



Energy Community meeting

Vienna, 12-13 March 2019

European Commission - Eurostat

SHARES – general framework

General framework: relevance

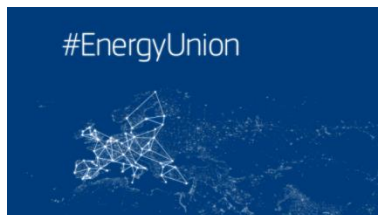
Energy Union and climate

One of the 5 pillars is "*Making energy more secure, affordable and sustainable*"; containing the action "*Driving Europe's transition to a low-carbon economy*"

Objectives

at least a 20% share of renewable energy in gross final energy consumption for 2020 and 32% for 2030 (Directive 2018/2001).

In 2023, the Commission can propose to revise the EU target upwards.



General framework: legal basis

Regulation (EC) No 1099/2008 on energy statistics as amended by:

- Commission Regulations (EU) No 844/2010, 147/2013, 431/2014, 2017/2010

SHARES is based on **Directive 2009/28/EC on the promotion of the use of energy from renewable sources** as amended by:

- Council Directive 2013/18/EU
- Directive (EU) 2015/1513

After 2020 → Directive 2018/2001: SHARES will be adapted accordingly



General framework: SHARES tool

SHort Assessment of Renewable Energy Sources

- Eurostat developed SHARES tool to encourage the use of harmonized calculation methodology, respecting all calculation provisions of Directive 2009/28/EC.
- The use of SHARES tool ensures full consistency with Regulation (EC) No 1099/2008 on energy statistics.
- SHARES tool results allow DG Energy to verify the consistency of transmitted national *Progress reports* with the official energy statistics.



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SHARES - introduction

Introduction - overall framework

- Collects and presents the energy data needed for calculations in Article 3 (transport target) and Article 5 (overall target) of the RED.
- Additional calculations for electricity to implement Article 3(4), as well as for heating and cooling as defined in the templates of the progress report on the website of DG Energy.
- SHARES tool does not replace legal obligations in Articles 22 and 23 of RED — it only assists in reporting.



Introduction - main advantages

- Member States go through the exact same method during the calculation of the share.
- Prevents any irregularities from varying parameters and rules used in different calculation methods and ensures harmonised and comparable results for all reporting countries.
- Using SHARES tool is a more efficient approach than individual estimations/calculations performed by each EU Member State.

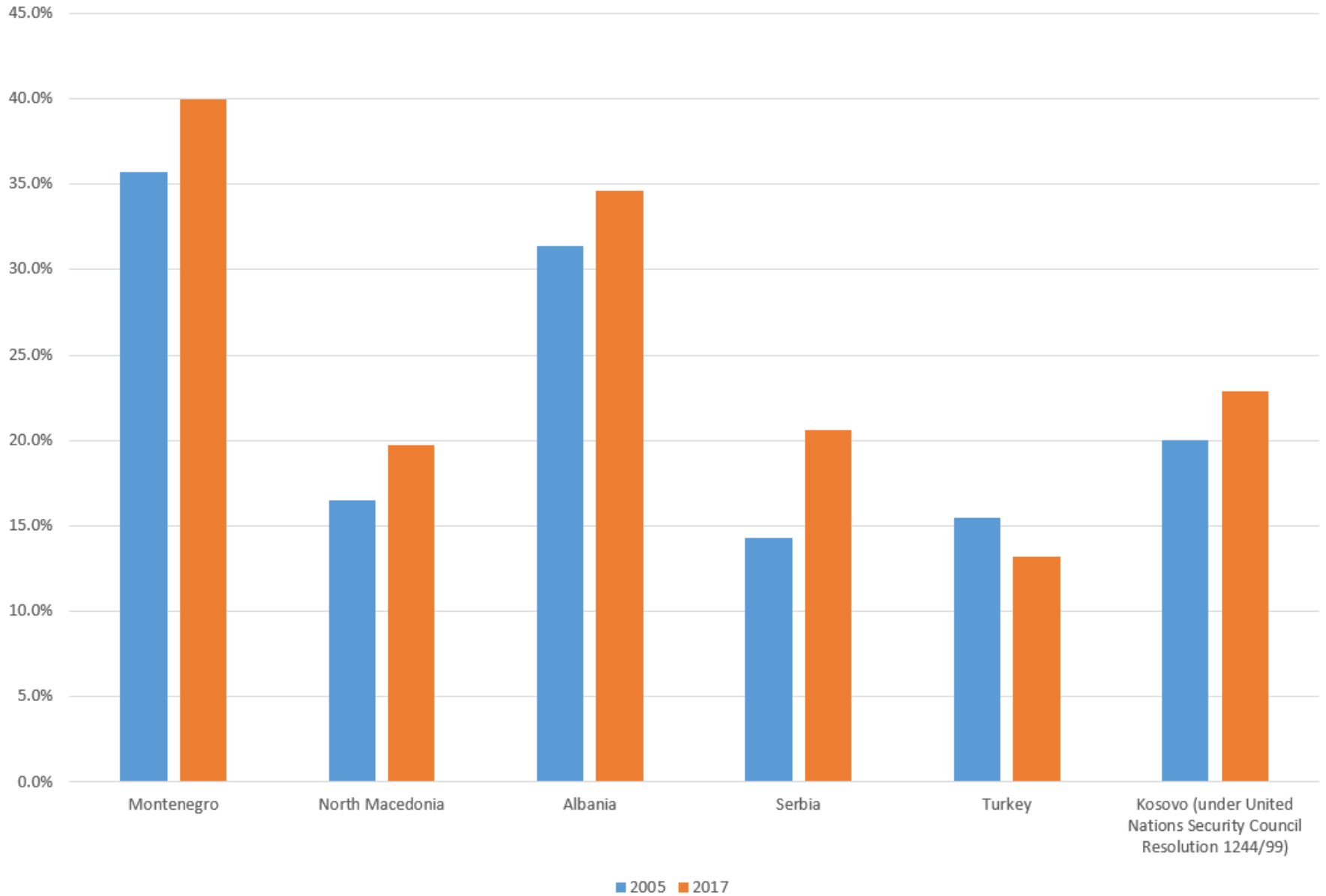


Introduction - components

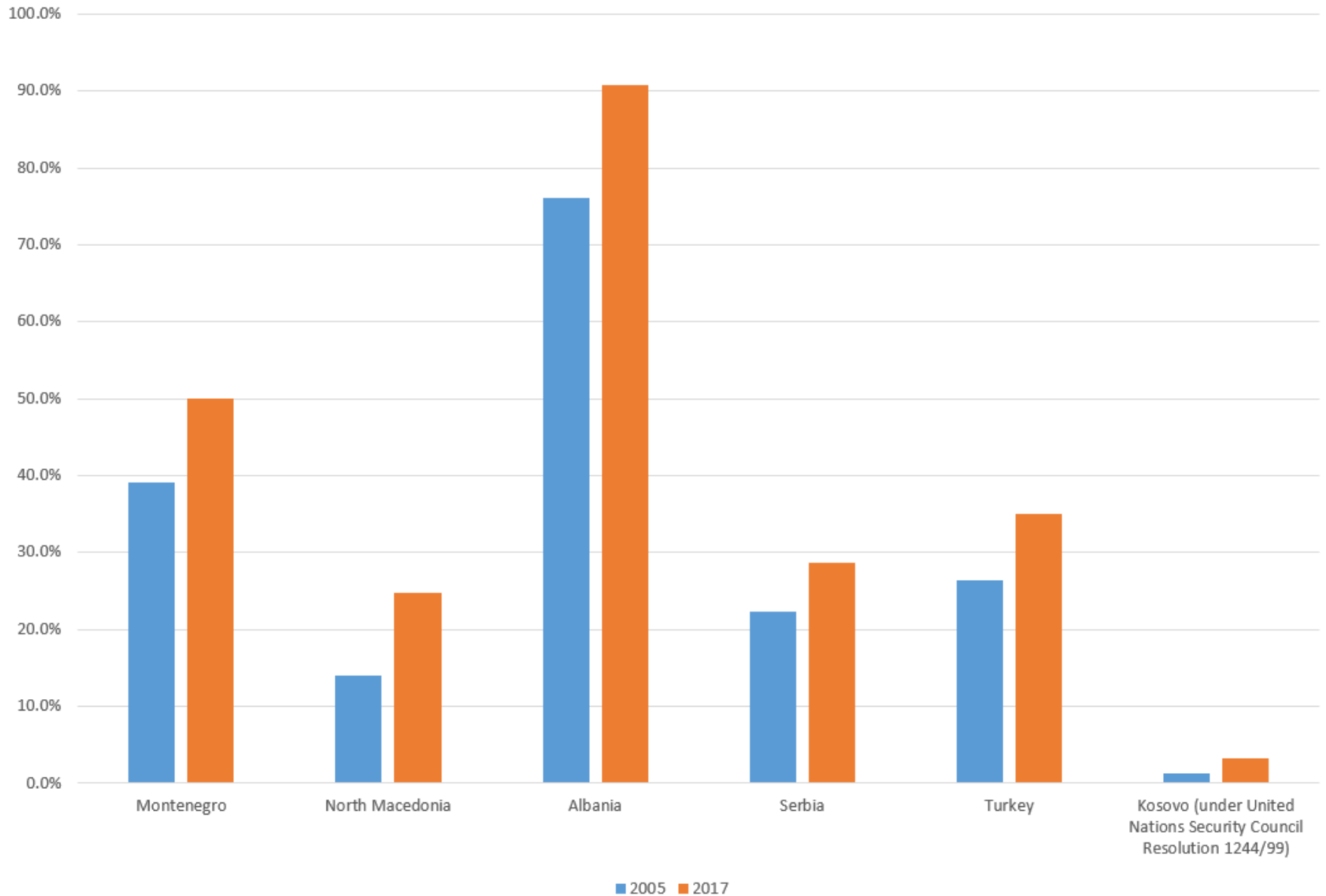
- SHARES offers results on four components:
 - *RES (%) – overall share of energy from renewable sources*
 - *RES-E (%) – share of energy from renewable sources in electricity*
 - *RES-T (%) – share of energy from renewable sources in transport*
 - *RES-H&C (%) – share of energy from renewable sources in heating and cooling*



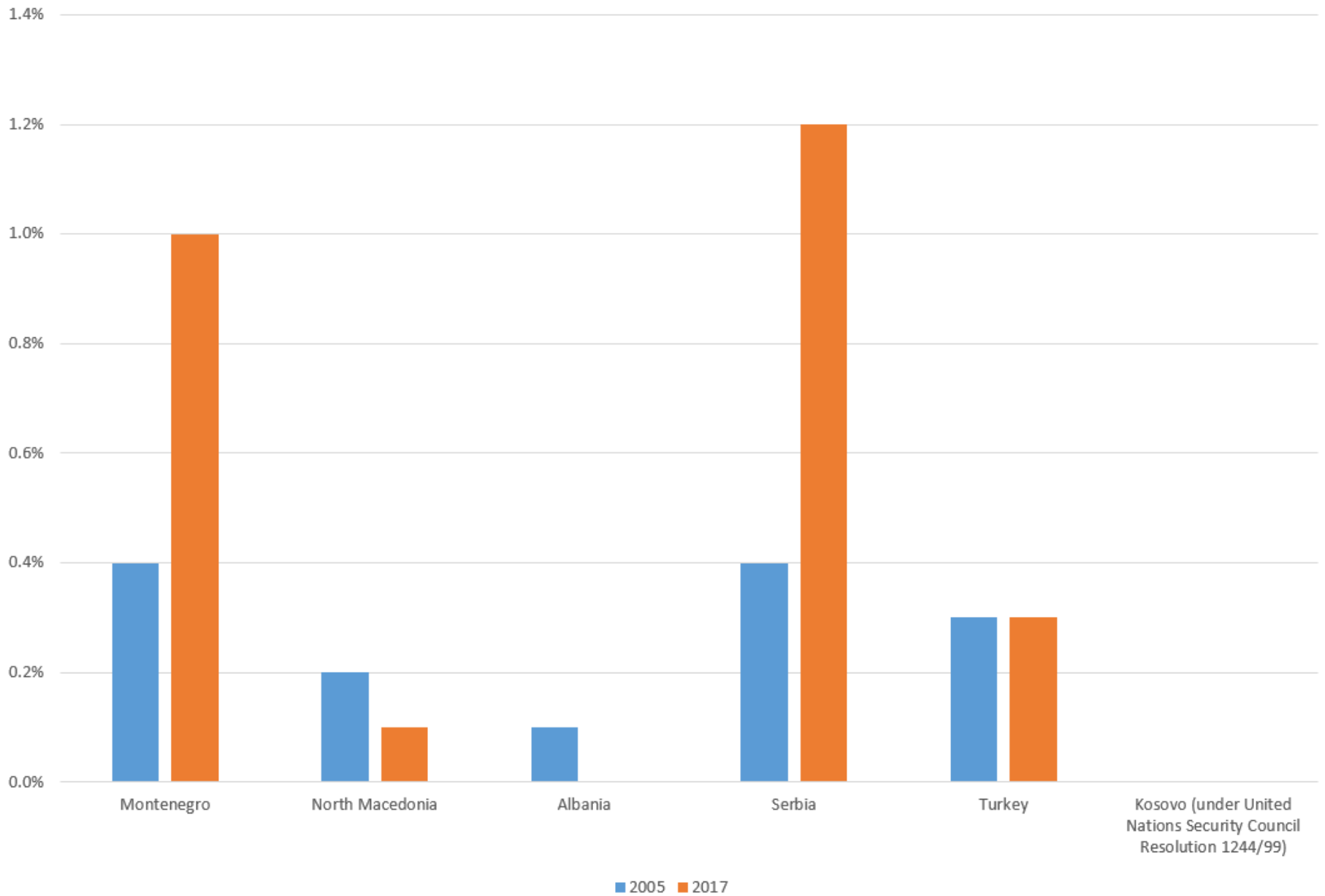
RES (%)



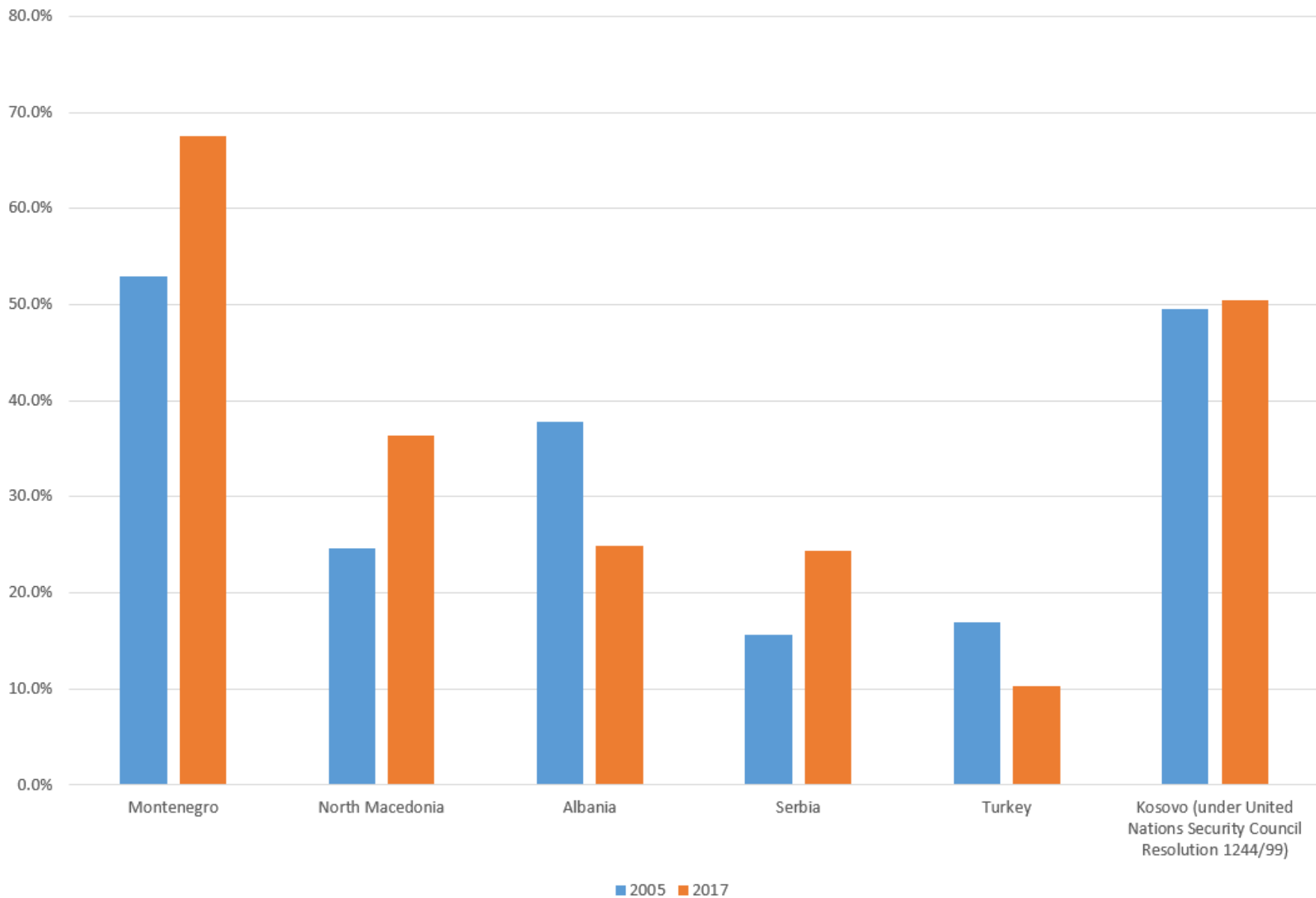
RES-E (%)



RES-T (%)



RES-H&C (%)

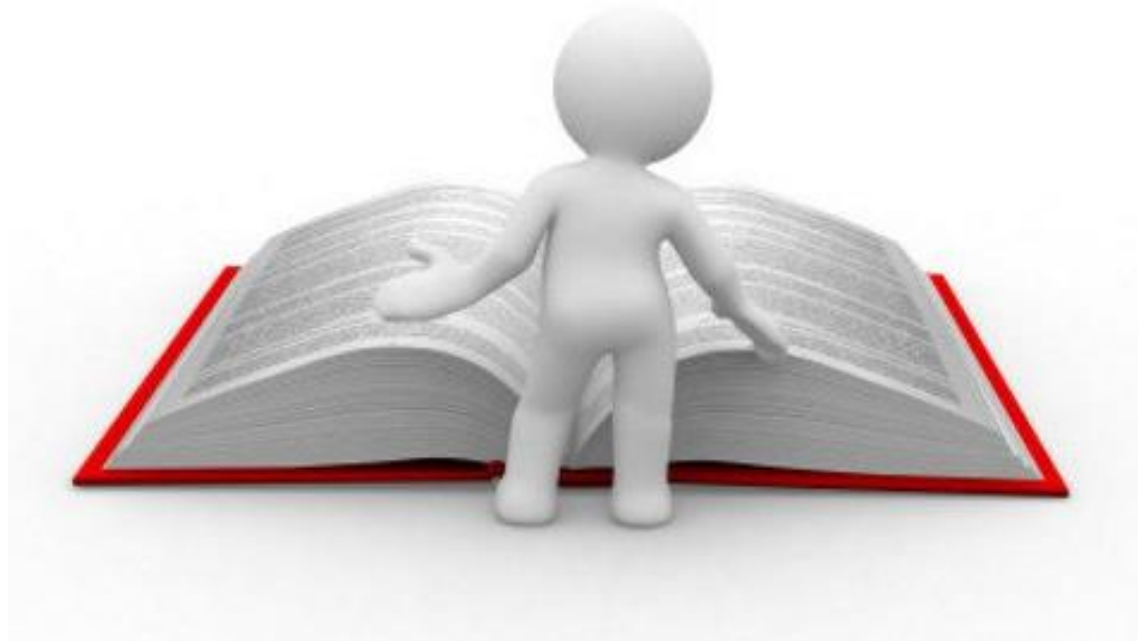


More information in Statistics Explained – Renewable energy statistics:

The screenshot shows the Eurostat 'Statistics Explained' website interface. At the top left is the Eurostat logo and the text 'Statistics Explained'. A search bar is located at the top right. Below the header is a navigation bar with 'NAVIGATION', 'ONLINE PUBLICATIONS', and 'TOOLS'. The main title 'Renewable energy statistics' is prominently displayed. To the right of the title are social media icons for Twitter, Facebook, and Google+, along with a printer icon. Below the title, a note states: 'Data extracted in June 2018. Planned article update: April 2019.' A 'Highlights' section contains two tweet-style boxes. The first highlights that in 2016, renewable energy represented 17% of energy consumed in the EU, on a path to the 2020 target of 20%. The second highlights that the share of energy used in transport activities from renewable sources almost tripled in 10 years to reach 7.1% in 2016. At the bottom, a chart titled 'Share of energy from renewable sources in the EU Member States (in % of gross final energy consumption)' is partially visible, showing a bar for 2014 and a legend for 2020 targets.

https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics

Introduction – SHARES Manual



<https://ec.europa.eu/eurostat/web/energy/data/shares>

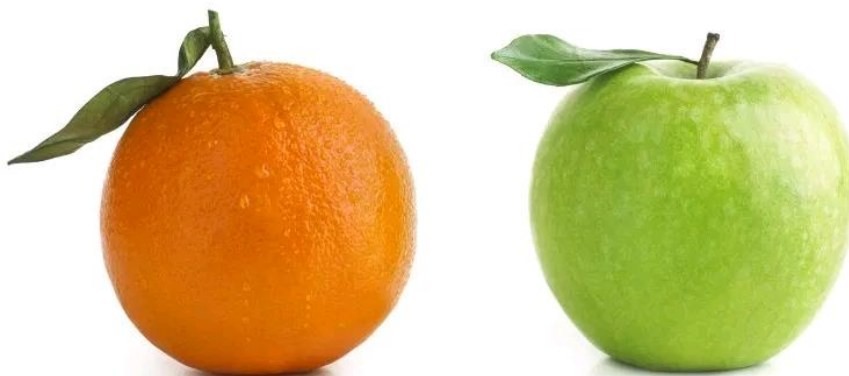


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SHARES - methodology

Methodology – SHARES and energy statistics

- Directive 2009/28/EC Article 5 - Paragraph 7: The methodology and definitions used in the calculation of the share of energy from renewable sources shall be those of Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics.
- Member States shall ensure coherence of statistical information used in calculating those sectoral and overall shares and statistical information reported to the Commission under Regulation (EC) No 1099/2008.



Methodology – energy units and CVs

- Energy fuels are reported in different units (mass and energy), and then transformed into ktoe.
- For fuels used in transport, Directive 2009/28/EC Annex III defines which calorific values are to be used. For all other sectors, calorific values as reported in the annual energy questionnaires are used and, if missing, default values are used.
- Countries are encouraged to report updated calorific values in all joint annual energy questionnaires that are transmitted to Eurostat in the framework of Regulation (EC) No 1099/2008 on energy statistics.



Methodology – normalisation for hydro and wind

- In line with the Renewable Energy Directive, the contribution of hydropower and wind power is normalised to smooth the effects of climatic variation. A normalisation rule is used, which takes into account production and capacity over the last 15 years for hydro and 5 years for wind.
- Electricity produced in pumped storage units from water that has previously been pumped uphill is not considered to be electricity produced from renewable energy sources.



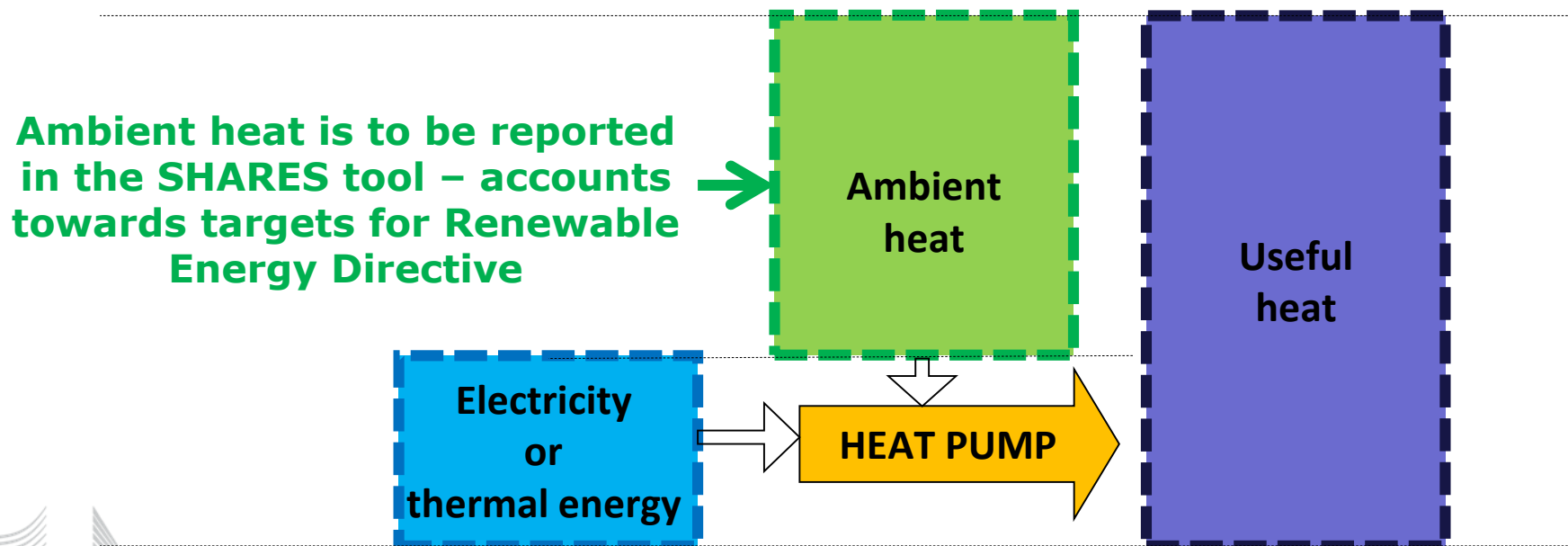
Methodology – biofuels

- Biofuels and bioliquids must comply with sustainability criteria defined in Directive 2009/28/EC in order to be counted towards a Member State's renewables share.
- Compliance with Article 17 ('Sustainability criteria for biofuels and bioliquids') has to be judged also with respect to Article 18 ('Verification of compliance with the sustainability criteria for biofuels and bioliquids').
- More concretely, one of the main modifications is the addition of Annex IX, which includes a new detailed list of feedstocks and fuels which are to be counted double towards the transport target.

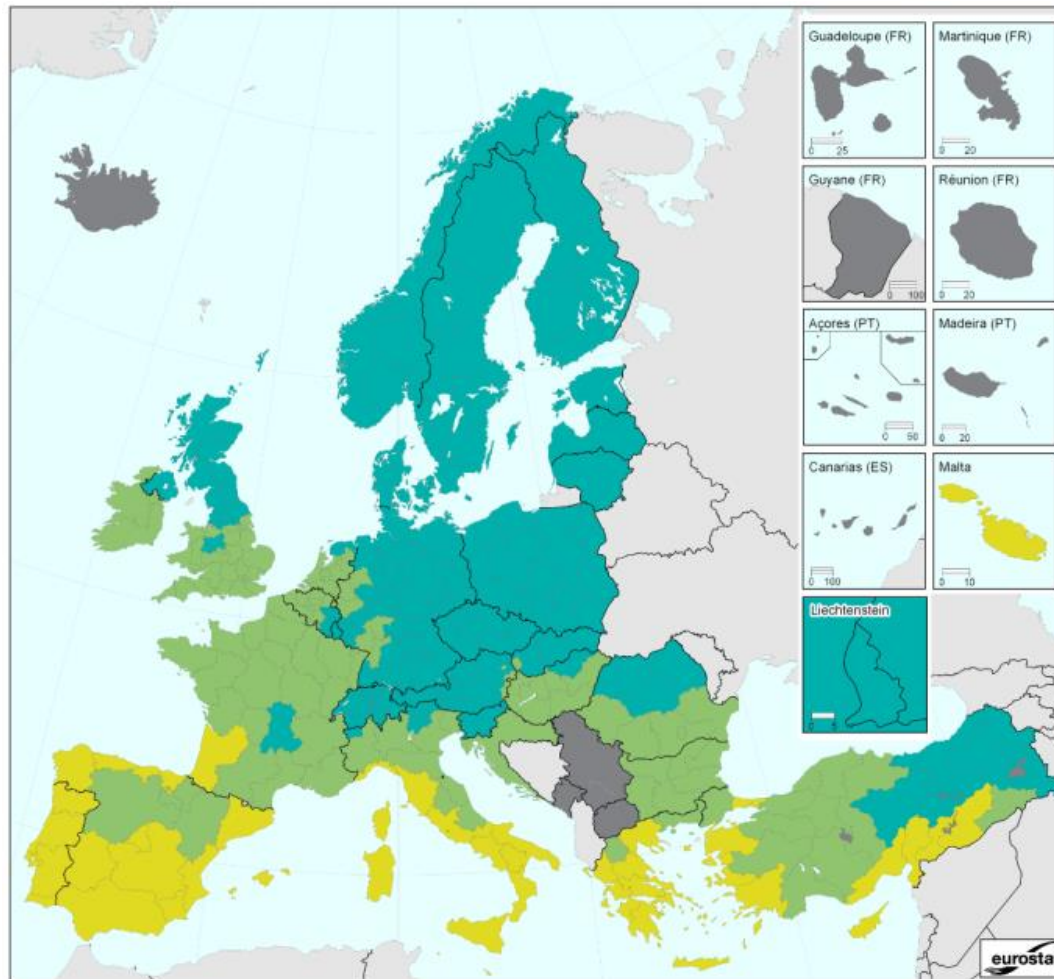


Methodology – heat pumps

- Heat pumps (heat extracted from the environment: ambient heat) are covered by Directive 2009/28/EC (Annex VII) and count towards renewable target
- Commission Decision [C\(2013\) 1082](#)
- Heat released to the environment (cooling) is not counted as renewable energy



Climate condition areas



cold climate

average climate

warm climate

Provisional attribution of NUTS2 zones into climate condition areas is in the SHARES tool manual.

SHARES Excel file



General structure: sheets

Main: This sheet is used to select the country and upload the annual questionnaires.

Energy statistics import sheets: Coal, Oil, Gas and REN. These sheets automatically import the data from the annual questionnaires.

Additional input sheets: Transport, Overall target, Heat pumps and Stat. transfers. The user can enter additional input into these sheets.

Overall summary and Template Tables: Presents the results of the calculations according to different structure.

Annual questionnaires

- Based on annual energy statistics under Regulation (EC) No 1099/2008. Five annual energy questionnaires are uploaded into SHARES :
 - Coal (covers solid fossil fuels and manufactured gases)
 - Oil (covers crude oil and derived oil products)
 - Natural gas
 - Electricity & Heat
 - Renewables (also includes renewable and non-renewable wastes)



Additional data

- Countries to provide additional information that is not covered by Regulation (EC) No 1099/2008:
 - Compliant (sustainable) biofuels and bioliquids
 - Heat pumps
 - Mixed hydro plants
 - Cooperation mechanisms (statistical transfers)
 - Biomethane injected in the grid to be accounted towards transport on the basis of the mass-balance system

Currently, EnC countries do not provide these data (mostly because it is not applicable in their countries)





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SHARES - revisions

SHARES - revisions

- Countries can revise SHARES when significant revisions affect:
 - The annual energy questionnaires. In this case the revised questionnaires can be uploaded again into SHARES.
 - The additional data included directly in SHARES (e.g. biofuels and bioliquids, heat pumps, generation in mixed hydro plants, etc.).

In all cases, revisions need to be transmitted via EDAMIS (ENERGY_SHARES_A).

SHARES - revisions

SHARES results are only revised if there are significant changes in the main indicators.

Therefore, send revised SHARES questionnaires only if RES, RES-E, RES-T and/or RES-H&C are significantly affected by the revision.



SHARES - quality checks and validation issues

Validation checks inside SHARES

1. Basic data loaded in SHARES have already been validated in the annual questionnaires.
2. More validation checks for the additional data introduced in the SHARES tool file.



Validation checks inside SHARES

TRANSPORT SHEET

- A. The total amount of compliant (sustainable) biofuels is less or equal to the total amount of biofuels (compliant + non-compliant).
- B. The total amount of biofuels calculated with Annex III calorific values is very similar (but not equal) to the total amount of biofuels imported from the annual questionnaires (calculated with real CV).
- C. Electricity used to produce non-biological renewable transport fuels is reported if hydrogen or synthetic fuels of renewable origin are reported.
- D. Plausibility of all time series (including reasonable/justified variations across years, break in series, etc.).

Validation checks inside SHARES

OVERALL TARGET SHEET

- A. For electricity, heating and cooling or derived heat production: The total amount of compliant (sustainable) bioliquids is less or equal to the total amount of bioliquids (compliant + non-compliant).
- B. Plausibility of all time series (including reasonable/justified variations across years, break in series, etc.).

Validation checks inside SHARES

HEAT PUMPS SHEET

- A. Plausibility of time series (including reasonable/justified variations across years, break in series, etc.).
- B. Consistency of the climate zones in which heat pumps are reported with the map of climatic areas in the SHARES Tool Manual.

STAT. TRANSFERS SHEET

- A. Verification across countries. Consistency of the information provided by partner countries in cooperation mechanisms. If available, this information is cross-checked with the bilateral agreements signed at Government level.

Validation checks inside SHARES

GAS SHEET

- A. The amount of biogas injected in the natural gas grid to be consumed in transport with traceability requirements cannot exceed the total amount of biogas injected in the natural gas grid (as reported in the natural gas questionnaire under "Memo: Receipts from other sources – Renewables").
- B. The amount of biogas injected in the natural gas grid to be consumed in transport with traceability requirements cannot exceed the total amount of methane (of all forms) consumed in transport (as reported in the natural gas questionnaire under "Total final consumption – Transport sector – Road").

Validation checks inside SHARES

REN SHEET

- A. Generation without pumping in mixed hydro plants should reported (unless duly justified) when the country reports mixed hydro production.
- B. Plausibility of time series for generation without pumping (including reasonable/justified variations across years, break in series, etc.).

Validation checks inside SHARES

OVERALL SUMMARY SHEET

- A. Plausibility of all time series (including reasonable/justified variations across years, break in series, etc.).

Validation issues

They don't always require a correction; sometimes a clarification is enough if it explains properly the issue.



Main validation issues

- Plausibility of time series (drastic increase/decrease, break in series)
- Revisions (e.g. biomass)
- Biofuels calculated with Annex III vs biofuels from annual energy statistics
- Capacities for hydro in historic time series
- Generation without pumping in mixed plants for historic time series



Energy statistics – Quality reporting

Legal basis

- Regulation (EC) No 1099/2008 on **energy statistics**, article 6 paragraphs 4 and 5.
 - Member States shall ensure the quality of the data transmitted.
 - Every five years, MS provide Eurostat with a report on the quality of data and any methodological changes.
 - Within six months of a request from Eurostat, Member States send a report concerning the implementation of this Regulation.



Objectives of quality reporting

- Inform on quality criteria of a certain statistical process (relevance, accuracy, timeliness, punctuality, accessibility and clarity, comparability, coherence...)
- Identification of problems and potential improvements in statistical processes and output quality
- Comparison across processes / outputs and countries

Excel questionnaire and reporting instructions



http://ec.europa.eu/eurostat/documents/38154/4956233/Quality_Reporting-template-energy_statistics-FINAL-v4.0.xlsm/f16ab9c3-79f5-4865-926f-8d1f5cb3abfc



<http://ec.europa.eu/eurostat/documents/38154/4956233/Quality-reporting-instructions-2015.pdf/f7464374-cae9-43d6-89c2-063c064e44db>

From national quality reports to metadata



Metadata: National Quality reports



QR
template

http://ec.europa.eu/eurostat/cache/metadata/en/nrg_10_esms.htm



<http://ec.europa.eu/eurostat/web/energy/data/database>



The screenshot shows the Eurostat website interface. At the top, there is a search bar and navigation links. Below the main header, there is a breadcrumb trail: "European Commission > Eurostat > Energy > Data > Database". The "DATABASE" section is expanded to show a list of energy-related datasets:

- Energy (nrg)
- Energy statistics - quantities (nrg_quant) **M**
- Energy statistics - prices of natural gas and electricity (nrg_price)
- Energy statistics - market structure indicators - natural gas and electricity (nrg_market)
- Energy statistics - cooling and heating degree days (nrg_chdd) **M**

The "Energy statistics - quantities (nrg_quant)" item is circled in red.

Energy statistics - quantities (nrg_quant)
Reference Metadata in Euro SDMX Metadata Structure (ESMS)
Compiling agency: Eurostat, the Statistical Office of the European Union

eurostat

Eurostat metadata	
Reference metadata	
1. Contact	
2. Metadata update	
3. Statistical processing	
4. List of surveys	
5. Reference Period	
6. Institutional Mandate	
7. Confidentiality	
8. Release policy	
9. Frequency of dissemination	
10. Accessibility and clarity	
11. Quality management	
12. References	
13. Accuracy	
14. Timeliness and punctuality	
15. Coherence and comparability	
16. Cost and Burden	
17. Data sources	
18. Statistical processing	
19. Coverage	
Related Metadata	
Annexes (including footnotes)	

National metadata				
National reference metadata				
National metadata produced by country				
Belgium	Bulgaria	Czechia		
Estonia	Ireland	Germany		
Croatia	Italy	Cyprus	Latvia	Lithuania
Luxembourg	Hungary	Malta	Netherlands	Austria
Poland	Portugal	Romania	Slovenia	Slovakia
Finland	Sweden	United Kingdom	Norway	FYR of Macedonia
Turkey	Albania	Moldova		

National metadata

National reference metadata

National metadata produced by countries and released by Eurostat

[Belgium](#)

[Bulgaria](#)

[Czechia](#)

[Denmark](#)

[Germany](#)

[Estonia](#)

[Ireland](#)

[Greece](#)

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[United Kingdom](#)

[Norway](#)

[FYR of
Macedonia](#)

[Turkey](#)

[Albania](#)

[Moldova](#)

Summary of the last ESWG meeting

General information

➤ ESWG meeting took place in Luxembourg on 13-14 November 2018

➤ Participants:

- *EU Member States, EFTA countries Iceland, Liechtenstein, Norway and Switzerland, candidate countries Albania, Serbia, Turkey, Montenegro and the former Yugoslav Republic of Macedonia, potential candidates Bosnia and Herzegovina and Kosovo.*
- *European Commission Directorates General (DGs): Eurostat, Energy, Climate Action.*
- *Other participants: the International Energy Agency (IEA), European Environment Agency, Energy Community*

Main points (1):

- Amendment of Regulation (EC) No 1099/2008 on energy statistics. Most important changes:
 - Annex B (annual energy statistics): addition of disaggregated final energy consumption in the industry sector
 - Annex C (monthly energy statistics): improvement of timeliness of monthly data collections for coal and electricity (from 3 to 2 months after the end of reference month)
 - Annex D (short-term monthly energy statistics): addition of the crude oil imports register data collection (transferred from ENER) and update of the methodology for natural gas trade to adjust it to that of the monthly reporting (including quantities in transit)
- *Vote in the ESSC Committee: May 2019*
- *Adoption: 3rd - 4th quarter 2019.*

Main points (2):

- Regulation (EU) 2016/1952 on natural gas and electricity **prices**: The implementing regulation on quality reporting is planned to enter into force in March/April 2019.
- Discussion on new reporting obligations under the **Energy Union**: Eurostat and countries to discuss what should become European statistics
- DG ENER presented legal developments with influence on energy statistics
- Disaggregation in **transport and services**

Main points (3):

- New annual questionnaires, new dissemination and new energy balances
- SHARES tool: modalities for the 2017 cycle.
- Short-term monthly oil and gas
- Validation manual and error convention
- SDMX for energy statistics



Thank you for your attention!

<http://ec.europa.eu/eurostat>