHash=6c2aadbcba0d657fa4b7d4aa4ee6377d&tx_ttnews[tt_news]=24797 see annex of the monthly national energy outlook : http://www.statistiques.developpement-durable.gouv.fr/publications/p/2542/1399/conjoncture-energetique-mars-2016.html see annex of the monthly national energy outlook : http://www.statistiques.developpement-durable.gouv.fr/publications/p/2542/1399/conjoncture-energetique-mars-2016.html http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?enquete=OPE-SOES-MINERAUX-SOLIDES-CMS-16-W&critere=serviceProducteur&valeur=ORG-SOES-16-W http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1544/0/enquete-annuelle-ventes-produits-petroliers.html http://www.statistiques.developpement-durable.gouv.fr/publications/p/2348/1002/lactivite-petrochimie-france-donnees-2014.html https://pro.douane.gouv.fr/ https://www.data.gouv.fr/fr/datasets/statistiques-nationales-du-commerce-exterieur/ http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-conso-energie-tertiaire-ecet.htm http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-conso-energie-industrie-eacei.htm http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?enquete=OPE-SOES-CONSOMMATIONS-COMBUSTIBLES-16-W&critere=serviceProducteur&valeur=ORG-SOES-16-W http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?numeroVisa=2015A053EQ http://www.statistiques.developpement-durable.gouv.fr/repondre-enquetes/enquete-annuelle-statistique-gaziere.html http://www.statistiques.developpement-durable.gouv.fr/repondre-enquetes/enquete-annuelle-transport-distribution-delectricite.html http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1544/0/enquete-annuelle-production-delectricite.html?tx_ttnews
Croatia	http://www.dzs.hr/Hrv_Eng/Other/promet_pojmovnik.pdf http://www.dzs.hr/default_e.htm http://www.dzs.hr/Obrasci.htm http://narodne-novine.nn.hr/clanci/sluzbeni/2009_01_11_242.html http://narodne-novine.nn.hr/clanci/sluzbeni/2010_01_6_145.html and http://www.dzs.hr/
Italy	http://dgsaie.mise.gov.it/dgerm/questionariopetrolio.asp http://dgerm.sviluppoeconomico.gov.it/dgerm/questionariogas.asp http://dgerm.sviluppoeconomico.gov.it/qp/qc.htm
Cyprus	
Latvia	http://www.csb.gov.lv/veidlapas/2016/40

Country	Links to national documentation on methodology and quality
Lithuania	http://estatistika.stat.gov.lt/statistiniu-ataskaitu-formos.html
Luxembourg	
Hungary	http://www.ksh.hu/intrastat_eng http://www.mekh.hu/official-statistics
Malta	Not available
Netherlands	https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/statistiek-internationale-handel-in-goederen https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/supply-of-electricity-and-natural-gas-via-the-national-grid https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/energy-consumption-in-industry https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/crude-oil-and-petroleum-products https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/means-of-electricity-production https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/indigenous-production-transformation-and-consumption-of- energydiensten/methoden/onderzoeksomschrijvingen/aanvullende%20onderzoeksbeschrijvingen/protocol-monitoring-hernieuwbare-energie-2015-rvo-cbs https://www.cbs.nl/nl-nl/publicatie/2015/40/hernieuwbare-energie-in-nederland-2014 en https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/aanvullende%20onderzoeksbeschrijvingen/protocol-monitoring-hernieuwbare-energie-2015-rvo-cbs https://www.cbs.nl/nl-nl/publicatie/2015/40/hernieuwbare-energie-in-nederland-2014 https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/aanvullende%20onderzoeksbeschrijvingen/houtverbruik-van-huishoudens-woon-onderzoek-2012 en https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/renewable-energy https://www.cbs.nl/en-gb/our-services/methods/surveys/korte-onderzoeksbeschrijvingen/renewable-energy and https://www.cbs.nl/nl-nl/publicatie/2015/40/hernieuwbare-energie-in-nederland-2014 and https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/aanvullende%20onderzoeksbeschrijvingen/protocol-monitoring-hernieuwbare-energie-2015-rvo-cbs
Austria	http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=067690 http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=001650 http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=053878

Country	Links to national documentation on methodology and quality
Poland	http://www.are.waw.pl/teksty/2014/opis/o11n.pdf http://www.are.waw.pl/teksty/2015/opis/o11e.pdf http://www.are.waw.pl/teksty/2014/opis/o11gv3.pdf http://www.are.waw.pl/teksty/2014/form/gaz2.pdf http://www.are.waw.pl/teksty/2014/form/gaz1.pdf http://www.are.waw.pl/teksty/2014/opis/ogaz3v5.pdf http://www.are.waw.pl/teksty/2014/opis/oraf2v2.pdf http://www.are.waw.pl/teksty/2014/opis/oraf1.pdf http://www.are.waw.pl/teksty/2014/opis/o104obk.pdf http://www.are.waw.pl/teksty/2014/opis/o104pk.pdf http://www.are.waw.pl/teksty/2014/opis/o104dk.pdf http://www.are.waw.pl/teksty/2014/opis/o101wk.pdf http://www.are.waw.pl/teksty/2014/opis/o101k.pdf http://www.are.waw.pl/teksty/2015/opis/o107.pdf http://www.are.waw.pl/teksty/2015/opis/o107p.pdf http://www.are.waw.pl/teksty/2014/opis/o10m.pdf http://www.are.waw.pl/teksty/2015/opis/o108.pdf http://www.are.waw.pl/teksty/2015/opis/o106.pdf http://www.are.waw.pl/teksty/2015/opis/o105.pdf http://www.are.waw.pl/teksty/2015/opis/o103v2.pdf http://www.are.waw.pl/teksty/2015/opis/o102.pdf
Portugal	www.dgeg.pt » Estatística e Preços » Petróleo e Derivados » www.dgeg.pt » Estatística e Preços » Gás Natural » www.dgeg.pt » Estatística e Preços » Carvão » www.dgeg.pt » Estatísticas e Preços » Documentos Metodológicos» Energia » Estatísitcas Mensais de Energia Elétrica www.dgeg.pt » Estatísticas e Preços » Documentos Metodológicos» Energia » Estatísitcas Anuais de Energia Elétrica e Calor
Romania	http://www.insse.ro/cms/ro/content/statistica-energiei ; http://www.insse.ro/cms/files/publicatii/Balanta%20energetica%20si%20structura%20utilajului%20energetic%20in%20anul%202014.pdf
Slovenia	http://www.stat.si/StatWeb/en/Methods/QuestionnairesMethodologicalExplanationsQualityReports
Slovak Republic	Programme of the State Statistical Surveys 2012-2014: http://www.noveaspi.sk/products/lawText/1/75158/1/2
Finland	http://stat.luke.fi/en/tilasto/4454/kuvaus/5557 http://stat.luke.fi/tilasto/3391/laatuseloste/3948 (only in Finnish) http://stat.fi/til/asen/2014/asen_2014_2015-11-20_laa_001_fi.html (only in Finnish) http://www.stat.fi/til/kivih/2016/03/kivih_2016_03_2016-04-28_laa_001_fi.html (only in finnish) https://www.tilastokeskus.fi/til/tene/2014/tene_2014_2015-11-05_laa_001_fi.html (only in Finnish) http://www.stat.fi/til/salatuo/2014/salatuo_2014_2015-10-29_laa_001_fi.html (only in Finnish) http://www.tulli.fi/en/finnish_customs/statistics/metadata/index.jsp

Country	Links to national documentation on methodology and quality
Sweden	http://www.scb.se/Statistik/EN/EN0120/_dokument/EN0120_DO_2012.pdf http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Energi/Tillforsel-och-anvandning-av-energi/Manatlig-elstatistik/6372/18234/2014/ www.scb.se/ha0201 http://www.scb.se/sv_/Hitta-statistik/Statistik-efter-amne/Energi/Tillforsel-och-anvandning-av-energi/Kvartalsvis-branslestatistik/#documentation_ http://www.energimyndigheten.se/trygg-energiforsorjning/olje--och-drivmedelsberedskap/beredskapslagring-av-olja/ http://www.scb.se/en_/Finding-statistics/Statistics-by-subject-area/Energy/Energy-supply-and-use/Monthly-fuel-gas-and-inventory-statistics/ http://www.scb.se/en_/Finding-statistics/Statistics-by-subject-area/Energy/Energy-supply-and-use/Energy-use-in-manufacturing-industry/ http://www.scb.se/en_/Finding-statistics/Statistics-by-subject-area/Energy/Energy-supply-and-use/Annual-energy-statistics-electricity-gas-and-district-heating/
United Kingdom	https://www.gov.uk/government/publications/solid-fuels-and-derived-gases-statistics-data-sources-and-methodologies https://www.gov.uk/guidance/renewable-transport-fuels-obligation https://www.gov.uk/government/publications/combined-heat-and-power-statistics-data-sources-and-methodologies https://www.gov.uk/government/publications/renewable-energy-statistics-data-sources-and-methodologies https://www.gov.uk/government/publications/electricity-statistics-data-sources-and-methodologies https://www.gov.uk/government/publications/crude-oil-and-petroleum-products-methodology-note https://www.gov.uk/government/publications/crude-oil-and-petroleum-products-methodology-note https://www.gov.uk/government/publications/downstream-gas-statistics-data-sources-and-methodologies
Norway	http://www.ssb.no/en/natur-og-miljo/artikler-og-publikasjoner/_attachment/199060?_ts=148cbc77aa8 Chapter 3.2.5.2 http://www.ssb.no/en/energi-og-industri/statistikker/petroleumsalg/maaned/2016-06-15?fane=om#content
Turkey	Energy Statistics Manual, EC energy statistics regulations and Joint questionnaires methodologies are used as reference material which is published by International Energy Agency and Eurostat

ANNEX 9. AVAILABILITY OF NATIONAL METADATA

Table 49. Links to documentation on metadata at national level (as reported by countries in their quality reports)

Country	Links to national metadata
Belgium	
Bulgaria	http://www.nsi.bg/en/content/5027/production-and-deliveries-electricity http://www.nsi.bg/en/content/5024/production-and-deliveries-natural-gas http://www.nsi.bg/en/content/5021/production-and-deliveries-oil-and-petroleum-products http://www.nsi.bg/en/content/5030/production-and-deliveries-solid-fuels
Czech Republic	http://www.mpo.cz/cz/energetika-a-suroviny/statistiky-energetika/ https://www.czso.cz/csu/czso/metainformation_database
Denmark	www.ens.dk
Germany	https://www.solarwirtschaft.de/fileadmin/media/pdf/2016_3_BSW_Solar_Faktenblatt_Solarwaerme.pdf http://www.bundesnetzagentur.de/DE/Sachgebiete/ElektrizitaetundGas/Unternehmen_Institutionen/ErneuerbareEnergien/ZahlenDatenInformationen/zahlenunddaten-node.html
Estonia	http://www.stat.ee/esms-metadata?code=20206 http://www.stat.ee/esms-metadata?code=20205
Ireland	Not yet available
Greece	
Spain	

Country	Links to national metadata
France	http://www.cpdp.org/ http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-logement-2013.htm see annex of the quarterly national renewables outlook : http://www.statistiques.developpement-durable.gouv.fr/energie-climat/r/energies-renouvelables.html?cHash=6c2aadbcba0d657fa4b7d4aa4ee6377d&tx_ttnews[tt_news]=24797 see annex of the monthly national energy outlook : http://www.statistiques.developpement-durable.gouv.fr/publications/p/2542/1399/conjoncture-energetique-mars-2016.html http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?enquete=OPE-SOES-MINERAUX-SOLIDES-CMS-16-W&critere=serviceProducteur&valeur=ORG-SOES-16-W http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1544/0/enquete-annuelle-ventes-produits-petroliers.html http://www.statistiques.developpement-durable.gouv.fr/publications/p/2348/1002/lactivite-petrochimie-france-donnees-2014.html https://pro.douane.gouv.fr/ https://www.data.gouv.fr/fr/datasets/statistiques-nationales-du-commerce-exterieur/ http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-conso-energie-tertiaire-ecet.htm http://www.insee.fr/fr/methodes/default.asp?page=sources/sou-enq-conso-energie-industrie-eacei.htm http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?enquete=OPE-SOES-CONSOMMATIONS-COMBUSTIBLES-16-W&critere=serviceProducteur&valeur=ORG-SOES-16-W http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?numeroVisa=2015A053EQ http://www.statistiques.developpement-durable.gouv.fr/repondre-enquetes/enquete-annuelle-statistique-gaziere.html http://www.statistiques.developpement-durable.gouv.fr/repondre-enquetes/enquete-annuelle-transport-distribution-delectricite.html http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1544/0/enquete-annuelle-production-delectricite.html?tx_ttnews

Country	Links to national metadata
Croatia	http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PAT-11.doc http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PZG-21.pdf http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PRG-11.pdf http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PZG-11.pdf http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PPT-11.pdf http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PGT-11.pdf http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PAM-11.pdf http://www.dzs.hr/Hrv/important/Obrasci/05-Prijevoz/Obrasci/PZhG-11.pdf http://dsbb.imf.org/pages/sdds/DQAFBase.aspx?ctycode=HRV&catcode=MET00 http://dsbb.imf.org/pages/sdds/DQAFBaseCollapsed.aspx?ctycode=HRV&catcode=MET00 http://www.dzs.hr/
Italy	http://www.terna.it/it-it/sistemaelettrico/statisticheeprevisioni/datistatistici.aspx
Cyprus	
Latvia	http://www.csb.gov.lv/en/dati/metadata-38714.html
Lithuania	http://osp.stat.gov.lt/documents/10180/0/energetikos+statistika_metainfo-EN http://osp.stat.gov.lt/documents/10180/0/kuro+ir+energijios+balansas_metainfo-EN
Luxembourg	
Hungary	http://www.ksh.hu/apps/meta.objektum?p_lang=EN&p_menu_id=110&p_ot_id=100&p_obj_id=QKT&p_session_id=59961638 http://www.mekh.hu/methodology-information
Malta	Not available
Netherlands	See our StatLine database and tables on energy: http://statline.cbs.nl/statweb/dome/?LA=nl and http://statline.cbs.nl/statweb/dome/?LA=en
Austria	http://www.statistik.at/web_de/frageboegen/unternehmen/guetereinsatzerhebung/index.html http://www.statistik.at/wcm/idc/idcplg?IdcService=GET_PDF_FILE&RevisionSelectionMethod=LatestReleased&dDocName=001650
Poland	http://stat.gov.pl/en/metainformations/glossary/terms-used-in-official-statistics/list.html

Country	Links to national metadata
Portugal	www.dgeg.pt » Estatística e Preços » Documentos Metodológicos » Energia » Estatísticas do Crude e Produtos de Petróleo www.dgeg.pt » Estatística e Preços » Documentos Metodológicos » Energia » Estatísticas do Gás Natural www.dgeg.pt » Estatística e Preços » Documentos Metodológicos » Energia » Estatísticas do Carvão www.dgeg.pt » Estatisticas e Preços » Renováveis » Estatísticas Rápidas www.dgeg.pt » Estatísticas e Preços » Eletricidade » Dados mensais de Energia Elétrica www.dgeg.pt » Estatisticas e Preços » Renováveis » www.dgeg.pt » Estatísticas e Preços » Eletricidade »
Romania	http://colectaredate.insse.ro/metadata/public.htm?locale=ro
Slovenia	http://pxweb.stat.si/pxweb/Database/Environment/18_energy/03_18176_electricity/03_18176_electricity.asp http://pxweb.stat.si/pxweb/Database/Environment/18_energy/05_18223_renewables_wastes/05_18223_renewables_wastes.asp http://pxweb.stat.si/pxweb/Database/Environment/18_energy/06_18178_energents_consumption/06_18178_energents_consumption.asp http://pxweb.stat.si/pxweb/Database/Environment/18_energy/04_18180_fuels/04_18180_fuels.asp http://pxweb.stat.si/pxweb/Database/Environment/18_energy/07_18154_housh_consumption/07_18154_housh_consumption.asp
Slovak Republic	
Finland	http://tilastokeskus.fi/tup/khkinv/khkaasut_polttoaineluokitus.html http://stat.luke.fi/en/tilasto/4454/kuvaus/5557 http://energia.fi/en/node/1151 http://stat.luke.fi/en/energy-consumption-of-agriculture-and-horticulture http://stat.fi/til/asen/kas_en.html http://www.stat.fi/til/kivih/kas_en.html https://www.tilastokeskus.fi/til/tene/meta_en.html; https://www.stat.fi/meta/til/salatuo_en.html http://www.tulli.fi/en/finnish_customs/statistics/index.jsp
Sweden	https://www.h6.scb.se/metadata/mikrodataregister.aspx#
United Kingdom	https://www.gov.uk/government/publications/solid-fuels-and-derived-gases-statistics-data-sources-and-methodologies https://www.gov.uk/guidance/renewable-transport-fuels-obligation https://www.gov.uk/government/publications/combined-heat-and-power-statistics-data-sources-and-methodologies https://www.gov.uk/government/publications/renewable-energy-statistics-data-sources-and-methodologies https://www.gov.uk/government/publications/electricity-statistics-data-sources-and-methodologies https://www.gov.uk/government/publications/crude-oil-and-petroleum-products-methodology-note https://www.uktradeinfo.com/Statistics/OverseasTradeStatistics/AboutOverseastradeStatistics/Pages/PoliciesandMethodologies.aspx https://www.gov.uk/government/publications/downstream-gas-statistics-data-sources-and-methodologies

Country	Links to national metadata
Norway	http://www.ssb.no/en/utenriksokonomi/statistikker/muh/maaned/2016-06-16?fane=om#content http://www.ssb.no/innrapportering/naeringsliv/energivarer-brukt-som-rastoff http://www.ssb.no/innrapportering/naeringsliv/tilgang-salg-forbruk-biogass https://www.ssb.no/en/energi-og-industri/statistikker/energibalanse/aar-endelige/2015-10-08?fane=om#content https://www.ssb.no/en/energi-og-industri/statistikker/energibalanse Non https://portal.diskos.cgg.com/prod-report-module/ http://www.ssb.no/en/energi-og-industri/statistikker/naturgass/aar/2014-05-12?fane=om#content http://www.ssb.no/en/energi-og-industri/statistikker/petroleumsalg/maaned/2016-06-15#content http://www.ssb.no/en/energi-og-industri/statistikker/indenergi/ http://www.ssb.no/en/energi-og-industri/statistikker/petroleumsalg/aar/2016-04-05 http://www.ssb.no/en/energi-og-industri/statistikker/fjernvarme/aar/2016-05-13?fane=om#content http://www.ssb.no/en/energi-og-industri/statistikker/elektrisitet/maaned/2016-06-03?fane=om#content http://www.ssb.no/en/energi-og-industri/statistikker/elektrisitet/aar
Turkey	http://www.turkstat.gov.tr/PreTablo.do?alt_id=1029

ANNEX 10. DETAILED ANALYSIS MONTHLY VS ANNUAL

The following annex presents a detailed comparison of the main aggregates and fuels for the 4 monthly (M-3 and M-2) data collections[10].

Table 50. Monthly oil vs annual oil

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
BE	Crude oil (without NGL)	Indigenous production	0	0	0,0%
BE	Crude oil (without NGL)	Imports (Balance)	32.190	32.188	0,0%
BE	Crude oil (without NGL)	Stock changes (National territory)	67	-67	0,0%
BE	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
BE	Crude oil (without NGL)	Gross inland consumption	32.123	32.121	0,0%
BE	Crude oil (without NGL)	Refinery intake (Observed)	32.123	32.123	0,0%
BE	Total motor gasoline (with bio)	Imports (Balance)	835	828	0,8%
BE	Total motor gasoline (with bio)	Stock changes (National territory)	82	-93	11,8%
BE	Total motor gasoline (with bio)	Exports (Balance)	4.047	4.220	4,1%
BE	Total motor gasoline (with bio)	Gross inland consumption	-3.294	-3.485	5,5%
BE	Total gas/diesel oil (with bio)	Imports (Balance)	9.783	9.782	0,0%
BE	Total gas/diesel oil (with bio)	Stock changes (National territory)	157	-184	14,7%
BE	Total gas/diesel oil (with bio)	Exports (Balance)	11.580	11.768	1,6%
BE	Total gas/diesel oil (with bio)	Gross inland consumption	-1.954	-2.770	29,5%
BG	Crude oil (without NGL)	Indigenous production	0	26	100,0%
BG	Crude oil (without NGL)	Imports (Balance)	5.103	5.103	0,0%
BG	Crude oil (without NGL)	Stock changes (National territory)	-29	25	16,0%
BG	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
BG	Crude oil (without NGL)	Gross inland consumption	5.132	5.154	0,4%
BG	Crude oil (without NGL)	Refinery intake (Observed)	5.156	5.154	0,0%
BG	Total motor gasoline (with bio)	Imports (Balance)	212	238	10,9%
BG	Total motor gasoline (with bio)	Stock changes (National territory)	-15	2	650,0%
BG	Total motor gasoline (with bio)	Exports (Balance)	1.355	1.358	0,2%
BG	Total motor gasoline (with bio)	Gross inland consumption	-1.128	-1.118	0,9%
BG	Total gas/diesel oil (with bio)	Imports (Balance)	844	926	8,9%
BG	Total gas/diesel oil (with bio)	Stock changes (National territory)	-21	47	55,3%
BG	Total gas/diesel oil (with bio)	Exports (Balance)	852	842	1,2%

[10] Please note that comparison between imports and exports might differ in several cases due to the difference in the definition at monthly and annual reporting.

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
BG	Total gas/diesel oil (with bio)	Gross inland consumption	13	75	82,7%
CZ	Crude oil (without NGL)	Indigenous production	150	150	0,0%
CZ	Crude oil (without NGL)	Imports (Balance)	7.371	7.371	0,0%
CZ	Crude oil (without NGL)	Stock changes (National territory)	18	-18	0,0%
CZ	Crude oil (without NGL)	Exports (Balance)	27	27	0,0%
CZ	Crude oil (without NGL)	Gross inland consumption	7.476	7.476	0,0%
CZ	Crude oil (without NGL)	Refinery intake (Observed)	7.496	7.496	0,0%
CZ	Total motor gasoline (with bio)	Imports (Balance)	454	449	1,1%
CZ	Total motor gasoline (with bio)	Stock changes (National territory)	-28	27	3,7%
CZ	Total motor gasoline (with bio)	Exports (Balance)	459	459	0,0%
CZ	Total motor gasoline (with bio)	Gross inland consumption	23	17	35,3%
CZ	Total gas/diesel oil (with bio)	Imports (Balance)	1.791	1.786	0,3%
CZ	Total gas/diesel oil (with bio)	Stock changes (National territory)	101	-103	1,9%
CZ	Total gas/diesel oil (with bio)	Exports (Balance)	879	879	0,0%
CZ	Total gas/diesel oil (with bio)	Gross inland consumption	811	804	0,9%
DK	Crude oil (without NGL)	Indigenous production	8.130	8.131	0,0%
DK	Crude oil (without NGL)	Imports (Balance)	3.455	3.458	0,1%
DK	Crude oil (without NGL)	Stock changes (National territory)	-121	127	4,7%
DK	Crude oil (without NGL)	Exports (Balance)	4.797	4.799	0,0%
DK	Crude oil (without NGL)	Gross inland consumption	6.909	6.917	0,1%
DK	Crude oil (without NGL)	Refinery intake (Observed)	6.910	6.910	0,0%
DK	Total motor gasoline (with bio)	Imports (Balance)	636	715	11,0%
DK	Total motor gasoline (with bio)	Stock changes (National territory)	-6	6	0,0%
DK	Total motor gasoline (with bio)	Exports (Balance)	1.198	1.215	1,4%
DK	Total motor gasoline (with bio)	Gross inland consumption	-556	-494	12,6%
DK	Total gas/diesel oil (with bio)	Imports (Balance)	2.586	2.762	6,4%
DK	Total gas/diesel oil (with bio)	Stock changes (National territory)	265	-273	2,9%
DK	Total gas/diesel oil (with bio)	Exports (Balance)	1.669	1.673	0,2%
DK	Total gas/diesel oil (with bio)	Gross inland consumption	652	517	26,1%
DE	Crude oil (without NGL)	Indigenous production	2.434	2.435	0,0%
DE	Crude oil (without NGL)	Imports (Balance)	89.461	89.397	0,1%
DE	Crude oil (without NGL)	Stock changes (National territory)	211	-368	42,7%
DE	Crude oil (without NGL)	Exports (Balance)	30	30	0,0%
DE	Crude oil (without NGL)	Gross inland consumption	91.654	91.434	0,2%
DE	Crude oil (without NGL)	Refinery intake (Observed)	91.271	91.272	0,0%
DE	Total motor gasoline (with bio)	Imports (Balance)	1.776	1.790	0,8%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
DE	Total motor gasoline (with bio)	Stock changes (National territory)	-17	29	41,4%
DE	Total motor gasoline (with bio)	Exports (Balance)	4.805	4.820	0,3%
DE	Total motor gasoline (with bio)	Gross inland consumption	-3.012	-3.001	0,4%
DE	Total gas/diesel oil (with bio)	Imports (Balance)	16.867	16.871	0,0%
DE	Total gas/diesel oil (with bio)	Stock changes (National territory)	-689	650	6,0%
DE	Total gas/diesel oil (with bio)	Exports (Balance)	7.683	7.694	0,1%
DE	Total gas/diesel oil (with bio)	Gross inland consumption	9.873	9.384	5,2%
EE	Crude oil (without NGL)	Indigenous production			0,0%
EE	Crude oil (without NGL)	Imports (Balance)			0,0%
EE	Crude oil (without NGL)	Stock changes (National territory)			0,0%
EE	Crude oil (without NGL)	Exports (Balance)			0,0%
EE	Crude oil (without NGL)	Gross inland consumption			0,0%
EE	Crude oil (without NGL)	Refinery intake (Observed)			0,0%
EE	Total motor gasoline (with bio)	Imports (Balance)	429	434	1,2%
EE	Total motor gasoline (with bio)	Stock changes (National territory)	-2	2	0,0%
EE	Total motor gasoline (with bio)	Exports (Balance)	177	194	8,8%
EE	Total motor gasoline (with bio)	Gross inland consumption	254	242	5,0%
EE	Total gas/diesel oil (with bio)	Imports (Balance)	683	691	1,2%
EE	Total gas/diesel oil (with bio)	Stock changes (National territory)	-9	9	0,0%
EE	Total gas/diesel oil (with bio)	Exports (Balance)	6	9	33,3%
EE	Total gas/diesel oil (with bio)	Gross inland consumption	686	641	7,0%
IE	Crude oil (without NGL)	Indigenous production	0	0	0,0%
IE	Crude oil (without NGL)	Imports (Balance)	2.701	2.701	0,0%
IE	Crude oil (without NGL)	Stock changes (National territory)	-51	51	0,0%
IE	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
IE	Crude oil (without NGL)	Gross inland consumption	2.752	2.752	0,0%
IE	Crude oil (without NGL)	Refinery intake (Observed)	2.752	2.752	0,0%
IE	Total motor gasoline (with bio)	Imports (Balance)	878	882	0,5%
IE	Total motor gasoline (with bio)	Stock changes (National territory)	-3	3	0,0%
IE	Total motor gasoline (with bio)	Exports (Balance)	262	262	0,0%
IE	Total motor gasoline (with bio)	Gross inland consumption	619	623	0,6%
IE	Total gas/diesel oil (with bio)	Imports (Balance)	2.227	2.227	0,0%
IE	Total gas/diesel oil (with bio)	Stock changes (National territory)	-8	8	0,0%
IE	Total gas/diesel oil (with bio)	Exports (Balance)	17	17	0,0%
IE	Total gas/diesel oil (with bio)	Gross inland consumption	2.218	2.111	5,1%
EL	Crude oil (without NGL)	Indigenous production	64	64	0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
EL	Crude oil (without NGL)	Imports (Balance)	20.825	20.826	0,0%
EL	Crude oil (without NGL)	Stock changes (National territory)	140	-140	0,0%
EL	Crude oil (without NGL)	Exports (Balance)	59	59	0,0%
EL	Crude oil (without NGL)	Gross inland consumption	20.690	20.691	0,0%
EL	Crude oil (without NGL)	Refinery intake (Observed)	20.695	20.695	0,0%
EL	Total motor gasoline (with bio)	Imports (Balance)	351	351	0,0%
EL	Total motor gasoline (with bio)	Stock changes (National territory)	-21	21	0,0%
EL	Total motor gasoline (with bio)	Exports (Balance)	2.566	2.571	0,2%
EL	Total motor gasoline (with bio)	Gross inland consumption	-2.194	-2.199	0,2%
EL	Total gas/diesel oil (with bio)	Imports (Balance)	934	936	0,2%
EL	Total gas/diesel oil (with bio)	Stock changes (National territory)	-318	318	0,0%
EL	Total gas/diesel oil (with bio)	Exports (Balance)	6.593	6.592	0,0%
EL	Total gas/diesel oil (with bio)	Gross inland consumption	-5.341	-5.602	4,7%
ES	Crude oil (without NGL)	Indigenous production	305	305	0,0%
ES	Crude oil (without NGL)	Imports (Balance)	59.055	59.054	0,0%
ES	Crude oil (without NGL)	Stock changes (National territory)	330	-330	0,0%
ES	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
ES	Crude oil (without NGL)	Gross inland consumption	59.030	59.029	0,0%
ES	Crude oil (without NGL)	Refinery intake (Observed)	59.023	59.022	0,0%
ES	Total motor gasoline (with bio)	Imports (Balance)	101	77	31,2%
ES	Total motor gasoline (with bio)	Stock changes (National territory)	57	-57	0,0%
ES	Total motor gasoline (with bio)	Exports (Balance)	3.419	3.262	4,8%
ES	Total motor gasoline (with bio)	Gross inland consumption	-3.375	-3.242	4,1%
ES	Total gas/diesel oil (with bio)	Imports (Balance)	4.925	3.812	29,2%
ES	Total gas/diesel oil (with bio)	Stock changes (National territory)	528	-528	0,0%
ES	Total gas/diesel oil (with bio)	Exports (Balance)	6.411	5.071	26,4%
ES	Total gas/diesel oil (with bio)	Gross inland consumption	-2.014	-3.051	34,0%
FR	Crude oil (without NGL)	Indigenous production	766	766	0,0%
FR	Crude oil (without NGL)	Imports (Balance)	53.358	53.583	0,4%
FR	Crude oil (without NGL)	Stock changes (National territory)	-318	318	0,0%
FR	Crude oil (without NGL)	Exports (Balance)	0	20	100,0%
FR	Crude oil (without NGL)	Gross inland consumption	54.442	54.647	0,4%
FR	Crude oil (without NGL)	Refinery intake (Observed)	54.585	54.566	0,0%
FR	Total motor gasoline (with bio)	Imports (Balance)	453	284	59,5%
FR	Total motor gasoline (with bio)	Stock changes (National territory)	59	-59	0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
FR	Total motor gasoline (with bio)	Exports (Balance)	4.002	3.813	5,0%
FR	Total motor gasoline (with bio)	Gross inland consumption	-3.608	-3.588	0,6%
FR	Total gas/diesel oil (with bio)	Imports (Balance)	22.769	22.482	1,3%
FR	Total gas/diesel oil (with bio)	Stock changes (National territory)	287	-287	0,0%
FR	Total gas/diesel oil (with bio)	Exports (Balance)	1.798	1.805	0,4%
FR	Total gas/diesel oil (with bio)	Gross inland consumption	20.684	20.313	1,8%
HR	Crude oil (without NGL)	Indigenous production	533	541	1,5%
HR	Crude oil (without NGL)	Imports (Balance)	1.858	1.851	0,4%
HR	Crude oil (without NGL)	Stock changes (National territory)	44	-3	1366,7%
HR	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
HR	Crude oil (without NGL)	Gross inland consumption	2.347	2.389	1,8%
HR	Crude oil (without NGL)	Refinery intake (Observed)	2.347	2.389	1,8%
HR	Total motor gasoline (with bio)	Imports (Balance)	149	142	4,9%
HR	Total motor gasoline (with bio)	Stock changes (National territory)	-15	14	7,1%
HR	Total motor gasoline (with bio)	Exports (Balance)	420	428	1,9%
HR	Total motor gasoline (with bio)	Gross inland consumption	-256	-272	5,9%
HR	Total gas/diesel oil (with bio)	Imports (Balance)	1.017	1.020	0,3%
HR	Total gas/diesel oil (with bio)	Stock changes (National territory)	-19	32	40,6%
HR	Total gas/diesel oil (with bio)	Exports (Balance)	484	528	8,3%
HR	Total gas/diesel oil (with bio)	Gross inland consumption	552	524	5,3%
IT	Crude oil (without NGL)	Indigenous production	5.681	5.765	1,5%
IT	Crude oil (without NGL)	Imports (Balance)	53.847	53.843	0,0%
IT	Crude oil (without NGL)	Stock changes (National territory)	269	-269	0,0%
IT	Crude oil (without NGL)	Exports (Balance)	355	358	0,8%
IT	Crude oil (without NGL)	Gross inland consumption	58.904	58.981	0,1%
IT	Crude oil (without NGL)	Refinery intake (Observed)	59.645	59.645	0,0%
IT	Total motor gasoline (with bio)	Imports (Balance)	412	385	7,0%
IT	Total motor gasoline (with bio)	Stock changes (National territory)	54	55	1,8%
IT	Total motor gasoline (with bio)	Exports (Balance)	7.034	7.023	0,2%
IT	Total motor gasoline (with bio)	Gross inland consumption	-6.676	-6.583	1,4%
IT	Total gas/diesel oil (with bio)	Imports (Balance)	3.159	3.168	0,3%
IT	Total gas/diesel oil (with bio)	Stock changes (National territory)	-448	-448	0,0%
IT	Total gas/diesel oil (with bio)	Exports (Balance)	5.500	5.498	0,0%
IT	Total gas/diesel oil (with bio)	Gross inland consumption	-1.893	-2.892	34,5%
CY	Crude oil (without NGL)	Indigenous production			0,0%
CY	Crude oil (without NGL)	Imports (Balance)			0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
CY	Crude oil (without NGL)	Stock changes (National territory)			0,0%
CY	Crude oil (without NGL)	Exports (Balance)			0,0%
CY	Crude oil (without NGL)	Gross inland consumption			0,0%
CY	Crude oil (without NGL)	Refinery intake (Observed)			0,0%
CY	Total motor gasoline (with bio)	Imports (Balance)	339	342	0,9%
CY	Total motor gasoline (with bio)	Stock changes (National territory)	1	-2	50,0%
CY	Total motor gasoline (with bio)	Exports (Balance)	0	0	0,0%
CY	Total motor gasoline (with bio)	Gross inland consumption	338	340	0,6%
CY	Total gas/diesel oil (with bio)	Imports (Balance)	558	556	0,4%
CY	Total gas/diesel oil (with bio)	Stock changes (National territory)	7	-6	16,7%
CY	Total gas/diesel oil (with bio)	Exports (Balance)	0	0	0,0%
CY	Total gas/diesel oil (with bio)	Gross inland consumption	551	470	17,2%
LV	Crude oil (without NGL)	Indigenous production			0,0%
LV	Crude oil (without NGL)	Imports (Balance)			0,0%
LV	Crude oil (without NGL)	Stock changes (National territory)			0,0%
LV	Crude oil (without NGL)	Exports (Balance)			0,0%
LV	Crude oil (without NGL)	Gross inland consumption			0,0%
LV	Crude oil (without NGL)	Refinery intake (Observed)			0,0%
LV	Total motor gasoline (with bio)	Imports (Balance)	213	215	0,9%
LV	Total motor gasoline (with bio)	Stock changes (National territory)	-9	18	50,0%
LV	Total motor gasoline (with bio)	Exports (Balance)	20	20	0,0%
LV	Total motor gasoline (with bio)	Gross inland consumption	202	213	5,2%
LV	Total gas/diesel oil (with bio)	Imports (Balance)	1.427	1.449	1,5%
LV	Total gas/diesel oil (with bio)	Stock changes (National territory)	-47	97	51,5%
LV	Total gas/diesel oil (with bio)	Exports (Balance)	604	589	2,5%
LV	Total gas/diesel oil (with bio)	Gross inland consumption	870	888	2,0%
LT	Crude oil (without NGL)	Indigenous production	82	82	0,0%
LT	Crude oil (without NGL)	Imports (Balance)	7.467	7.467	0,0%
LT	Crude oil (without NGL)	Stock changes (National territory)	-10	11	9,1%
LT	Crude oil (without NGL)	Exports (Balance)	63	63	0,0%
LT	Crude oil (without NGL)	Gross inland consumption	7.496	7.497	0,0%
LT	Crude oil (without NGL)	Refinery intake (Observed)	7.496	7.497	0,0%
LT	Total motor gasoline (with bio)	Imports (Balance)	25	22	13,6%
LT	Total motor gasoline (with bio)	Stock changes (National territory)	-8	8	0,0%
LT	Total motor gasoline (with bio)	Exports (Balance)	1.999	2.000	0,1%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
LT	Total motor gasoline (with bio)	Gross inland consumption	-1.966	-1.970	0,2%
LT	Total gas/diesel oil (with bio)	Imports (Balance)	992	1.010	1,8%
LT	Total gas/diesel oil (with bio)	Stock changes (National territory)	-5	3	66,7%
LT	Total gas/diesel oil (with bio)	Exports (Balance)	2.977	2.999	0,7%
LT	Total gas/diesel oil (with bio)	Gross inland consumption	-1.980	-1.994	0,7%
LU	Crude oil (without NGL)	Indigenous production			0,0%
LU	Crude oil (without NGL)	Imports (Balance)			0,0%
LU	Crude oil (without NGL)	Stock changes (National territory)			0,0%
LU	Crude oil (without NGL)	Exports (Balance)			0,0%
LU	Crude oil (without NGL)	Gross inland consumption			0,0%
LU	Crude oil (without NGL)	Refinery intake (Observed)			0,0%
LU	Total motor gasoline (with bio)	Imports (Balance)	309	310	0,3%
LU	Total motor gasoline (with bio)	Stock changes (National territory)	-1	0	9999,9%
LU	Total motor gasoline (with bio)	Exports (Balance)	0	0	0,0%
LU	Total motor gasoline (with bio)	Gross inland consumption	310	310	0,0%
LU	Total gas/diesel oil (with bio)	Imports (Balance)	1.975	1.969	0,3%
LU	Total gas/diesel oil (with bio)	Stock changes (National territory)	22	-14	57,1%
LU	Total gas/diesel oil (with bio)	Exports (Balance)	0	0	0,0%
LU	Total gas/diesel oil (with bio)	Gross inland consumption	1.953	1.955	0,1%
HU	Crude oil (without NGL)	Indigenous production	568	584	2,7%
HU	Crude oil (without NGL)	Imports (Balance)	6.059	6.058	0,0%
HU	Crude oil (without NGL)	Stock changes (National territory)	103	-102	1,0%
HU	Crude oil (without NGL)	Exports (Balance)	0	10	100,0%
HU	Crude oil (without NGL)	Gross inland consumption	6.524	6.530	0,1%
HU	Crude oil (without NGL)	Refinery intake (Observed)	6.519	6.507	0,2%
HU	Total motor gasoline (with bio)	Imports (Balance)	330	442	25,3%
HU	Total motor gasoline (with bio)	Stock changes (National territory)	32	-22	45,5%
HU	Total motor gasoline (with bio)	Exports (Balance)	281	294	4,4%
HU	Total motor gasoline (with bio)	Gross inland consumption	17	126	86,5%
HU	Total gas/diesel oil (with bio)	Imports (Balance)	1.294	1.421	8,9%
HU	Total gas/diesel oil (with bio)	Stock changes (National territory)	15	-3	400,0%
HU	Total gas/diesel oil (with bio)	Exports (Balance)	1.570	1.576	0,4%
HU	Total gas/diesel oil (with bio)	Gross inland consumption	-291	-158	84,2%
MT	Crude oil (without NGL)	Indigenous production			0,0%
MT	Crude oil (without NGL)	Imports (Balance)			0,0%
MT	Crude oil (without NGL)	Stock changes (National territory)			0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
MT	Crude oil (without NGL)	Exports (Balance)			0,0%
MT	Crude oil (without NGL)	Gross inland consumption			0,0%
MT	Crude oil (without NGL)	Refinery intake (Observed)			0,0%
MT	Total motor gasoline (with bio)	Imports (Balance)	78	78	0,0%
MT	Total motor gasoline (with bio)	Stock changes (National territory)	5	-5	0,0%
MT	Total motor gasoline (with bio)	Exports (Balance)	0	0	0,0%
MT	Total motor gasoline (with bio)	Gross inland consumption	73	73	0,0%
MT	Total gas/diesel oil (with bio)	Imports (Balance)	406	406	0,0%
MT	Total gas/diesel oil (with bio)	Stock changes (National territory)	2	-1	100,0%
MT	Total gas/diesel oil (with bio)	Exports (Balance)	25	25	0,0%
MT	Total gas/diesel oil (with bio)	Gross inland consumption	379	195	94,4%
NL	Crude oil (without NGL)	Indigenous production	1.525	1.525	0,0%
NL	Crude oil (without NGL)	Imports (Balance)	47.584	47.480	0,2%
NL	Crude oil (without NGL)	Stock changes (National territory)	-1.323	1.388	4,7%
NL	Crude oil (without NGL)	Exports (Balance)	614	614	0,0%
NL	Crude oil (without NGL)	Gross inland consumption	49.818	49.779	0,1%
NL	Crude oil (without NGL)	Refinery intake (Observed)	49.818	49.779	0,1%
NL	Total motor gasoline (with bio)	Imports (Balance)	9.543	9.500	0,5%
NL	Total motor gasoline (with bio)	Stock changes (National territory)	119	-116	2,6%
NL	Total motor gasoline (with bio)	Exports (Balance)	19.313	18.879	2,3%
NL	Total motor gasoline (with bio)	Gross inland consumption	-9.889	-9.495	4,1%
NL	Total gas/diesel oil (with bio)	Imports (Balance)	15.183	15.403	1,4%
NL	Total gas/diesel oil (with bio)	Stock changes (National territory)	-143	145	1,4%
NL	Total gas/diesel oil (with bio)	Exports (Balance)	27.685	24.889	11,2%
NL	Total gas/diesel oil (with bio)	Gross inland consumption	-12.359	-10.683	15,7%
AT	Crude oil (without NGL)	Indigenous production	888	890	0,2%
AT	Crude oil (without NGL)	Imports (Balance)	7.512	7.510	0,0%
AT	Crude oil (without NGL)	Stock changes (National territory)	28	-28	0,0%
AT	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
AT	Crude oil (without NGL)	Gross inland consumption	8.372	8.372	0,0%
AT	Crude oil (without NGL)	Refinery intake (Observed)	8.443	8.372	0,8%
AT	Total motor gasoline (with bio)	Imports (Balance)	767	771	0,5%
AT	Total motor gasoline (with bio)	Stock changes (National territory)	64	-64	0,0%
AT	Total motor gasoline (with bio)	Exports (Balance)	870	871	0,1%
AT	Total motor gasoline (with bio)	Gross inland consumption	-167	-164	1,8%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
AT	Total gas/diesel oil (with bio)	Imports (Balance)	4.491	4.490	0,0%
AT	Total gas/diesel oil (with bio)	Stock changes (National territory)	-53	53	0,0%
AT	Total gas/diesel oil (with bio)	Exports (Balance)	1.010	1.012	0,2%
AT	Total gas/diesel oil (with bio)	Gross inland consumption	3.534	3.511	0,7%
PL	Crude oil (without NGL)	Indigenous production	951	951	0,0%
PL	Crude oil (without NGL)	Imports (Balance)	23.714	23.713	0,0%
PL	Crude oil (without NGL)	Stock changes (National territory)	112	-112	0,0%
PL	Crude oil (without NGL)	Exports (Balance)	420	420	0,0%
PL	Crude oil (without NGL)	Gross inland consumption	24.133	24.132	0,0%
PL	Crude oil (without NGL)	Refinery intake (Observed)	24.194	24.196	0,0%
PL	Total motor gasoline (with bio)	Imports (Balance)	370	371	0,3%
PL	Total motor gasoline (with bio)	Stock changes (National territory)	-55	56	1,8%
PL	Total motor gasoline (with bio)	Exports (Balance)	674	672	0,3%
PL	Total motor gasoline (with bio)	Gross inland consumption	-249	-245	1,6%
PL	Total gas/diesel oil (with bio)	Imports (Balance)	1.452	1.452	0,0%
PL	Total gas/diesel oil (with bio)	Stock changes (National territory)	-99	99	0,0%
PL	Total gas/diesel oil (with bio)	Exports (Balance)	968	968	0,0%
PL	Total gas/diesel oil (with bio)	Gross inland consumption	583	508	14,8%
PT	Crude oil (without NGL)	Indigenous production	0	0	0,0%
PT	Crude oil (without NGL)	Imports (Balance)	10.540	10.543	0,0%
PT	Crude oil (without NGL)	Stock changes (National territory)	-273	249	9,6%
PT	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
PT	Crude oil (without NGL)	Gross inland consumption	10.813	10.792	0,2%
PT	Crude oil (without NGL)	Refinery intake (Observed)	10.813	10.792	0,2%
PT	Total motor gasoline (with bio)	Imports (Balance)	152	154	1,3%
PT	Total motor gasoline (with bio)	Stock changes (National territory)	19	-21	9,5%
PT	Total motor gasoline (with bio)	Exports (Balance)	976	976	0,0%
PT	Total motor gasoline (with bio)	Gross inland consumption	-843	-843	0,0%
PT	Total gas/diesel oil (with bio)	Imports (Balance)	697	699	0,3%
PT	Total gas/diesel oil (with bio)	Stock changes (National territory)	-98	90	8,9%
PT	Total gas/diesel oil (with bio)	Exports (Balance)	1.295	1.295	0,0%
PT	Total gas/diesel oil (with bio)	Gross inland consumption	-500	-564	11,3%
RO	Crude oil (without NGL)	Indigenous production	3.904	3.963	1,5%
RO	Crude oil (without NGL)	Imports (Balance)	6.727	6.727	0,0%
RO	Crude oil (without NGL)	Stock changes (National territory)	207	-275	24,7%
RO	Crude oil (without NGL)	Exports (Balance)	51	51	0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
RO	Crude oil (without NGL)	Gross inland consumption	10.373	10.364	0,1%
RO	Crude oil (without NGL)	Refinery intake (Observed)	10.497	10.455	0,4%
RO	Total motor gasoline (with bio)	Imports (Balance)	80	80	0,0%
RO	Total motor gasoline (with bio)	Stock changes (National territory)	-20	35	42,9%
RO	Total motor gasoline (with bio)	Exports (Balance)	1.727	1.729	0,1%
RO	Total motor gasoline (with bio)	Gross inland consumption	-1.627	-1.614	0,8%
RO	Total gas/diesel oil (with bio)	Imports (Balance)	991	994	0,3%
RO	Total gas/diesel oil (with bio)	Stock changes (National territory)	-14	-33	57,6%
RO	Total gas/diesel oil (with bio)	Exports (Balance)	1.633	1.635	0,1%
RO	Total gas/diesel oil (with bio)	Gross inland consumption	-628	-753	16,6%
SI	Crude oil (without NGL)	Indigenous production			0,0%
SI	Crude oil (without NGL)	Imports (Balance)			0,0%
SI	Crude oil (without NGL)	Stock changes (National territory)			0,0%
SI	Crude oil (without NGL)	Exports (Balance)			0,0%
SI	Crude oil (without NGL)	Gross inland consumption			0,0%
SI	Crude oil (without NGL)	Refinery intake (Observed)			0,0%
SI	Total motor gasoline (with bio)	Imports (Balance)	496	494	0,4%
SI	Total motor gasoline (with bio)	Stock changes (National territory)	-15	15	0,0%
SI	Total motor gasoline (with bio)	Exports (Balance)	69	68	1,5%
SI	Total motor gasoline (with bio)	Gross inland consumption	442	441	0,2%
SI	Total gas/diesel oil (with bio)	Imports (Balance)	2.503	2.505	0,1%
SI	Total gas/diesel oil (with bio)	Stock changes (National territory)	-11	12	8,3%
SI	Total gas/diesel oil (with bio)	Exports (Balance)	948	951	0,3%
SI	Total gas/diesel oil (with bio)	Gross inland consumption	1.566	1.566	0,0%
SK	Crude oil (without NGL)	Indigenous production	10	9	11,1%
SK	Crude oil (without NGL)	Imports (Balance)	5.319	5.288	0,6%
SK	Crude oil (without NGL)	Stock changes (National territory)	68	-68	0,0%
SK	Crude oil (without NGL)	Exports (Balance)	11	9	22,2%
SK	Crude oil (without NGL)	Gross inland consumption	5.250	5.220	0,6%
SK	Crude oil (without NGL)	Refinery intake (Observed)	5.250	5.220	0,6%
SK	Total motor gasoline (with bio)	Imports (Balance)	235	209	12,4%
SK	Total motor gasoline (with bio)	Stock changes (National territory)	12	-10	20,0%
SK	Total motor gasoline (with bio)	Exports (Balance)	969	971	0,2%
SK	Total motor gasoline (with bio)	Gross inland consumption	-746	-772	3,4%
SK	Total gas/diesel oil (with bio)	Imports (Balance)	680	707	3,8%
SK	Total gas/diesel oil (with bio)	Stock changes (National	7	-9	22,2%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
		territory)			
SK	Total gas/diesel oil (with bio)	Exports (Balance)	1.780	1.941	8,3%
SK	Total gas/diesel oil (with bio)	Gross inland consumption	-1.107	-1.243	10,9%
FI	Crude oil (without NGL)	Indigenous production	0	0	0,0%
FI	Crude oil (without NGL)	Imports (Balance)	10.806	11.267	4,1%
FI	Crude oil (without NGL)	Stock changes (National territory)	-82	82	0,0%
FI	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
FI	Crude oil (without NGL)	Gross inland consumption	10.888	11.349	4,1%
FI	Crude oil (without NGL)	Refinery intake (Observed)	11.221	11.220	0,0%
FI	Total motor gasoline (with bio)	Imports (Balance)	494	493	0,2%
FI	Total motor gasoline (with bio)	Stock changes (National territory)	-72	72	0,0%
FI	Total motor gasoline (with bio)	Exports (Balance)	3.053	3.123	2,2%
FI	Total motor gasoline (with bio)	Gross inland consumption	-2.487	-2.558	2,8%
FI	Total gas/diesel oil (with bio)	Imports (Balance)	2.158	2.159	0,0%
FI	Total gas/diesel oil (with bio)	Stock changes (National territory)	-49	49	0,0%
FI	Total gas/diesel oil (with bio)	Exports (Balance)	3.698	3.638	1,6%
FI	Total gas/diesel oil (with bio)	Gross inland consumption	-1.491	-1.463	1,9%
SE	Crude oil (without NGL)	Indigenous production	0	0	0,0%
SE	Crude oil (without NGL)	Imports (Balance)	18.733	18.733	0,0%
SE	Crude oil (without NGL)	Stock changes (National territory)	-106	106	0,0%
SE	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
SE	Crude oil (without NGL)	Gross inland consumption	18.839	18.839	0,0%
SE	Crude oil (without NGL)	Refinery intake (Observed)	18.898	18.878	0,1%
SE	Total motor gasoline (with bio)	Imports (Balance)	1.823	1.815	0,4%
SE	Total motor gasoline (with bio)	Stock changes (National territory)	13	-13	0,0%
SE	Total motor gasoline (with bio)	Exports (Balance)	3.520	3.520	0,0%
SE	Total motor gasoline (with bio)	Gross inland consumption	-1.710	-1.718	0,5%
SE	Total gas/diesel oil (with bio)	Imports (Balance)	2.405	2.400	0,2%
SE	Total gas/diesel oil (with bio)	Stock changes (National territory)	-76	32	137,5%
SE	Total gas/diesel oil (with bio)	Exports (Balance)	4.827	4.829	0,0%
SE	Total gas/diesel oil (with bio)	Gross inland consumption	-2.346	-2.710	13,4%
UK	Crude oil (without NGL)	Indigenous production	37.474	37.474	0,0%
UK	Crude oil (without NGL)	Imports (Balance)	46.572	46.571	0,0%
UK	Crude oil (without NGL)	Stock changes (National territory)	168	-168	0,0%
UK	Crude oil (without NGL)	Exports (Balance)	28.206	28.204	0,0%
UK	Crude oil (without NGL)	Gross inland consumption	55.672	55.673	0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
UK	Crude oil (without NGL)	Refinery intake (Observed)	55.341	55.342	0,0%
UK	Total motor gasoline (with bio)	Imports (Balance)	3.480	3.482	0,1%
UK	Total motor gasoline (with bio)	Stock changes (National territory)	-81	81	0,0%
UK	Total motor gasoline (with bio)	Exports (Balance)	8.683	8.682	0,0%
UK	Total motor gasoline (with bio)	Gross inland consumption	-5.122	-5.119	0,1%
UK	Total gas/diesel oil (with bio)	Imports (Balance)	12.877	12.882	0,0%
UK	Total gas/diesel oil (with bio)	Stock changes (National territory)	155	-155	0,0%
UK	Total gas/diesel oil (with bio)	Exports (Balance)	5.408	5.404	0,1%
UK	Total gas/diesel oil (with bio)	Gross inland consumption	7.314	6.043	21,0%
NO	Crude oil (without NGL)	Indigenous production	75.357	75.691	0,4%
NO	Crude oil (without NGL)	Imports (Balance)	1.088	1.221	10,9%
NO	Crude oil (without NGL)	Stock changes (National territory)	-301	301	0,0%
NO	Crude oil (without NGL)	Exports (Balance)	59.433	64.072	7,2%
NO	Crude oil (without NGL)	Gross inland consumption	17.313	13.141	31,7%
NO	Crude oil (without NGL)	Refinery intake (Observed)	13.845	12.657	9,4%
NO	Total motor gasoline (with bio)	Imports (Balance)	167	166	0,6%
NO	Total motor gasoline (with bio)	Stock changes (National territory)	-157	65	141,5%
NO	Total motor gasoline (with bio)	Exports (Balance)	2.164	2.138	1,2%
NO	Total motor gasoline (with bio)	Gross inland consumption	-1.840	-1.907	3,5%
NO	Total gas/diesel oil (with bio)	Imports (Balance)	1.091	1.113	2,0%
NO	Total gas/diesel oil (with bio)	Stock changes (National territory)	180	-38	373,7%
NO	Total gas/diesel oil (with bio)	Exports (Balance)	2.881	2.761	4,3%
NO	Total gas/diesel oil (with bio)	Gross inland consumption	-1.970	-1.754	12,3%
TR	Crude oil (without NGL)	Indigenous production	2.465	2.465	0,0%
TR	Crude oil (without NGL)	Imports (Balance)	17.480	17.480	0,0%
TR	Crude oil (without NGL)	Stock changes (National territory)	80	-80	0,0%
TR	Crude oil (without NGL)	Exports (Balance)	0	0	0,0%
TR	Crude oil (without NGL)	Gross inland consumption	19.865	19.865	0,0%
TR	Crude oil (without NGL)	Refinery intake (Observed)	20.231	20.231	0,0%
TR	Total motor gasoline (with bio)	Imports (Balance)	0	0	0,0%
TR	Total motor gasoline (with bio)	Stock changes (National territory)	-25	25	0,0%
TR	Total motor gasoline (with bio)	Exports (Balance)	2.088	2.088	0,0%
TR	Total motor gasoline (with bio)	Gross inland consumption	-2.063	-2.063	0,0%
TR	Total gas/diesel oil (with bio)	Imports (Balance)	12.959	12.959	0,0%
TR	Total gas/diesel oil (with bio)	Stock changes (National territory)	179	-179	0,0%

Country	Fuel	2014 data	Monthly cumulated data	Annual data	Variation
TR	Total gas/diesel oil (with bio)	Exports (Balance)	55	55	0,0%
TR	Total gas/diesel oil (with bio)	Gross inland consumption	12.725	12.623	0,8%

Table 51. Monthly gas vs annual gas[11]

Country	2014 data	Monthly cumulated data	Annual data	Variation
BE	Indigenous production	0	0	0,0%
BE	Imports (Balance)	1.513.967	626.763	141,6%
BE	Stock changes (National territory)	6.915	-6.915	0,0%
BE	Exports (Balance)	928.454	33.730	2652,6%
BE	Gross inland consumption	578.598	586.118	1,3%
BG	Indigenous production	6.742	7.419	9,1%
BG	Imports (Balance)	662.325	103.460	540,2%
BG	Stock changes (National territory)	730	-898	18,7%
BG	Exports (Balance)	562.116	73	769921,9%
BG	Gross inland consumption	106.221	109.908	3,4%
CZ	Indigenous production	9.408	9.859	4,6%
CZ	Imports (Balance)	1.398.364	276.915	405,0%
CZ	Stock changes (National territory)	-899	863	4,2%
CZ	Exports (Balance)	1.121.354	45	2491797,8%
CZ	Gross inland consumption	287.317	287.592	0,1%
DK	Indigenous production	189.383	192.944	1,8%
DK	Imports (Balance)	25.703	26.024	1,2%
DK	Stock changes (National territory)	-385	-936	58,9%
DK	Exports (Balance)	86.103	87.155	1,2%
DK	Gross inland consumption	129.368	130.877	1,2%
DE	Indigenous production	358.392	319.315	12,2%
DE	Imports (Balance)	5.607.787	3.504.877	60,0%
DE	Stock changes (National territory)	7.587	-20.780	63,5%
DE	Exports (Balance)	2.916.187	868.427	235,8%
DE	Gross inland consumption	3.042.405	2.934.985	3,7%
EE	Indigenous production	0	0	0,0%
EE	Imports (Balance)	20.262	20.262	0,0%
EE	Stock changes (National territory)	0	0	0,0%

[11] Please note that for some small flows (e.g. Slovenia for indigenous production), the amount per month can be equal so small that is reported as zero (because it is less than 0.5 million m^3, unit used at monthly level). However, at annual level a certain amount is reported. For that reason, the comparison in this table for small flows does not allow sometimes to draw accurate conclusions. In addition, in the monthly questionnaire (MOS GAS) trade includes transit, whereas in the annual questionnaire transit should de excluded both from imports and exports.

Country	2014 data	Monthly cumulated data	Annual data	Variation
EE	Exports (Balance)	0	0	0,0%
EE	Gross inland consumption	20.262	20.262	0,0%
IE	Indigenous production	5.710	5.711	0,0%
IE	Imports (Balance)	167.108	167.089	0,0%
IE	Stock changes (National territory)	-372	372	0,0%
IE	Exports (Balance)	0	0	0,0%
IE	Gross inland consumption	173.190	173.172	0,0%
EL	Indigenous production	0	253	100,0%
EL	Imports (Balance)	114.744	114.747	0,0%
EL	Stock changes (National territory)	-570	570	0,0%
EL	Exports (Balance)	0	0	0,0%
EL	Gross inland consumption	115.314	115.570	0,2%
ES	Indigenous production	969	968	0,1%
ES	Imports (Balance)	1.472.654	1.472.594	0,0%
ES	Stock changes (National territory)	39.905	-39.902	0,0%
ES	Exports (Balance)	332.662	332.704	0,0%
ES	Gross inland consumption	1.101.056	1.100.956	0,0%
FR	Indigenous production	579	583	0,7%
FR	Imports (Balance)	1.867.234	1.867.235	0,0%
FR	Stock changes (National territory)	55.906	-55.968	0,1%
FR	Exports (Balance)	295.550	295.551	0,0%
FR	Gross inland consumption	1.516.357	1.516.418	0,0%
HR	Indigenous production	64.716	67.163	3,6%
HR	Imports (Balance)	41.087	43.542	5,6%
HR	Stock changes (National territory)	1.670	-81	1961,7%
HR	Exports (Balance)	15.671	16.681	6,1%
HR	Gross inland consumption	88.462	93.943	5,8%
IT	Indigenous production	272.308	272.377	0,0%
IT	Imports (Balance)	2.124.375	2.124.342	0,0%
IT	Stock changes (National territory)	28.802	-28.842	0,1%
IT	Exports (Balance)	9.029	9.030	0,0%
IT	Gross inland consumption	2.358.852	2.358.847	0,0%
CY	Indigenous production	0	0	0,0%
CY	Imports (Balance)	0	0	0,0%
CY	Stock changes (National territory)	0	0	0,0%
CY	Exports (Balance)	0	0	0,0%
CY	Gross inland consumption	0	0	0,0%
LV	Indigenous production	0	0	0,0%
LV	Imports (Balance)	83.875	36.291	131,1%
LV	Stock changes (National territory)	-5.313	14.027	62,1%
LV	Exports (Balance)	38.884	0	9999,9%
LV	Gross inland consumption	50.304	50.318	0,0%
LT	Indigenous production	0	0	0,0%

Country	2014 data	Monthly cumulated data	Annual data	Variation
LT	Imports (Balance)	176.957	99.725	77,4%
LT	Stock changes (National territory)	3.947	-3.647	8,2%
LT	Exports (Balance)	77.280	37	208764,9%
LT	Gross inland consumption	95.730	96.041	0,3%
LU	Indigenous production	0	0	0,0%
LU	Imports (Balance)	39.224	39.224	0,0%
LU	Stock changes (National territory)	0	0	0,0%
LU	Exports (Balance)	0	0	0,0%
LU	Gross inland consumption	39.224	39.414	0,5%
HU	Indigenous production	66.724	66.863	0,2%
HU	Imports (Balance)	406.399	345.937	17,5%
HU	Stock changes (National territory)	59.281	-59.282	0,0%
HU	Exports (Balance)	89.224	28.733	210,5%
HU	Gross inland consumption	324.618	324.785	0,1%
MT	Indigenous production	0	0	0,0%
MT	Imports (Balance)	0	0	0,0%
MT	Stock changes (National territory)	0	0	0,0%
MT	Exports (Balance)	0	0	0,0%
MT	Gross inland consumption	0	0	0,0%
NL	Indigenous production	2.338.733	2.332.717	0,3%
NL	Imports (Balance)	968.811	970.952	0,2%
NL	Stock changes (National territory)	0	-3.659	100,0%
NL	Exports (Balance)	1.954.583	1.958.572	0,2%
NL	Gross inland consumption	1.352.961	1.351.762	0,1%
AT	Indigenous production	47.664	50.475	5,6%
AT	Imports (Balance)	1.681.496	386.748	334,8%
AT	Stock changes (National territory)	48.799	-40.749	19,8%
AT	Exports (Balance)	1.383.559	96.661	1331,4%
AT	Gross inland consumption	296.802	299.813	1,0%
PL	Indigenous production	173.348	173.349	0,0%
PL	Imports (Balance)	1.594.468	451.673	253,0%
PL	Stock changes (National territory)	-1.431	1.432	0,1%
PL	Exports (Balance)	1.144.427	2.880	39637,0%
PL	Gross inland consumption	624.820	623.574	0,2%
PT	Indigenous production	0	0	0,0%
PT	Imports (Balance)	180.319	161.638	11,6%
PT	Stock changes (National territory)	-118	-58	103,4%
PT	Exports (Balance)	13.882	0	9999,9%
PT	Gross inland consumption	166.555	161.580	3,1%
RO	Indigenous production	435.666	407.772	6,8%
RO	Imports (Balance)	21.101	21.643	2,5%
RO	Stock changes (National territory)	7.111	6.213	14,5%
RO	Exports (Balance)	0	0	0,0%

Country	2014 data	Monthly cumulated data	Annual data	Variation
RO	Gross inland consumption	449.656	435.628	3,2%
SI	Indigenous production	0	120	100,0%
SI	Imports (Balance)	67.514	29.002	132,8%
SI	Stock changes (National territory)	0	0	0,0%
SI	Exports (Balance)	38.357	0	9999,9%
SI	Gross inland consumption	29.157	29.122	0,1%
SK	Indigenous production	3.822	3.900	2,0%
SK	Imports (Balance)	1.555.184	184.049	745,0%
SK	Stock changes (National territory)	13.181	-12.344	6,8%
SK	Exports (Balance)	1.397.766	116	1204870,7%
SK	Gross inland consumption	148.059	175.489	15,6%
FI	Indigenous production	0	0	0,0%
FI	Imports (Balance)	115.651	116.925	1,1%
FI	Stock changes (National territory)	0	0	0,0%
FI	Exports (Balance)	0	11	100,0%
FI	Gross inland consumption	115.651	117.049	1,2%
SE	Indigenous production	0	0	0,0%
SE	Imports (Balance)	36.939	36.939	0,0%
SE	Stock changes (National territory)	0	0	0,0%
SE	Exports (Balance)	0	0	0,0%
SE	Gross inland consumption	36.939	36.939	0,0%
UK	Indigenous production	1.525.961	1.531.939	0,4%
UK	Imports (Balance)	1.696.433	1.669.594	1,6%
UK	Stock changes (National territory)	2.991	-2.991	0,0%
UK	Exports (Balance)	428.562	417.381	2,7%
UK	Gross inland consumption	2.790.841	2.781.161	0,3%
NO	Indigenous production	4.357.461	4.418.921	1,4%
NO	Imports (Balance)	0	0	0,0%
NO	Stock changes (National territory)	-4.876	8	60850,0%
NO	Exports (Balance)	4.190.857	4.189.149	0,0%
NO	Gross inland consumption	171.480	229.780	25,4%
TR	Indigenous production	18.260	18.357	0,5%
TR	Imports (Balance)	1.878.370	1.886.840	0,4%
TR	Stock changes (National territory)	10.651	-10.651	0,0%
TR	Exports (Balance)	24.231	24.231	0,0%
TR	Gross inland consumption	1.861.748	1.870.315	0,5%

Table 52. Monthly coal vs annual coal[12]

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
BE	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			
BE	Receipts from other sources	0	0	0	0	0	0	5	0	0	0	0	0	100,0%	0,0%	0,0%	0,0%	0,0%	0,0%
BE	Imports (Balance)	5.136	0	0	67	8	434	5.226	0	0	54	10	426	1,7%	0,0%	0,0%	24,1%	20,0%	1,9%
BE	Stock changes (National territory)	-188	0	0	65	-2	0	-190	0	0	63	0	-1	1,1%	0,0%	0,0%	3,2%	9999,9 %	100,0 %
BE	Exports (Balance)	556	0	0	195	5	90	557	0	0	176	7	0	0,2%	0,0%	0,0%	10,8%	28,6%	9999,9 %

[12] Results must be interpreted with caution, since monthly reporting had in the past a different grouping of coal products than annual reporting (e.g. in the category lignite/brown coal). In addition, big percentage differences could be the result of comparing 2 very small figures, in which case the deviation might be misleading.

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
BE	Gross inland consumption	4.392	0	0	-63	1	344	4.484	0	0	-59	3	425	2,1%	0,0%	0,0%	6,8%	66,7%	19,1%
BG	Indigenous production	0	31.259	0				0	31.268	0				0,0%	0,0%	0,0%			
BG	Receipts from other sources	28	0	0	0	0	0	35	0	0	0	0	0	20,0%	0,0%	0,0%	0,0%	0,0%	0,0%
BG	Imports (Balance)	1.459	0	0	115	0	0	1.410	2	0	90	0	0	3,5%	100,0%	0,0%	27,8%	0,0%	0,0%
BG	Stock changes (National territory)	491	16	0	-8	-1	0	444	221	0	-9	-1	36	10,6%	92,8%	0,0%	11,1%	0,0%	100,0%
BG	Exports (Balance)	0	50	0	0	0	0	41	51	0	0	0	0	100,0%	2,0%	0,0%	0,0%	0,0%	0,0%
BG	Gross inland consumption	1.978	31.225	0	107	-1	0	1.848	31.440	0	81	-1	36	7,0%	0,7%	0,0%	32,1%	0,0%	100,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
CZ	Indigenous production	8.683	38.178	0				8.680	38.177	0				0,0%	0,0%	0,0%			
CZ	Receipts from other sources	218	0	0	0	0	0	145	0	0	0	0	0	50,3%	0,0%	0,0%	0,0%	0,0%	0,0%
CZ	Imports (Balance)	2.883	1.358	0	279	0	112	3.208	1.387	0	295	0	148	10,1%	2,1%	0,0%	5,4%	0,0%	24,3%
CZ	Stock changes (National territory)	-248	20	0	0	0	0	-298	-329	0	27	0	3	16,8%	106,1%	0,0%	100,0%	0,0%	100,0 %
CZ	Exports (Balance)	4.139	896	0	512	0	0	4.364	905	0	525	0	10	5,2%	1,0%	0,0%	2,5%	0,0%	100,0 %
CZ	Gross inland consumption	7.397	38.660	0	-233	0	112	7.371	38.330	0	-203	0	141	0,4%	0,9%	0,0%	14,8%	0,0%	20,6%
DK	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
DK	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
DK	Imports (Balance)	4.532	0	0	23	0	0	4.287	0	0	14	0	0	5,7%	0,0%	0,0%	64,3%	0,0%	0,0%
DK	Stock changes (National territory)	-56	0	0	0	0	0	-207	0	0	-1	0	0	72,9%	0,0%	0,0%	100,0%	0,0%	0,0%
DK	Exports (Balance)	52	0	0	0	0	0	52	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
DK	Gross inland consumption	4.424	0	0	23	0	0	4.028	0	0	13	0	0	9,8%	0,0%	0,0%	76,9%	0,0%	0,0%
DE	Indigenous production	8.336	178.178	0				8.337	178.178	0				0,0%	0,0%	0,0%			
DE	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
DE	Imports (Balance)	45.935	14	0	3.519	0	204	53.740	13	0	3.520	103	78	14,5%	7,7%	0,0%	0,0%	100,0%	161,5 %
DE	Stock changes (National territory)	176	21	0	1	0	-16	-139	-64	0	-71	0	6	226,6%	132,8%	0,0%	101,4%	0,0%	366,7 %
DE	Exports (Balance)	142	1.171	0	54	0	1.331	208	1.171	0	491	1	1.522	31,7%	0,0%	0,0%	89,0%	100,0%	12,5%
DE	Gross inland consumption	54.305	177.042	0	3.466	0	-1.143	61.730	176.956	0	2.958	102	-1.438	12,0%	0,0%	0,0%	17,2%	100,0%	20,5%
EE	Indigenous production	0	20.435	253				0	0	261				0,0%	9999,9%	3,1%			
EE	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
EE	Imports (Balance)	82	0	0	0	0	0	82	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
EE	Stock changes (National territory)	0	-181	-33	0	0	0	-4	0	-36	1	0	0	100,0%	9999,9%	8,3%	100,0%	0,0%	0,0%
EE	Exports (Balance)	0	0	0	0	0	0	0	0	0	26	0	0	0,0%	0,0%	0,0%	100,0%	0,0%	0,0%
EE	Gross inland consumption	82	20.254	220	0	0	0	78	0	225	-25	0	0	5,1%	9999,9%	2,2%	100,0%	0,0%	0,0%
IE	Indigenous production	0	0	0				0	0	4.604				0,0%	0,0%	100,0%			
IE	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
IE	Imports (Balance)	478	0	0	0	13	0	1.974	0	0	0	0	28	75,8%	0,0%	0,0%	0,0%	9999,9%	100,0%
IE	Stock changes (National territory)	28	1	0	0	-9	0	68	0	-956	0	0	3	58,8%	9999,9%	100,0%	0,0%	9999,9%	100,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
IE	Exports (Balance)	5	0	0	0	0	0	13	0	0	0	0	1	61,5%	0,0%	0,0%	0,0%	0,0%	100,0 %
IE	Gross inland consumption	501	1	0	0	4	0	2.029	0	3.648	0	0	30	75,3%	9999,9%	100,0%	0,0%	9999,9 %	100,0 %
EL	Indigenous production	0	48.023	0				0	50.845	0				0,0%	5,6%	0,0%			
EL	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
EL	Imports (Balance)	191	25	0	0	0	0	310	26	0	0	0	0	38,4%	3,8%	0,0%	0,0%	0,0%	0,0%
EL	Stock changes (National territory)	-14	975	0	0	0	0	-27	1.007	0	0	0	0	48,1%	3,2%	0,0%	0,0%	0,0%	0,0%
EL	Exports (Balance)	0	0	0	0	0	0	9	0	0	0	0	0	100,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
EL	Gross inland consumption	177	49.023	0	0	0	0	274	51.878	0	0	0	0	35,4%	5,5%	0,0%	0,0%	0,0%	0,0%
ES	Indigenous production	2.673	1.228	0				3.899	0	0				31,4%	9999,9%	0,0%			
ES	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
ES	Imports (Balance)	15.785	0	0	247	0	0	16.394	0	0	248	0	0	3,7%	0,0%	0,0%	0,4%	0,0%	0,0%
ES	Stock changes (National territory)	2.967	466	0	-11	0	0	2.376	0	0	-26	0	0	24,9%	9999,9%	0,0%	57,7%	0,0%	0,0%
ES	Exports (Balance)	1.265	0	0	129	0	0	1.284	0	0	130	0	0	1,5%	0,0%	0,0%	0,8%	0,0%	0,0%
ES	Gross inland consumption	20.160	1.694	0	107	0	0	21.385	0	0	92	0	0	5,7%	9999,9%	0,0%	16,3%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
FR	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			
FR	Receipts from other sources	300	0	0	0	0	0	300	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
FR	Imports (Balance)	14.259	161	0	606	114	0	12.853	177	0	808	86	0	10,9%	9,0%	0,0%	25,0%	32,6%	0,0%
FR	Stock changes (National territory)	58	0	0	-132	1	0	58	0	0	-132	0	0	0,0%	0,0%	0,0%	0,0%	9999,9 %	0,0%
FR	Exports (Balance)	239	0	0	54	0	0	0	0	0	54	0	0	9999,9 %	0,0%	0,0%	0,0%	0,0%	0,0%
FR	Gross inland consumption	14.378	161	0	420	115	0	13.211	177	0	622	86	0	8,8%	9,0%	0,0%	32,5%	33,7%	0,0%
HR	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
HR	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
HR	Imports (Balance)	960	42	0	24	0	0	962	44	0	28	0	0	0,2%	4,5%	0,0%	14,3%	0,0%	0,0%
HR	Stock changes (National territory)	75	2	0	0	0	0	80	2	0	2	0	0	6,3%	0,0%	0,0%	100,0%	0,0%	0,0%
HR	Exports (Balance)	4	0	0	0	0	0	14	0	0	1	0	0	71,4%	0,0%	0,0%	100,0%	0,0%	0,0%
HR	Gross inland consumption	1.031	44	0	24	0	0	1.028	46	0	29	0	0	0,3%	4,3%	0,0%	17,2%	0,0%	0,0%
IT	Indigenous production	0	0	0				86	0	0				100,0%	0,0%	0,0%			
IT	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
IT	Imports (Balance)	19.933	0	0	1.216	0	0	19.928	3	0	1.215	0	0	0,0%	100,0%	0,0%	0,1%	0,0%	0,0%
IT	Stock changes (National territory)	92	0	0	77	0	0	90	0	0	77	0	0	2,2%	0,0%	0,0%	0,0%	0,0%	0,0%
IT	Exports (Balance)	0	0	0	343	0	0	1	0	0	341	0	0	100,0%	0,0%	0,0%	0,6%	0,0%	0,0%
IT	Gross inland consumption	20.025	0	0	950	0	0	20.103	3	0	951	0	0	0,4%	100,0%	0,0%	0,1%	0,0%	0,0%
CY	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			
CY	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
CY	Imports (Balance)	5	0	0	0	0	0	5	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
CY	Stock changes (National territory)	-1	0	0	0	0	0	-1	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
CY	Exports (Balance)	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
CY	Gross inland consumption	4	0	0	0	0	0	4	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LV	Indigenous production	0	0	5				0	0	5				0,0%	0,0%	0,0%			
LV	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LV	Imports (Balance)	85	0	0	0	0	0	85	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LV	Stock changes (National territory)	18	0	-2	0	0	0	23	0	-2	0	0	0	21,7%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
LV	Exports (Balance)	6	0	0	0	0	0	6	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LV	Gross inland consumption	97	0	3	0	0	0	102	0	3	0	0	0	4,9%	0,0%	0,0%	0,0%	0,0%	0,0%
LT	Indigenous production	0	0	100				0	0	100				0,0%	0,0%	0,0%			
LT	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LT	Imports (Balance)	334	0	0	16	0	57	300	1	0	17	0	0	11,3%	100,0%	0,0%	5,9%	0,0%	9999,9 %
LT	Stock changes (National territory)	11	0	-51	-1	0	14	8	-1	-48	-1	0	0	37,5%	100,0%	6,3%	0,0%	0,0%	9999,9 %
LT	Exports (Balance)	34	0	8	0	0	10	0	0	9	0	0	0	9999,9 %	0,0%	11,1%	0,0%	0,0%	9999,9 %

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
LT	Gross inland consumption	311	0	41	15	0	61	308	0	43	16	0	0	1,0%	0,0%	4,7%	6,3%	0,0%	9999,9 %
LU	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			
LU	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LU	Imports (Balance)	78	0	0	0	0	0	85	0	0	1	0	4	8,2%	0,0%	0,0%	100,0%	0,0%	100,0 %
LU	Stock changes (National territory)	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LU	Exports (Balance)	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
LU	Gross inland consumption	78	0	0	0	0	0	85	0	0	1	0	4	8,2%	0,0%	0,0%	100,0%	0,0%	100,0 %

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
HU	Indigenous production	0	9.551	0				0	9.551	0				0,0%	0,0%	0,0%			
HU	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
HU	Imports (Balance)	1.360	205	0	49	0	5	1.542	0	0	44	0	4	11,8%	9999,9%	0,0%	11,4%	0,0%	25,0%
HU	Stock changes (National territory)	7	33	0	9	0	0	-8	22	0	9	1	0	187,5%	50,0%	0,0%	0,0%	100,0%	0,0%
HU	Exports (Balance)	0	408	0	470	0	0	0	384	0	467	0	0	0,0%	6,3%	0,0%	0,6%	0,0%	0,0%
HU	Gross inland consumption	1.367	9.381	0	-412	0	5	1.534	9.189	0	-414	1	4	10,9%	2,1%	0,0%	0,5%	100,0%	25,0%
NL	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
NL	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
NL	Imports (Balance)	54.301	47	0	309	0	0	47.261	41	0	468	0	25	14,9%	14,6%	0,0%	34,0%	0,0%	100,0 %
NL	Stock changes (National territory)	-1.238	0	0	244	0	0	-1.395	-10	0	60	0	0	11,3%	100,0%	0,0%	306,7%	0,0%	0,0%
NL	Exports (Balance)	39.859	0	0	621	0	0	31.256	0	0	535	0	0	27,5%	0,0%	0,0%	16,1%	0,0%	0,0%
NL	Gross inland consumption	13.204	47	0	-68	0	0	14.610	31	0	-7	0	25	9,6%	51,6%	0,0%	871,4%	0,0%	100,0 %
AT	Indigenous production	0	0	0				0	0	1				0,0%	0,0%	100,0%			
AT	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
AT	Imports (Balance)	3.157	94	108	1.223	9	14	3.243	12	0	1.186	9	15	2,7%	683,3%	9999,9 %	3,1%	0,0%	6,7%
AT	Stock changes (National territory)	-27	0	0	-15	0	0	-31	0	0	9	-3	0	12,9%	0,0%	0,0%	266,7%	100,0%	0,0%
AT	Exports (Balance)	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
AT	Gross inland consumption	3.130	94	108	1.208	9	14	3.212	12	1	1.195	6	15	2,6%	683,3%	10700, 0%	1,1%	50,0%	6,7%
PL	Indigenous production	72.514	63.878	0				72.540	63.877	0				0,0%	0,0%	0,0%			
PL	Receipts from other sources	734	0	0	0	0	0	731	0	0	0	0	0	0,4%	0,0%	0,0%	0,0%	0,0%	0,0%
PL	Imports (Balance)	10.341	149	0	159	0	0	10.417	176	0	192	14	70	0,7%	15,3%	0,0%	17,2%	100,0%	100,0 %

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
PL	Stock changes (National territory)	-1.570	69	0	188	0	0	-1.173	95	0	164	0	0	33,8%	27,4%	0,0%	14,6%	0,0%	0,0%
PL	Exports (Balance)	8.792	303	0	6.669	0	0	8.956	303	0	6.687	8	0	1,8%	0,0%	0,0%	0,3%	100,0%	0,0%
PL	Gross inland consumption	73.227	63.793	0	-6.322	0	0	73.559	63.845	0	-6.331	6	70	0,5%	0,1%	0,0%	0,1%	100,0%	100,0 %
PT	Indigenous production	0	0	0				0	0	0				0,0%	0,0%	0,0%			
PT	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
PT	Imports (Balance)	4.571	0	0	0	0	0	4.376	0	0	9	0	0	4,5%	0,0%	0,0%	100,0%	0,0%	0,0%
PT	Stock changes (National territory)	142	0	0	0	0	0	141	0	0	0	0	0	0,7%	0,0%	0,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
PT	Exports (Balance)	194	0	0	0	0	0	0	0	0	0	0	0	9999,9 %	0,0%	0,0%	0,0%	0,0%	0,0%
PT	Gross inland consumption	4.519	0	0	0	0	0	4.517	0	0	9	0	0	0,0%	0,0%	0,0%	100,0%	0,0%	0,0%
RO	Indigenous production	0	23.550	0				80	23.485	2				100,0%	0,3%	100,0%			
RO	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
RO	Imports (Balance)	693	299	0	736	0	0	696	388	34	738	0	0	0,4%	22,9%	100,0%	0,3%	0,0%	0,0%
RO	Stock changes (National territory)	37	594	0	-30	0	0	29	1.599	0	-27	0	0	27,6%	62,9%	0,0%	11,1%	0,0%	0,0%
RO	Exports (Balance)	2	37	0	0	0	0	5	37	3	0	0	0	60,0%	0,0%	100,0%	0,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
RO	Gross inland consumption	728	24.406	0	706	0	0	800	25.435	33	711	0	0	9,0%	4,0%	100,0%	0,7%	0,0%	0,0%
SI	Indigenous production	0	3.110	0				0	3.108	0				0,0%	0,1%	0,0%			
SI	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
SI	Imports (Balance)	0	2	0	6	0	0	440	48	0	32	0	0	100,0%	95,8%	0,0%	81,3%	0,0%	0,0%
SI	Stock changes (National territory)	0	45	0	0	0	0	-45	30	0	5	0	0	100,0%	50,0%	0,0%	100,0%	0,0%	0,0%
SI	Exports (Balance)	0	0	0	0	0	0	1	0	0	0	0	0	100,0%	0,0%	0,0%	0,0%	0,0%	0,0%
SI	Gross inland consumption	0	3.157	0	6	0	0	394	3.186	0	37	0	0	100,0%	0,9%	0,0%	83,8%	0,0%	0,0%
SK	Indigenous production	0	2.174	0				0	2.188	0				0,0%	0,6%	0,0%			

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
SK	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
SK	Imports (Balance)	3.784	471	0	192	7	61	3.784	474	0	210	9	23	0,0%	0,6%	0,0%	8,6%	22,2%	165,2 %
SK	Stock changes (National territory)	-18	-127	0	10	0	0	64	-211	0	11	0	7	128,1%	39,8%	0,0%	9,1%	0,0%	100,0 %
SK	Exports (Balance)	0	0	0	32	0	0	0	0	0	35	0	0	0,0%	0,0%	0,0%	8,6%	0,0%	0,0%
SK	Gross inland consumption	3.766	2.518	0	170	7	61	3.848	2.451	0	186	9	30	2,1%	2,7%	0,0%	8,6%	22,2%	103,3 %
FI	Indigenous production	0	0	6.811				0	0	6.722				0,0%	0,0%	1,3%			
FI	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
FI	Imports (Balance)	5.436	0	49	400	0	0	5.439	0	49	398	0	0	0,1%	0,0%	0,0%	0,5%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
FI	Stock changes (National territory)	-881	0	-1.036	0	0	0	-881	0	-787	-16	0	0	0,0%	0,0%	31,6%	100,0%	0,0%	0,0%
FI	Exports (Balance)	0	0	24	0	0	0	0	0	2	73	0	0	0,0%	0,0%	1100,0 %	100,0%	0,0%	0,0%
FI	Gross inland consumption	4.555	0	5.800	400	0	0	4.558	0	5.982	309	0	0	0,1%	0,0%	3,0%	29,4%	0,0%	0,0%
SE	Indigenous production	0	0	330				0	0	450				0,0%	0,0%	26,7%			
SE	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
SE	Imports (Balance)	2.761	0	141	97	0	0	2.774	0	110	98	0	0	0,5%	0,0%	28,2%	1,0%	0,0%	0,0%
SE	Stock changes (National territory)	-2	0	0	71	0	0	-101	0	0	72	0	0	98,0%	0,0%	0,0%	1,4%	0,0%	0,0%
SE	Exports (Balance)	0	0	0	0	0	0	1	0	0	30	0	0	100,0%	0,0%	0,0%	100,0%	0,0%	0,0%

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
SE	Gross inland consumption	2.759	0	471	168	0	0	2.672	0	560	140	0	0	3,3%	0,0%	15,9%	20,0%	0,0%	0,0%
UK	Indigenous production	11.646	0	0				11.647	0	0				0,0%	0,0%	0,0%			
UK	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
UK	Imports (Balance)	41.765	0	0	925	13	0	41.765	0	0	925	14	0	0,0%	0,0%	0,0%	0,0%	7,1%	0,0%
UK	Stock changes (National territory)	-4.234	0	0	-94	-15	0	-4.881	0	0	-196	-15	0	13,3%	0,0%	0,0%	52,0%	0,0%	0,0%
UK	Exports (Balance)	426	0	0	86	23	0	425	0	0	88	24	0	0,2%	0,0%	0,0%	2,3%	4,2%	0,0%
UK	Gross inland consumption	48.751	0	0	745	-25	0	48.106	0	0	641	-25	0	1,3%	0,0%	0,0%	16,2%	0,0%	0,0%
NO	Indigenous production	1.676	0	0				1.675	0	0				0,1%	0,0%	0,0%			

Country	2014 data	Monthly cumulated data						Annual data						Variation					
		Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB	Hard Coal	Lignite/ Brown Coal	Peat	Coke Oven Coke	Patent Fuel	BKB/ PB
NO	Receipts from other sources	0	0	0	0	0	0	0	0	0	0	0	0	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
NO	Imports (Balance)	762	0	0	454	0	0	761	0	0	455	0	0	0,1%	0,0%	0,0%	0,2%	0,0%	0,0%
NO	Stock changes (National territory)	-146	0	0	-66	0	0	-25	0	0	2	0	0	484,0%	0,0%	0,0%	3400,0 %	0,0%	0,0%
NO	Exports (Balance)	1.609	0	0	0	0	0	1.608	0	0	0	0	0	0,1%	0,0%	0,0%	0,0%	0,0%	0,0%
NO	Gross inland consumption	683	0	0	388	0	0	803	0	0	457	0	0	14,9%	0,0%	0,0%	15,1%	0,0%	0,0%

Table 53. Monthly electricity vs annual electricity

Country	2014 data	Monthly cumulated data	Annual data	Variation
BE	Gross electricity generation - Total	70,196	72,687	3.4%
BE	Net electricity generation - Total	67,516	69,965	3.5%
BE	Imports (Balance)	21,791	21,791	0.0%
BE	Exports (Balance)	4,190	4,188	0.0%
BE	Gross inland consumption	17,601	17,603	0.0%
BG	Gross electricity generation - Total	47,193	47,485	0.6%
BG	Net electricity generation - Total	42,939	43,231	0.7%
BG	Imports (Balance)	4,319	4,319	0.0%
BG	Exports (Balance)	13,773	13,774	0.0%
BG	Gross inland consumption	-9,454	-9,455	0.0%
CZ	Gross electricity generation - Total	86,201	86,024	0.2%
CZ	Net electricity generation - Total	80,157	79,906	0.3%
CZ	Imports (Balance)	10,506	11,842	11.3%
CZ	Exports (Balance)	27,092	28,142	3.7%
CZ	Gross inland consumption	-16,586	-16,300	1.8%
DK	Gross electricity generation - Total	30,675	32,183	4.7%
DK	Net electricity generation - Total	29,172	30,814	5.3%
DK	Imports (Balance)	11,769	12,702	7.3%
DK	Exports (Balance)	9,243	9,847	6.1%
DK	Gross inland consumption	2,526	2,855	11.5%
DE	Gross electricity generation - Total	525,876	627,795	16.2%
DE	Net electricity generation - Total	495,641	591,951	16.3%
DE	Imports (Balance)	40,435	40,435	0.0%
DE	Exports (Balance)	74,322	74,320	0.0%
DE	Gross inland consumption	-33,887	-33,885	0.0%
EE	Gross electricity generation - Total	12,373	12,446	0.6%
EE	Net electricity generation - Total	11,188	11,013	1.6%
EE	Imports (Balance)	3,725	3,730	0.1%
EE	Exports (Balance)	6,484	6,484	0.0%
EE	Gross inland consumption	-2,759	-2,754	0.2%
IE	Gross electricity generation - Total	25,128	26,314	4.5%
IE	Net electricity generation - Total	24,163	25,307	4.5%
IE	Imports (Balance)	2,841	2,853	0.4%
IE	Exports (Balance)	625	704	11.2%
IE	Gross inland consumption	2,216	2,149	3.1%
EL	Gross electricity generation - Total	47,908	50,474	5.1%
EL	Net electricity generation - Total	47,088	46,702	0.8%
EL	Imports (Balance)	9,462	9,461	0.0%
EL	Exports (Balance)	640	642	0.3%
EL	Gross inland consumption	8,822	8,819	0.0%
ES	Gross electricity generation - Total	268,705	278,749	3.6%
ES	Net electricity generation - Total	256,606	268,380	4.4%

Country	2014 data	Monthly cumulated data	Annual data	Variation
ES	Imports (Balance)	12,019	12,310	2.4%
ES	Exports (Balance)	15,433	15,716	1.8%
ES	Gross inland consumption	-3,414	-3,406	0.2%
FR	Gross electricity generation - Total	557,514	562,776	0.9%
FR	Net electricity generation - Total	534,410	539,416	0.9%
FR	Imports (Balance)	7,182	7,873	8.8%
FR	Exports (Balance)	74,752	75,063	0.4%
FR	Gross inland consumption	-67,570	-67,190	0.6%
HR	Gross electricity generation - Total	13,378	13,554	1.3%
HR	Net electricity generation - Total	12,983	13,159	1.3%
HR	Imports (Balance)	7,022	10,898	35.6%
HR	Exports (Balance)	2,866	6,945	58.7%
HR	Gross inland consumption	4,156	3,953	5.1%
IT	Gross electricity generation - Total	277,697	279,827	0.8%
IT	Net electricity generation - Total	267,557	269,148	0.6%
IT	Imports (Balance)	46,724	46,747	0.0%
IT	Exports (Balance)	3,021	3,031	0.3%
IT	Gross inland consumption	43,703	43,716	0.0%
CY	Gross electricity generation - Total	4,282	4,350	1.6%
CY	Net electricity generation - Total	4,081	4,145	1.5%
CY	Imports (Balance)	0	0	0.0%
CY	Exports (Balance)	0	0	0.0%
CY	Gross inland consumption	0	0	0.0%
LV	Gross electricity generation - Total	5,059	5,141	1.6%
LV	Net electricity generation - Total	4,858	4,732	2.7%
LV	Imports (Balance)	5,338	5,340	0.0%
LV	Exports (Balance)	3,023	3,023	0.0%
LV	Gross inland consumption	2,315	2,317	0.1%
LT	Gross electricity generation - Total	4,108	4,397	6.6%
LT	Net electricity generation - Total	3,844	4,144	7.2%
LT	Imports (Balance)	8,520	8,521	0.0%
LT	Exports (Balance)	897	898	0.1%
LT	Gross inland consumption	7,623	7,623	0.0%
LU	Gross electricity generation - Total	2,853	2,967	3.8%
LU	Net electricity generation - Total	2,825	2,938	3.8%
LU	Imports (Balance)	6,961	6,961	0.0%
LU	Exports (Balance)	2,067	2,067	0.0%
LU	Gross inland consumption	4,894	4,894	0.0%
HU	Gross electricity generation - Total	29,196	29,371	0.6%
HU	Net electricity generation - Total	26,965	27,131	0.6%
HU	Imports (Balance)	19,079	19,079	0.0%
HU	Exports (Balance)	5,689	5,689	0.0%
HU	Gross inland consumption	13,390	13,390	0.0%

Country	2014 data	Monthly cumulated data	Annual data	Variation
MT	Gross electricity generation - Total	2,170	2,245	3.3%
MT	Net electricity generation - Total	2,060	2,137	3.6%
MT	Imports (Balance)	0	0	0.0%
MT	Exports (Balance)	0	0	0.0%
MT	Gross inland consumption	0	0	0.0%
NL	Gross electricity generation - Total	101,084	103,418	2.3%
NL	Net electricity generation - Total	97,158	98,774	1.6%
NL	Imports (Balance)	32,854	32,855	0.0%
NL	Exports (Balance)	18,128	18,128	0.0%
NL	Gross inland consumption	14,726	14,727	0.0%
AT	Gross electricity generation - Total	64,899	65,421	0.8%
AT	Net electricity generation - Total	63,201	62,338	1.4%
AT	Imports (Balance)	26,712	26,712	0.0%
AT	Exports (Balance)	17,437	17,437	0.0%
AT	Gross inland consumption	9,275	9,275	0.0%
PL	Gross electricity generation - Total	158,905	159,059	0.1%
PL	Net electricity generation - Total	144,079	145,214	0.8%
PL	Imports (Balance)	13,509	13,508	0.0%
PL	Exports (Balance)	11,342	11,342	0.0%
PL	Gross inland consumption	2,167	2,166	0.0%
PT	Gross electricity generation - Total	51,265	52,802	2.9%
PT	Net electricity generation - Total	48,964	51,526	5.0%
PT	Imports (Balance)	7,247	7,247	0.0%
PT	Exports (Balance)	6,344	6,344	0.0%
PT	Gross inland consumption	903	903	0.0%
RO	Gross electricity generation - Total	63,272	65,676	3.7%
RO	Net electricity generation - Total	56,725	60,699	6.5%
RO	Imports (Balance)	699	2,811	75.1%
RO	Exports (Balance)	8,192	9,937	17.6%
RO	Gross inland consumption	-7,493	-7,126	5.2%
SI	Gross electricity generation - Total	17,234	17,437	1.2%
SI	Net electricity generation - Total	16,269	16,486	1.3%
SI	Imports (Balance)	7,253	7,254	0.0%
SI	Exports (Balance)	9,947	9,997	0.5%
SI	Gross inland consumption	-2,694	-2,743	1.8%
SK	Gross electricity generation - Total	26,102	27,401	4.7%
SK	Net electricity generation - Total	24,435	25,007	2.3%
SK	Imports (Balance)	12,927	12,964	0.3%
SK	Exports (Balance)	11,861	11,862	0.0%
SK	Gross inland consumption	1,066	1,102	3.3%
FI	Gross electricity generation - Total	67,965	68,093	0.2%
FI	Net electricity generation - Total	65,301	65,456	0.2%
FI	Imports (Balance)	21,621	21,622	0.0%

Country	2014 data	Monthly cumulated data	Annual data	Variation
FI	Exports (Balance)	3,657	3,655	0.1%
FI	Gross inland consumption	17,964	17,967	0.0%
SE	Gross electricity generation - Total	155,009	153,662	0.9%
SE	Net electricity generation - Total	150,737	149,956	0.5%
SE	Imports (Balance)	13,852	13,852	0.0%
SE	Exports (Balance)	29,474	29,475	0.0%
SE	Gross inland consumption	-15,622	-15,623	0.0%
UK	Gross electricity generation - Total	336,941	338,927	0.6%
UK	Net electricity generation - Total	322,482	322,407	0.0%
UK	Imports (Balance)	21,260	23,243	8.5%
UK	Exports (Balance)	2,720	2,723	0.1%
UK	Gross inland consumption	18,540	20,520	9.6%
NO	Gross electricity generation - Total	142,326	142,327	0.0%
NO	Net electricity generation - Total	141,205	141,620	0.3%
NO	Imports (Balance)	6,346	6,347	0.0%
NO	Exports (Balance)	21,933	21,932	0.0%
NO	Gross inland consumption	-15,587	-15,585	0.0%
TR	Gross electricity generation - Total	249,988	251,963	0.8%
TR	Net electricity generation - Total	236,883	239,449	1.1%
TR	Imports (Balance)	7,941	7,953	0.2%
TR	Exports (Balance)	2,694	2,696	0.1%
TR	Gross inland consumption	5,247	5,257	0.2%

ANNEX 11. METHODOLOGY FOR THE SUMMARY TABLE

This annex presents the methodology followed and the thresholds selected to display the smileys in the summary table (in section 8 of the report). Each column of the table is identified below with its number.

(1) Completeness (chapters 3.2.1 and 3.2.2):

☺ Country without completeness issues/problems as regards energy data in any of the analysed sectors (in only one or both chapters).
😐 Country showing completeness issues/problems as regards energy data in 1 of the analysed sectors (in only one or both chapters).
☹ Country showing completeness issues/problems as regards energy data in 2 or more of the analysed sectors (in only one or both chapters).

(2) Knowledge of nature and main causes of errors (Annex 4):

☺ Country reporting nature / causes of errors in any of the suggested error types (measurement errors, processing errors, sampling errors and classification errors)
😐 Country not reporting any knowledge on the nature / causes of errors in any of the suggested error types (measurement errors, processing errors, sampling errors and classification errors)

(3.1.1) Statistical difference in energy balances, all products – 0000 (Table 10):

☺ Country lower than 2% average statistical difference over the whole period
😐 Country between 2 - 5% average statistical difference over the whole period
☹ Country higher than 5% average statistical difference over the whole period

-- Country with missing value or statistical difference equal to 0.0

(3.1.2) Statistical difference in energy balances, oil – 3000 (Table 12):

☺ Country lower than 5% average statistical difference over the whole period
😐 Country between 5 - 10% average statistical difference over the whole period
☹ Country higher than 10% average statistical difference over the whole period

-- Country with missing value or statistical difference equal to 0.0.

(3.1.3) Statistical difference in energy balances, gas – 4000 (Table 12):

☺ Country lower than 5% average statistical difference over the whole period
😐 Country between 5 - 10% average statistical difference over the whole period
☹ Country higher than 10% average statistical difference over the whole period

-- Country with missing value or statistical difference equal to 0.0.

(3.1.4) Statistical difference in energy balances, electricity – 6000 (Table 12):

☺ Country lower than 5% average statistical difference over the whole period
😐 Country between 5 - 10% average statistical difference over the whole period
☹ Country higher than 10% average statistical difference over the whole period

-- Country with missing value or statistical difference equal to 0.0.

(3.1.5) Statistical difference in energy balances, renewables – 5500 (Table 12):

☺ Country lower than 5% average statistical difference over the whole period
😐 Country between 5 - 10% average statistical difference over the whole period
☹ Country higher than 10% average statistical difference over the whole period

-- Country with missing value or statistical difference equal to 0.0.

(3.2) Statistical pull of the total relative statistical difference in energy balances (Table 11):

☺ Country lower than 1 (absolute value) for the period 1990 – 2014
😐 Country between 1 and 1.5 (absolute value) for the period 1990 – 2014
☹ Country higher than 1.5 (in absolute value) for the period 1990 – 2014

(3.3.1) Long-term variation of stock changes relative to gross inland consumption, all products – 0000 (Table 13):

☺ Country lower than 5% cumulative long-term variation of stock changes over the whole period
😐 Country between 5 - 10% cumulative long-term variation of stock changes over the whole period
☹ Country higher than 10% cumulative long-term variation of stock changes over the whole period

(3.3.2 to 3.3.5) Long-term variation of stock changes relative to gross inland consumption (Table 13):

☺ Country lower than 10% cumulative long-term variation of stock changes
😐 Country between 10 - 20% cumulative long-term variation of stock changes
☹ Country higher than 20% cumulative long-term variation of stock changes

-- Fuel not used in the country

(4.1) Percentage of data collections covered by a revision policy (Table 18):

☺ More than 50% of national data collections covered by a revision policy
😐 Between 10 and 50% of national data collections covered by a revision policy
☹ Less than 10% of national data collections covered by a revision policy

(4.2) Evolution of gross inland consumption for all fuels for reference year 2005 (Table 21):

☺ Lower than 1%
😐 Between 1 and 4%
☹ Higher than 4%

-- Not analysed cases

(5.1 to 5.5) Punctuality: transmissions of 2014 annual data collections to Eurostat (Table 24)

☺ No delay
😐 Between 1 and 3 days delay
☹ More than 3 days delay

-- Not applicable

(6.1) Availability of national methodology documentation (Annex 8)

☺ Documentation available
☹ Documentation not available

(6.2) Availability of national metadata (Annex 9)

☺ Documentation available
☹ Documentation not available

(7.1) Monthly vs annual natural gas (Table 32)

☺ Country with relative difference below 3%
😐 Country with relative difference between 3 and 5%
☹ Country with relative difference above 5%

-- Country with 0.0% difference or not using that fuel

(7.2) Monthly vs annual crude oil (Table 33)

☺ Country with relative difference below 3%
😐 Country with relative difference between 3 and 5%
☹ Country with relative difference above 5%

-- Country with 0.0% difference or not using that fuel

(7.3) Monthly versus annual brown coal (Table 34)

☺ Country with relative difference below 3%
😐 Country with relative difference between 3 and 5%
☹ Country with relative difference above 5%

-- Country with 0.0% difference or not using that fuel

(7.4) Geographical (trade mirroring) (Table 35 and Table 36):

☺ Country not having any asymmetry in Table 35 or 36
😐 Country having 1 to 3 asymmetries in Tables 35 and 36
☹ Country having more than 3 asymmetries in Tables 35 and 36