SDG 7 - Affordable and clean energy (statistical annex)

Statistics Explained

Ensure access to affordable, reliable, sustainable and modern energy for all (statistical annex)

Data extracted in May 2021.

EU trend of SDG 7 on affordable and clean energy

This article provides an overview of statistical data on SDG 7 'Affordable and clean energy' in the European Union (EU) . It is based on the set of EU SDG indicators for monitoring of progress towards the UN Sustainable Development Goals (SDGs) in an EU context.

This article is part of a set of statistical articles , which are based on the Eurostat publication 'Sustainable development in the European Union — Monitoring report on progress towards the SDGS in an EU context — 2021 edition' . This report is the fifth edition of Eurostat's series of monitoring reports on sustainable development, which provide a quantitative assessment of progress of the EU towards the SDGs in an EU context.

Indicator		Long-term trend (past 15 years)	Short-term trend (past 5 years)
Energy consumption			
Energy consumption	Primary energy consumption	↗ (1)	↓ (1)
	Final energy consumption	↘ (1)	↓ (1)
Final energy consumption in households per capita		↗	↘
Energy productivity		↑	↑
Greenhouse gas emissions intensity of energy consumption (*)		↑	↑
Energy supply			
Share of renewable energy in gross final energy consumption		↑ (1)	↗ (1)
Energy import dependency		↘	↓
Access to affordable energy			
Population unable to keep home adequately warm		:	↑

(*) Multi-purpose indicator.

- (1) Assessment against the EU energy targets for 2030 that were in place at the time of writing.

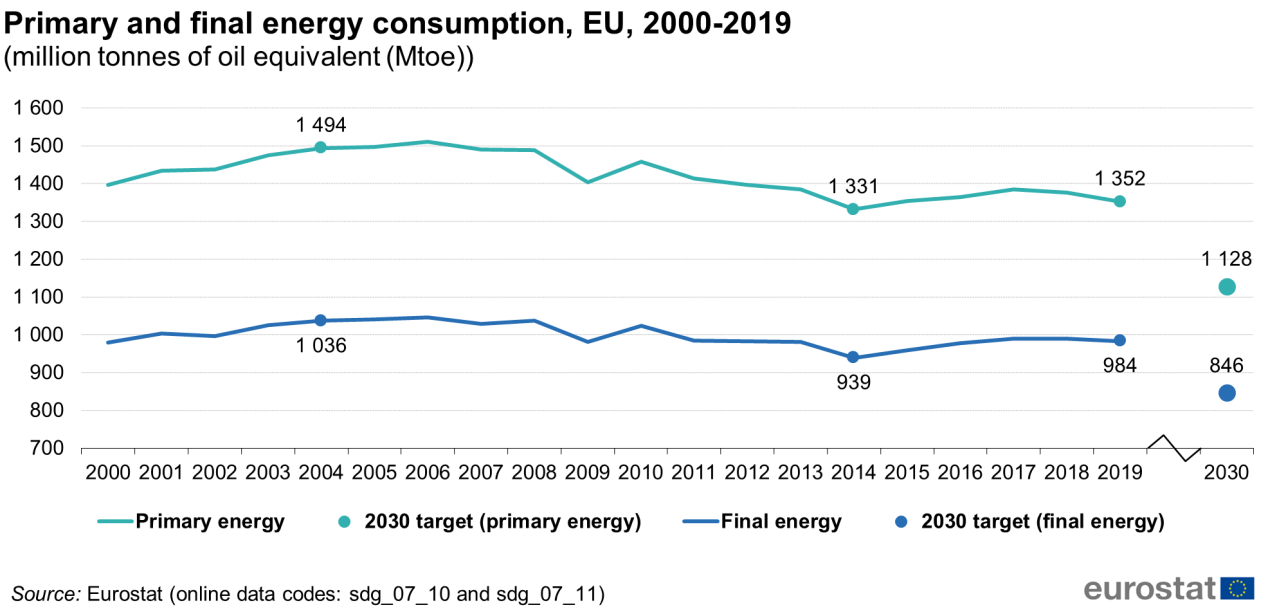
Table 1: Indicators measuring progress towards SDG 7, EU

Symbol	With quantitative target	Without quantitative target
	Trends for indicators marked with this 'target' symbol are calculated against an official and quantified EU policy target. In this case the arrow symbols should be interpreted according to the left-hand column below. Trends for all other indicators should be interpreted according to the right-hand column below.	
↑	Significant progress towards the EU target	Significant progress towards SD objectives
↗	Moderate progress towards the EU target	Moderate progress towards SD objectives
↘	Insufficient progress towards the EU target	Moderate movement away from SD objectives
↓	Movement away from the EU target	Significant movement away from SD objectives
:	Calculation of trend not possible (for example) time series too short)	

Table 2: Explanation of symbols for indicating progress towards SD objectives and targets

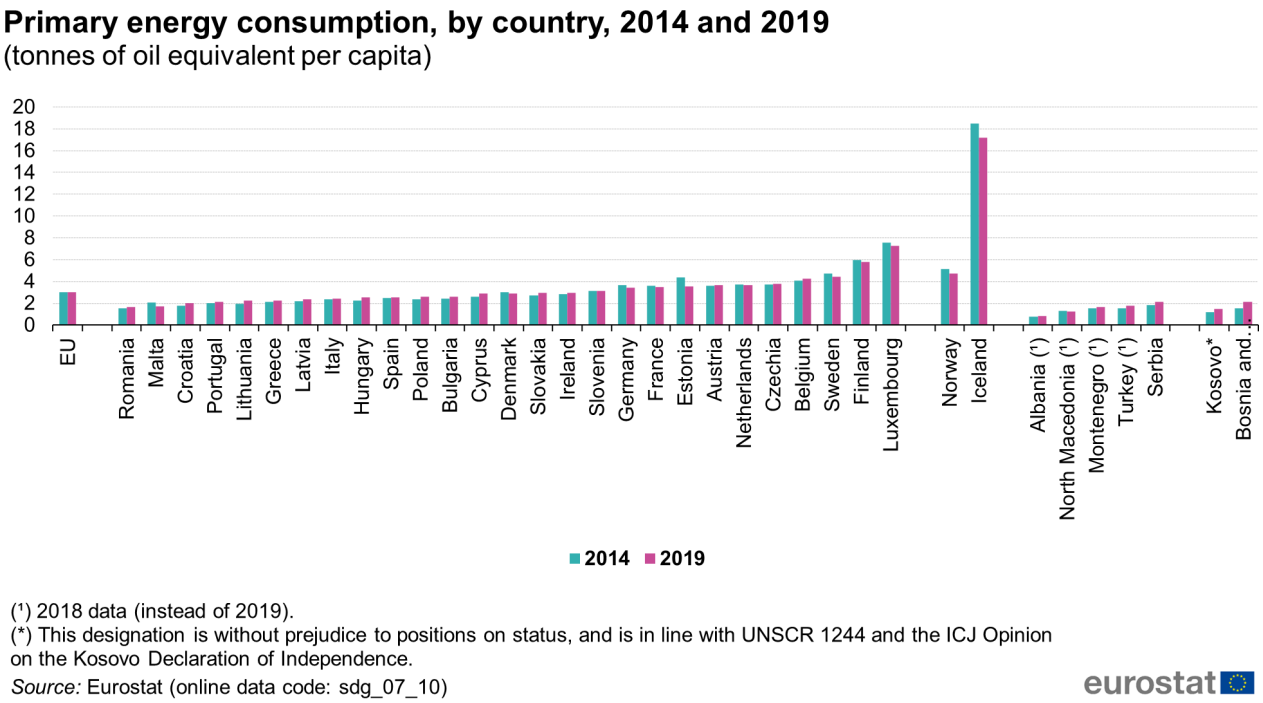
Energy consumption

This indicator measures a country's total energy needs excluding all non-energy use of energy carriers (such as natural gas used for producing chemicals rather than for combustion). Primary energy consumption represents a country's total energy demand before of any energy transformation, excluding energy carriers used for non-energy purposes. In comparison, final energy consumption covers the energy consumed by end users, such as industry, transport, households, services and agriculture.



Source: Eurostat (online data codes: sdg_07_10 and sdg_07_11)

Figure 1: Primary and final energy consumption, EU, 2000-2019 (Million tonnes of oil equivalent (Mtoe)) Compound annual growth rate (CAGR): primary energy consumption: – 0.7 % per year (observed) and – 1.1 % per year (required to meet target) in the period 2004–2019; 0.3 % per year (observed) and – 1.0 % per year (required to meet target) in the period 2014–2019; final energy consumption: – 0.3 % per year (observed) and – 0.8 % per year (required to meet target) in the period 2004–2019; 0.9 % per year (observed) and – 0.6 % per year (required to meet target) in the period 2014–2019. Source: Eurostat (sdg_07_10) and (sdg_07_11)



(1) 2018 data (instead of 2019).
(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.
Source: Eurostat (online data code: sdg_07_10)

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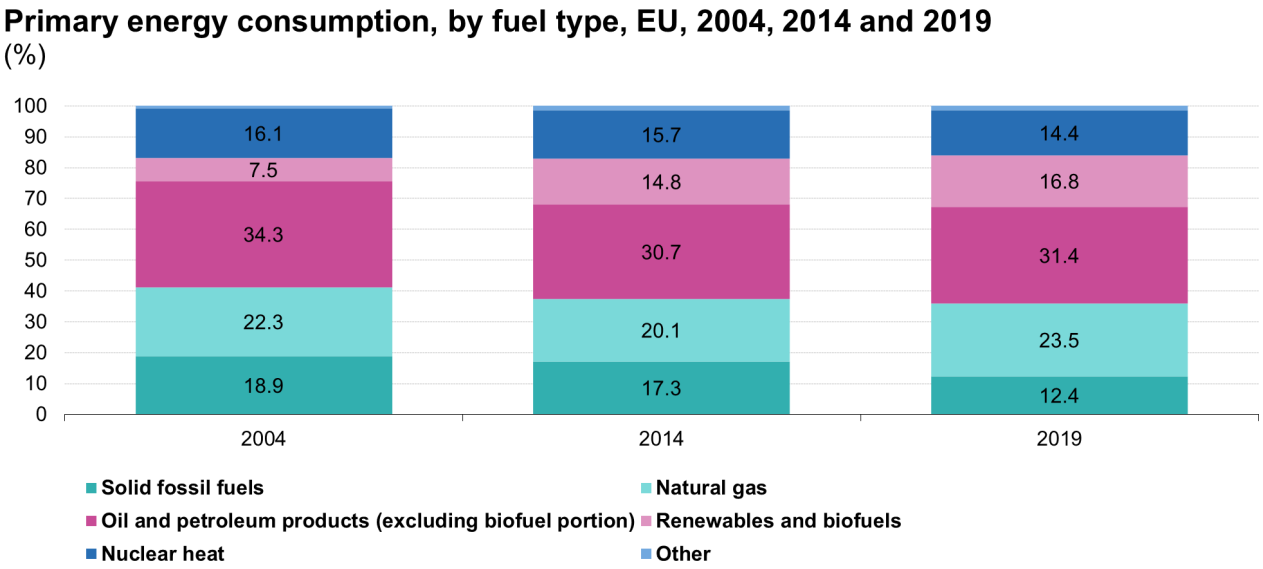
Figure 2: Primary energy consumption, by country, 2014 and 2019 (tonnes of oil equivalent per capita) Source: Eurostat (sdg_07_10)



Note: Definition of primary energy consumption according to energy balances.
Source: Eurostat (online data code: nrg_bal_c)

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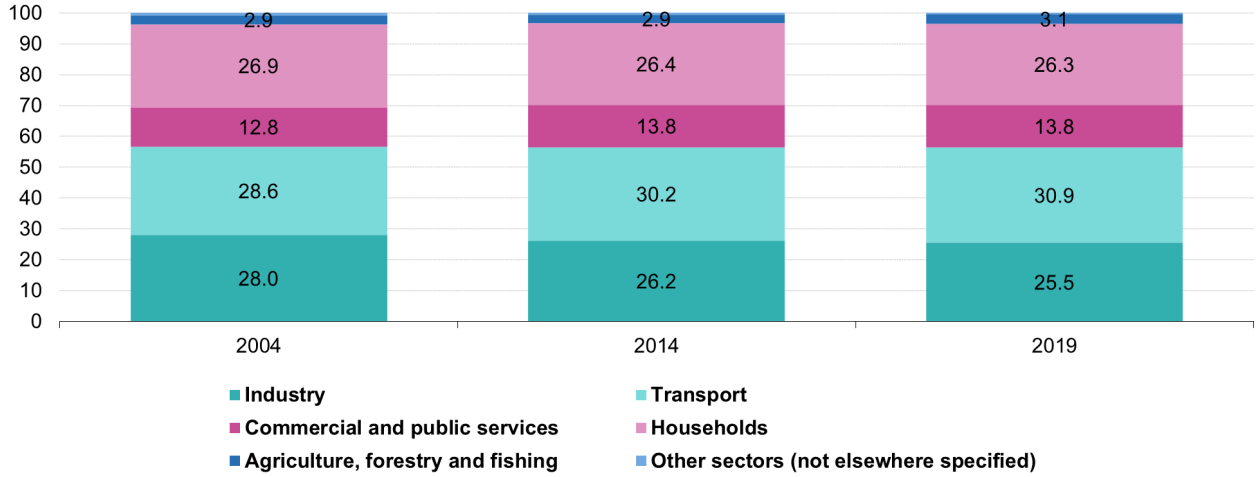
Figure 3: Primary energy consumption, by fuel type, EU, 2004, 2014 and 2019 (%) Source: Eurostat (nrg_bal_c)

Final energy consumption, by sector, EU, 2004, 2014 and 2019
(%)



Note: Definition of final energy consumption according to energy balances.
Source: Eurostat (online data code: nrg_bal_c)

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Figure 4: Final energy consumption, by sector, EU, 2004, 2014 and 2019 (%) Source: Eurostat (nrg_bal_c)

Final energy consumption in households per capita

LONG TERM
2004-2019

SHORT TERM
2014-2019

This indicator measures how much energy each citizen consumes at home, excluding transport. Data are not temperature-adjusted, so variations from year to year are due in part to weather.

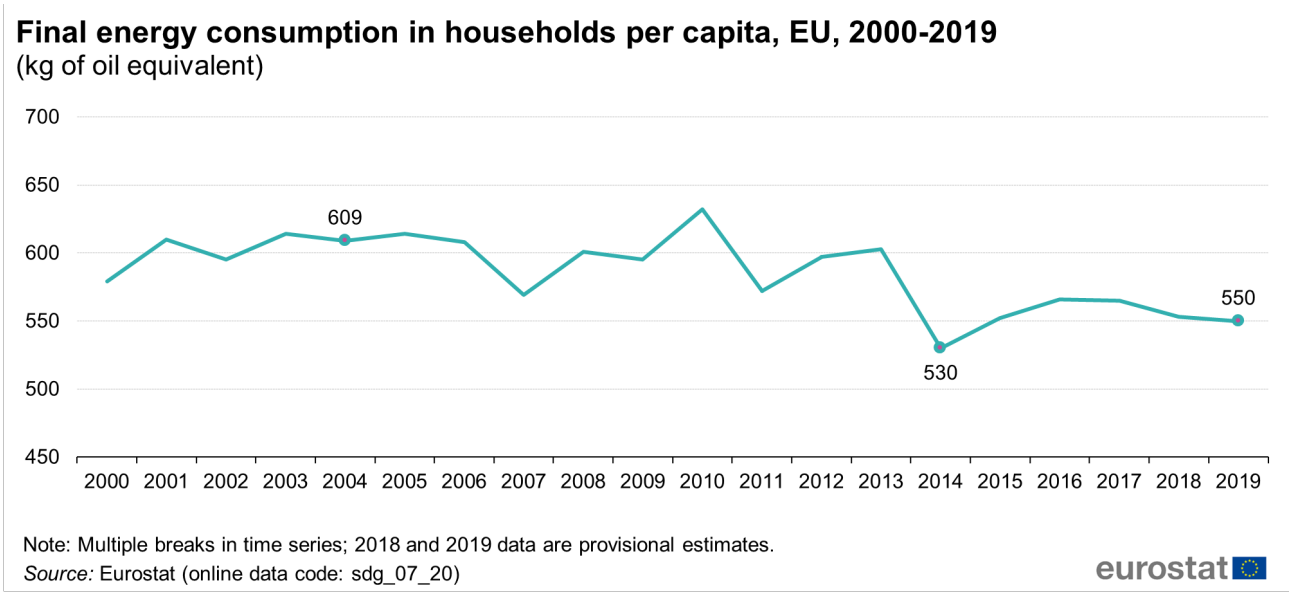


Figure 5: Final energy consumption in households per capita, EU, 2000-2019 (kg of oil equivalent) Compound annual growth rate (CAGR): – 0.7 % per year in the period 2004–2019; 0.7 % per year in the period 2014–2019. Source: Eurostat (sdg_07_20)

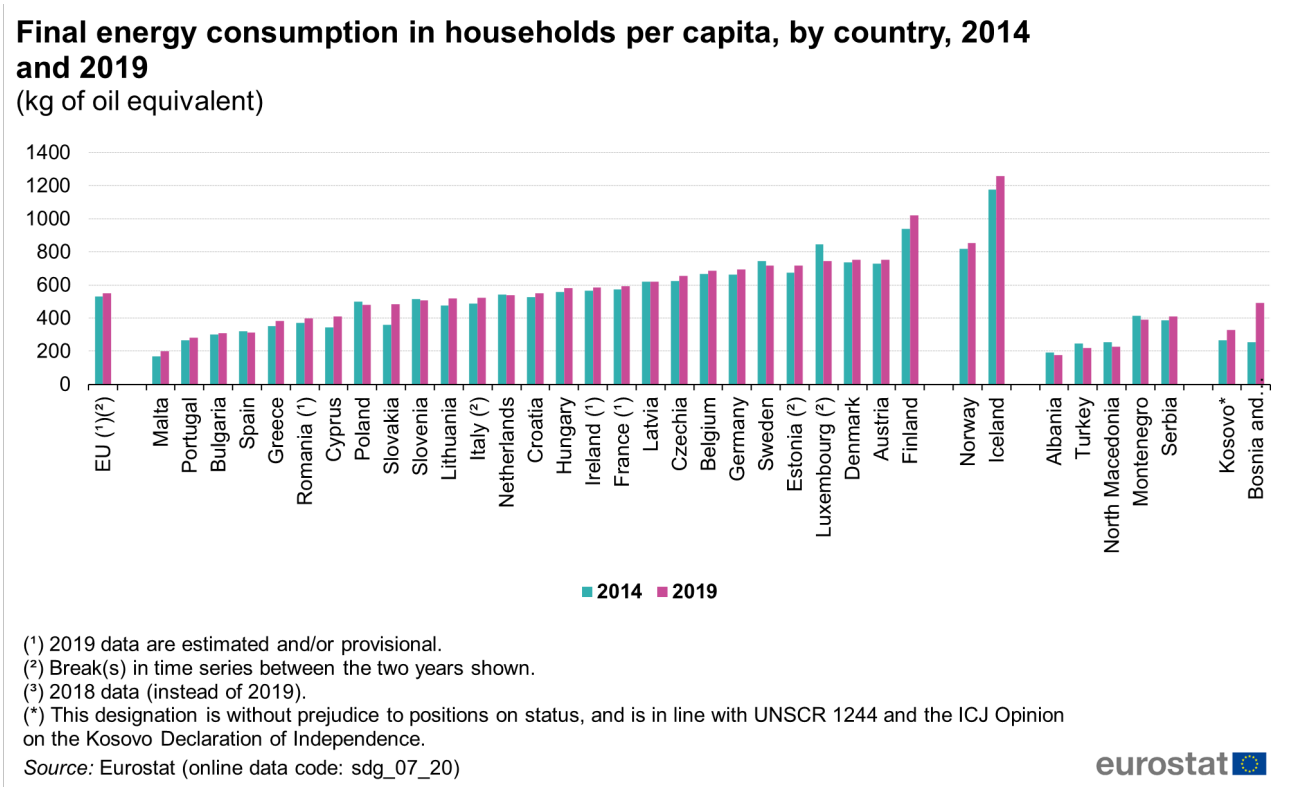


Figure 6: Final energy consumption in households per capita, by country, 2014 and 2019 (kg of oil equivalent) Source: Eurostat (sdg_07_20)

Energy productivity

This indicator measures the amount of economic output produced per unit of gross available energy. Gross available energy represents the quantity of energy products needed to satisfy all demand of entities in the geographical area under consideration. Economic output is either given as euros in chain-linked volumes to the reference year 2010 at 2010 exchange rates (Figure 7) or in the unit PPS (purchasing power standards) (Figure 8).

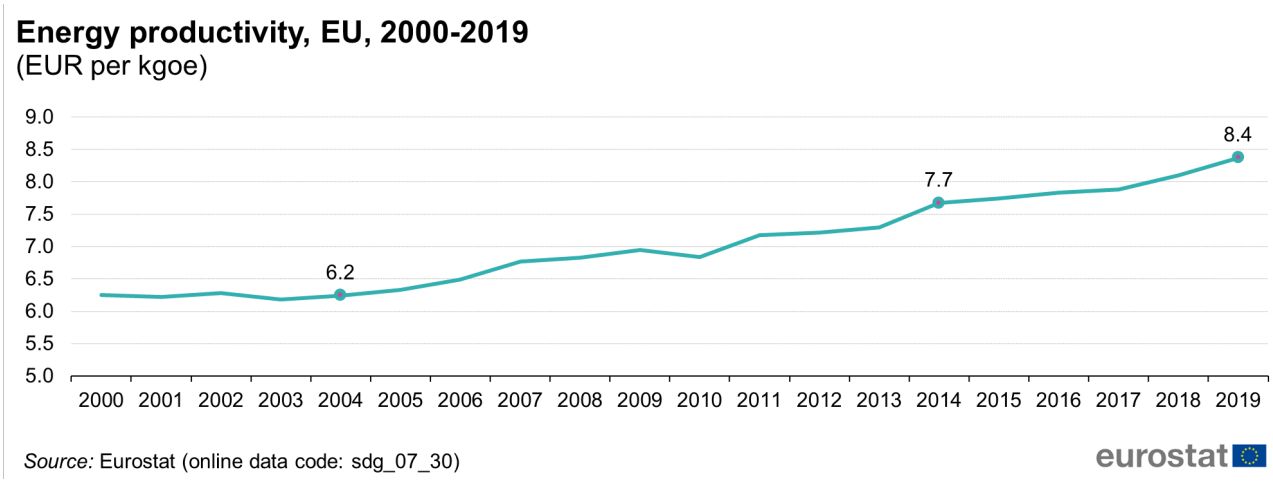


Figure 7: Energy productivity, EU, 2000-2019 (EUR per kgoe) Compound annual growth rate (CAGR): 2.0 % per year in the period 2004–2019; 1.8 % per year in the period 2014–2019. Source: Eurostat (sdg_07_30)

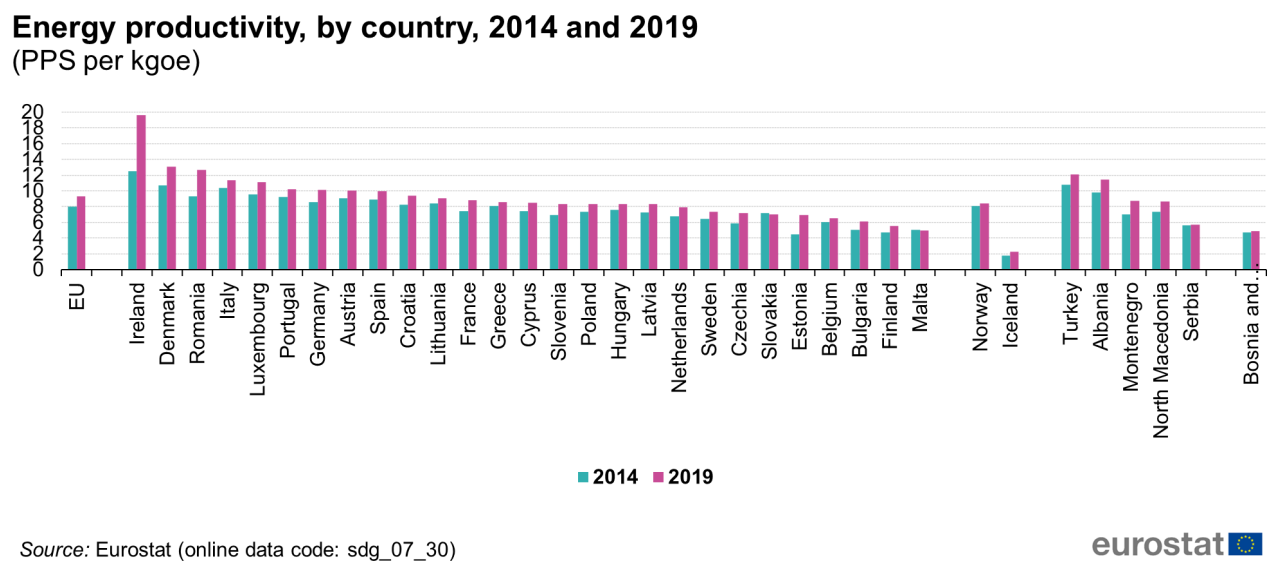


Figure 8: Energy productivity, by country, 2014 and 2019 (PPS per kgoe) Source: Eurostat (sdg_07_30)

Share of renewable energy in gross final energy consumption

This indicator is defined as the share of renewable energy consumption in gross final energy consumption, according to the Renewable Energy Directive[1]. The gross final energy consumption is the energy used by end

[1] European Parliament and Council of the European Union (2009), Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

consumers (final energy consumption) plus grid losses and power plants' own consumption.

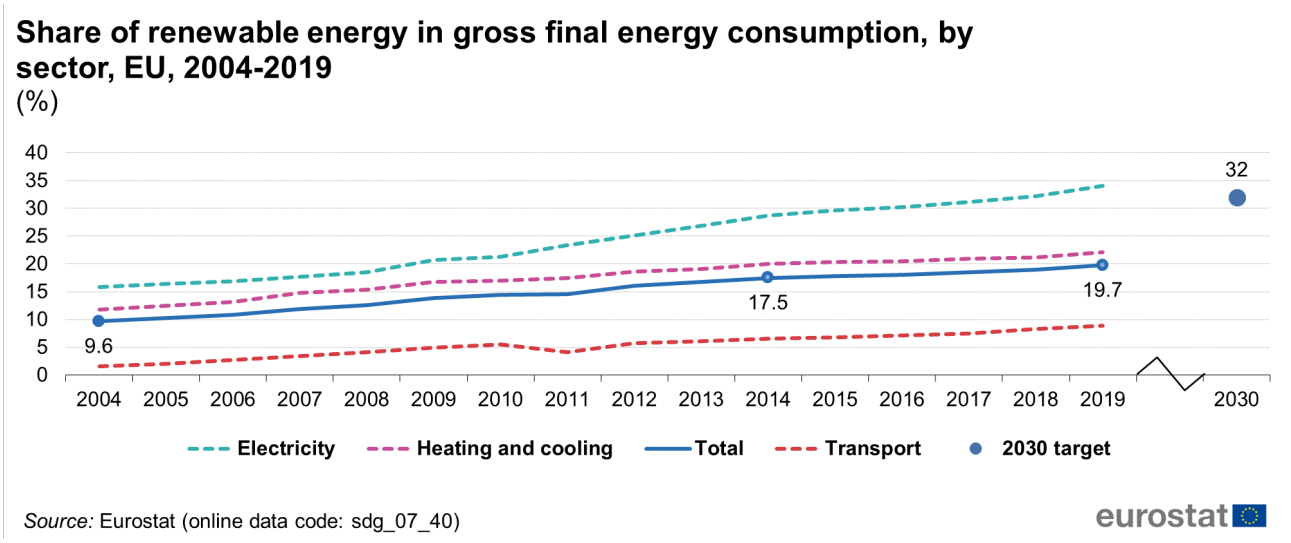


Figure 9: Share of renewable energy in gross final energy consumption, by sector, EU, 2004-2019 (%) Compound annual growth rate (CAGR) for the total: 4.9 % per year (observed) and 4.7 % per year (required to meet target) in the period 2004–2019; 2.5 % per year (observed) and 3.9 % per year (required to meet target) in the period 2014–2019. Source: Eurostat (sdg_07_40)

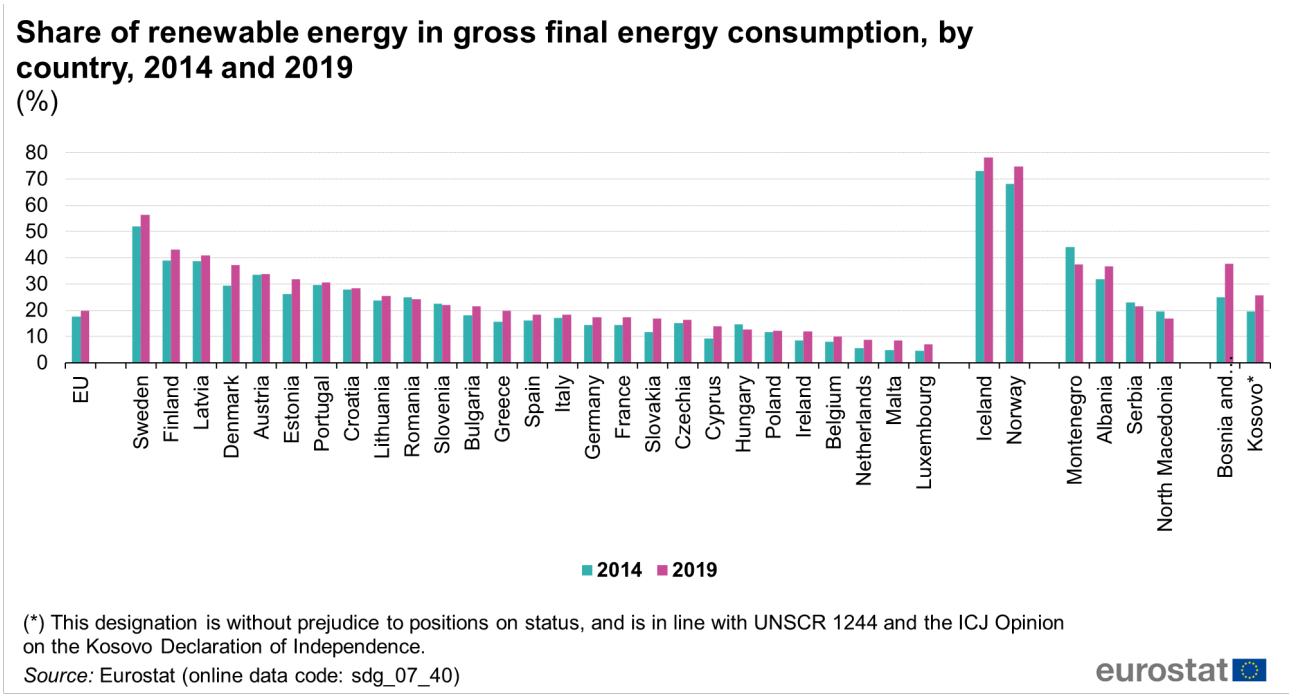


Figure 10: Share of renewable energy in gross final energy consumption, by country, 2014 and 2019 (%) Source: Eurostat (sdg_07_40)

Energy import dependency

Energy import dependency shows the share of a country's total energy needs that are met by imports from other countries. It is calculated as net imports divided by the gross available energy. Energy import dependency = (imports – exports) / gross available energy.

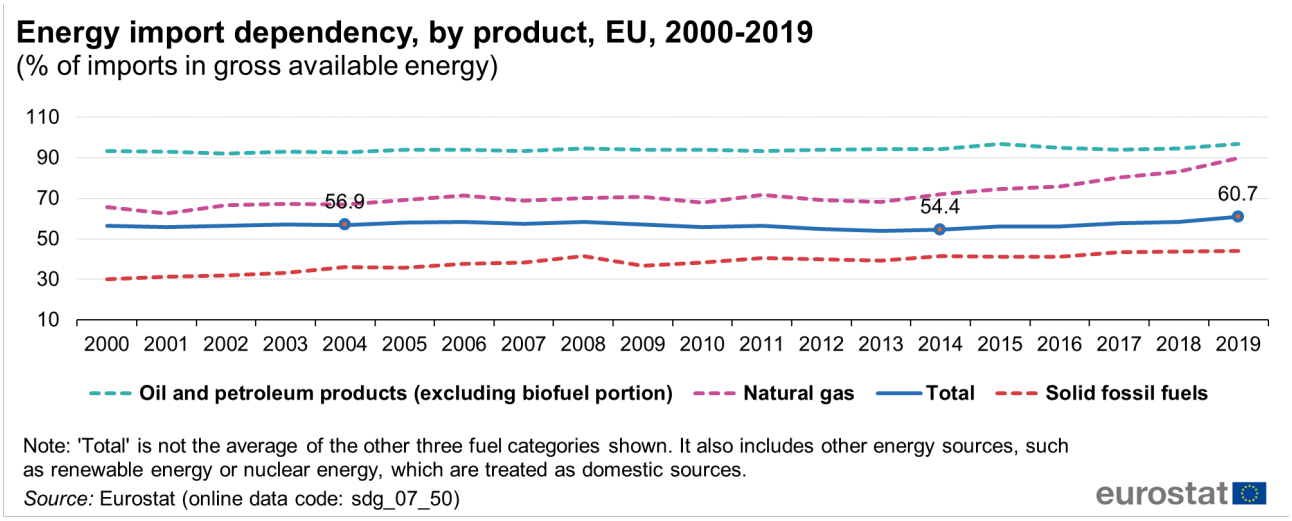


Figure 11: Energy import dependency, by product, EU, 2000-2019 (% of imports in gross available energy) Compound annual growth rate (CAGR) for the total: 0.4 % per year in the period 2004–2019; 2.2 % per year in the period 2014–2019. Source: Eurostat (sdg_07_50)

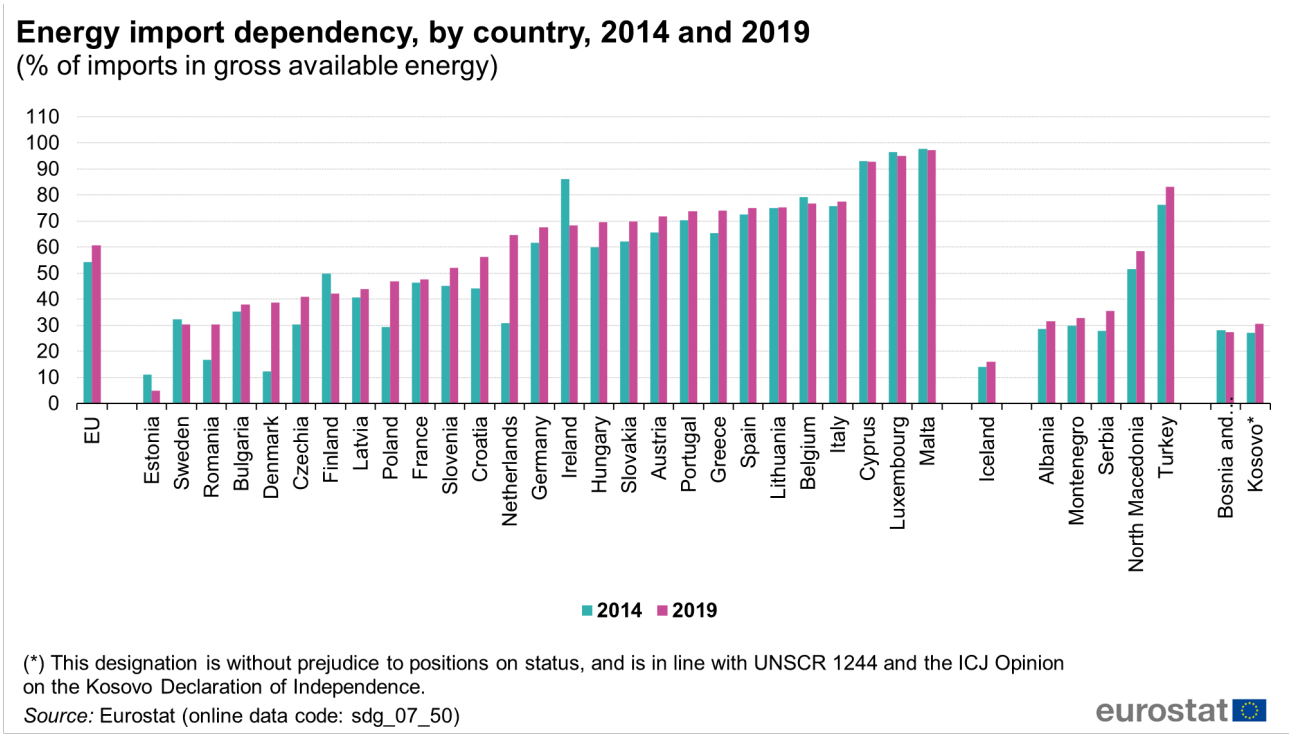


Figure 12: Energy import dependency, by country, 2014 and 2019 (% of imports in gross available energy) Source: Eurostat (sdg_07_50)

Population unable to keep home adequately warm

This indicator monitors access to affordable energy throughout the EU. The data are collected as part of the EU Statistics on Income and Living Conditions (EU-SILC) to monitor the development of poverty and social inclusion in the EU. Data collection is based on a survey, which means that indicator values are self-reported.

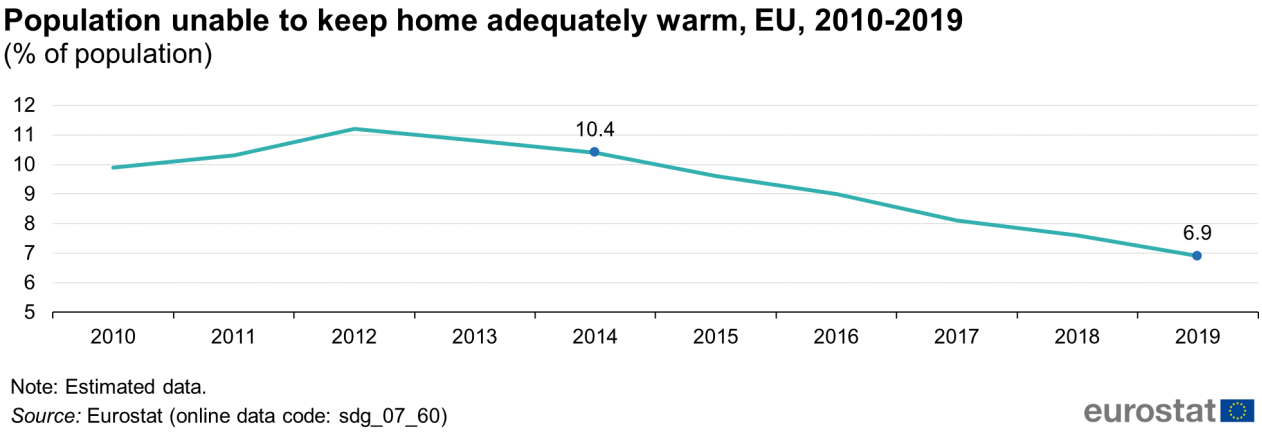
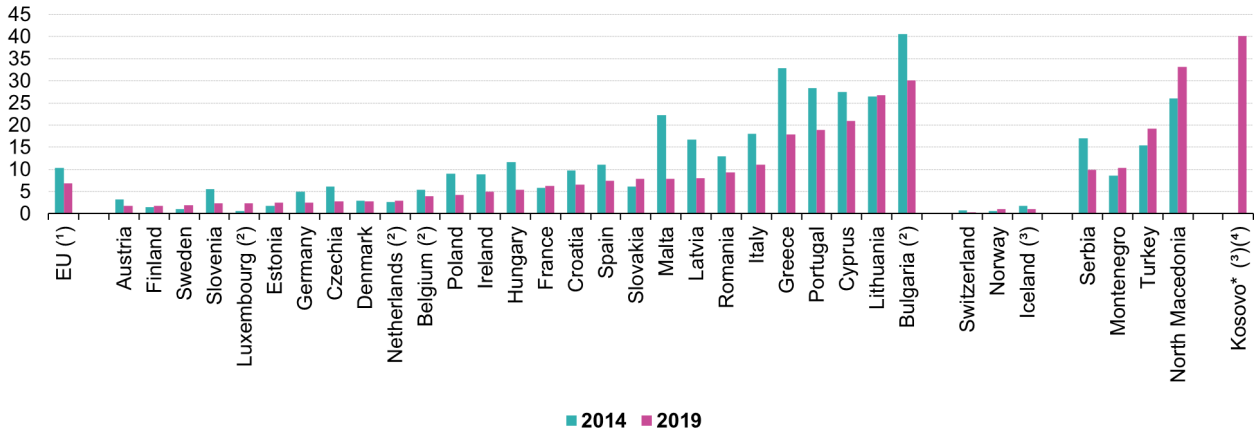


Figure 13: Population unable to keep home adequately warm, EU, 2010-2019 (% of population) Compound annual growth rate (CAGR): – 7.9 % per year in the period 2014–2019. Source: Eurostat (sdg_07_60)

Population unable to keep home adequately warm, by country, 2014 and 2019
(% of population)



(1) Estimated data.
(2) Break(s) in time series between the two years shown.
(3) 2018 data (instead of 2019).
(4) No data for 2014.
(*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.
Source: Eurostat (online data code: sdg_07_60)

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Figure 14: Population unable to keep home adequately warm, by country, 2014 and 2019 (% of population)
Source: Eurostat (sdg_07_60)

Context

Definitions of energy terms/concepts

Gross available energy (GAE) : represents the total energy demand of a country. It is defined as: primary production + recovered/recycled products + imports – exports + stock changes.

Gross inland energy consumption (or gross inland consumption; GIC): represents energy demand including international aviation but excluding maritime bunkers . It is defined as: gross available energy – international maritime bunkers.

Total energy supply : represents the total energy delivered and/or consumed in a country excluding deliveries to international aviation and international marine bunkers. It is defined as: gross inland energy consumption – international aviation.

Primary energy consumption (PEC) : represents a country's total energy demand including consumption of the energy sector itself, losses during transformation and distribution, and the final consumption by end users. This means it excludes, for example, natural gas used in non-energy products, such as chemicals. It is defined as: gross inland energy consumption – non-energy use of energy carriers.

Primary energy consumption (2020–2030) : measures the progress towards the EU's 2020 and 2030 energy efficiency targets. It deviates from primary energy consumption only in that it excludes ambient heat. It is defined as: primary energy consumption – gross inland consumption of ambient heat (heat pumps).

Gross final energy consumption (or gross energy consumption): is the basis for measuring the share of renewable energies according to Directive 2009/28/EC on the promotion of renewable energies. It represents the total energy demand as transformational output (for example, in form of electricity or heat produced). It is defined as: primary energy consumption – transformation losses – statistical differences.

Final energy consumption (FEC) (or final consumption – energy use): measures a country's energy use by end users, such as households, industry and transport. It excludes the energy used by the energy sector itself and losses incurred during energy transformation and distribution and any non-energy use of energy carriers. It is

defined as: primary energy consumption – consumption by the energy sector – transformation/distribution losses – statistical differences.

Final energy consumption (2020–2030) : measures the progress towards the EU's 2020 and 2030 energy efficiency targets. It deviates from final energy consumption by excluding ambient heat and including international aviation and energy consumption of blast furnaces. It is defined as: final energy consumption – final energy consumption of ambient heat (heat pumps) + international aviation + transformation input blast furnaces (all products) – transformation output blast furnaces (all products) + energy sector blast furnaces (all fossil fuels).

See also

- All articles on sustainable development goals

Database

- Sustainable Development Indicators

Dedicated section

- Sustainable Development Indicators

Methodology

More detailed information on EU SDG indicators for monitoring of progress towards the UN Sustainable Development Goals (SDGs), such as indicator relevance, definitions, methodological notes, background and potential linkages, can be found in the introduction of the publication 'Sustainable development in the European Union — Monitoring report on progress towards the SDGS in an EU context — 2021 edition' .