

*Data extracted in December 2020.
Planned article update: December 2021.*

Becoming the world's first climate-neutral continent by 2050 is the objective behind the [European Green Deal](#) ([COM\(2019\) 640 final](#)), the very ambitious package of measures that should enable European citizens and businesses to benefit from sustainable green transition.

The use of renewable energy has many potential benefits, including a reduction in [greenhouse gas](#) emissions, the diversification of energy supplies and a reduced dependency on [fossil fuel](#) markets (in particular, oil and gas). The growth of renewable energy sources may also stimulate employment in the EU, through the creation of jobs in new 'green' technologies.

This article provides recent statistics on the share of [energy from renewable sources](#) overall and in three consumption sectors (electricity, heating and cooling, and transport) in the [European Union \(EU\)](#) . Renewable energy sources include wind power, solar power (thermal, photovoltaic and concentrated), hydro power, tidal power, geothermal energy, ambient heat captured by heat pumps, [biofuels](#) and the renewable part of [waste](#) .

Share of renewable energy more than doubled between 2004 and 2019

The EU seeks to have a 20 % share of its gross final energy consumption from renewable sources by 2020; this target is distributed between the EU Member States with [national action plans](#) designed to plot a pathway for the development of renewable energies in each of the Member States. Figure 1 shows the latest data available for the share of renewable energies in gross final energy consumption and the targets that have been set for 2020. The share of renewables in gross final energy consumption stood at 19.7 % in the EU-27 in 2019, compared with 9.6 % in 2004.

This positive development has been prompted by the legally binding targets for increasing the share of energy from renewable sources enacted by [Directive 2009/28/EC](#) on the promotion of the use of energy from renewable sources. While the EU as a whole is on course to meet its 2020 targets, some [Member States](#) will need to make additional efforts to meet their obligations as regards the two main targets: the overall share of energy from renewable sources in the gross final energy consumption (see Figure 1) and the specific share of energy from renewable sources in transport (which is dealt with further on in this article, see Figure 4 and Table 4).

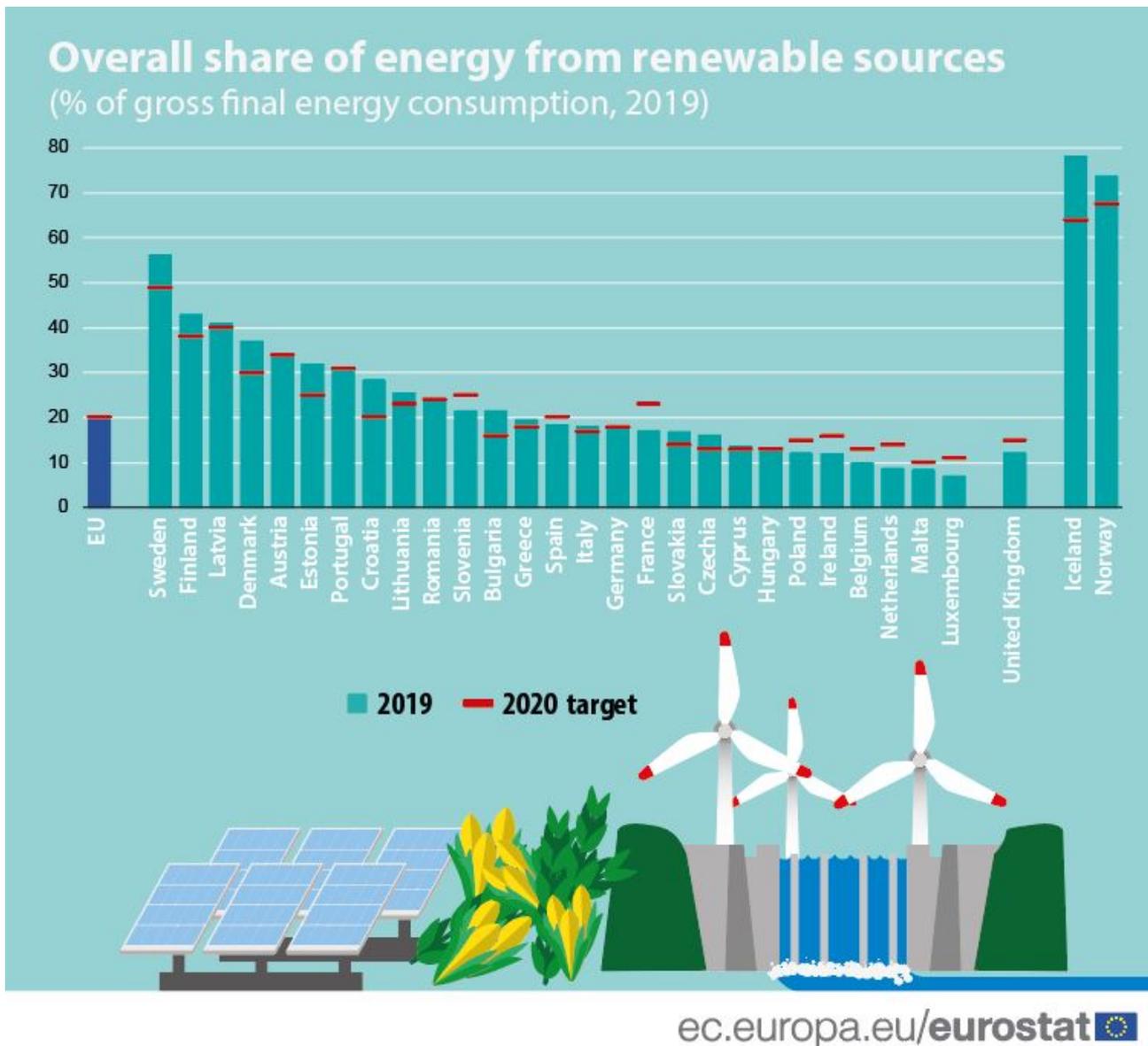


Figure 1: Share of energy from renewable sources, 2019 (% of gross final energy consumption)
Source: Eurostat (nrg_ind_ren)

With more than half of energy from renewable sources in its gross final consumption of energy, Sweden (56.4 %) had by far the highest share among the EU Member States in 2019, ahead of Finland (43.1 %), Latvia (41.0 %), Denmark (37.2 %) and Austria (33.6 %). At the opposite end of the scale, the lowest proportions of renewables were registered in Luxembourg (7.0 %), Malta (8.5 %), the Netherlands (8.8 %) and Belgium (9.9 %). When looking at the national targets, fourteen Member States have already surpassed their targets for 2020. Six countries are near their targets: Hungary, Austria and Portugal at 0.4 percentage points (pp) from their national targets, Germany (0.6 pp), Malta (1.5 pp) and Spain (1.6 pp). By contrast, still quite far from their national targets are France (5.8 pp), the Netherlands (5.2 pp), as well as Ireland and Luxembourg (both 4.0 pp).

Table 1 presents data for all reporting countries and also the values of the indicative trajectory.

Table 1: Share of energy from renewable sources, 2004-2019
(% of gross final energy consumption)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2011-2012 average | 2013-2014 average | 2015-2016 average | 2017-2018 average | S2005 ⁽¹⁾ | 2011-2012 | indicative 2013-2014 | 2015-2016 | trajectory 2017-2019 | 2020 target |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------|-------------------------|-----------|-------------------------|-------------|
| EU-27 | 9.6 | 10.2 | 10.8 | 11.9 | 12.6 | 13.9 | 14.4 | 14.5 | 16.0 | 16.7 | 17.5 | 17.8 | 18.0 | 18.5 | 18.9 | 19.7 | 15.3 | 17.1 | 17.9 | 18.7 | .. | .. | .. | .. | .. | 20 |
| EU-28 | 8.6 | 9.1 | 9.7 | 10.6 | 11.4 | 12.6 | 13.2 | 13.4 | 14.7 | 15.4 | 16.2 | 16.7 | 17.0 | 17.5 | 18.0 | 18.9 | 14.0 | 15.8 | 16.9 | 17.7 | .. | .. | .. | .. | .. | 20 |
| Belgium | 1.9 | 2.3 | 2.6 | 3.1 | 3.6 | 4.7 | 6.0 | 6.3 | 7.1 | 7.6 | 8.0 | 8.0 | 8.8 | 9.1 | 9.5 | 9.9 | 6.7 | 7.8 | 8.4 | 9.3 | 2.2 | 4.4 | 5.4 | 7.1 | 9.2 | 13.0 |
| Bulgaria | 9.2 | 9.2 | 9.4 | 9.1 | 10.3 | 12.0 | 13.9 | 14.2 | 15.8 | 18.9 | 18.0 | 18.3 | 18.5 | 18.7 | 20.6 | 21.6 | 15.0 | 18.5 | 18.5 | 19.6 | 9.4 | 10.7 | 11.4 | 12.4 | 13.7 | 16.0 |
| Czechia | 6.8 | 7.1 | 7.4 | 7.9 | 8.7 | 10.0 | 10.5 | 10.9 | 12.8 | 13.9 | 15.1 | 15.1 | 14.9 | 14.8 | 15.1 | 16.2 | 11.9 | 14.5 | 15.0 | 15.0 | 6.1 | 7.5 | 8.2 | 9.2 | 10.6 | 13.0 |
| Denmark | 14.8 | 16.0 | 16.3 | 17.7 | 18.5 | 19.9 | 21.9 | 23.4 | 25.5 | 27.2 | 29.3 | 30.9 | 32.1 | 34.7 | 35.4 | 37.2 | 24.4 | 28.2 | 31.5 | 35.0 | 17.0 | 19.6 | 20.9 | 22.9 | 25.5 | 30.0 |
| Germany | 6.2 | 7.2 | 8.5 | 10.0 | 10.1 | 10.9 | 11.7 | 12.5 | 13.5 | 13.8 | 14.4 | 14.9 | 14.9 | 15.5 | 16.7 | 17.4 | 13.0 | 14.1 | 14.9 | 16.1 | 5.8 | 8.2 | 9.5 | 11.3 | 13.7 | 18.0 |
| Estonia | 18.4 | 17.4 | 16.0 | 17.1 | 18.7 | 22.9 | 24.6 | 25.3 | 25.5 | 25.3 | 26.1 | 28.5 | 28.7 | 29.2 | 30.0 | 31.9 | 25.4 | 25.7 | 28.6 | 29.6 | 18.0 | 19.4 | 20.1 | 21.2 | 22.6 | 25.0 |
| Ireland | 2.4 | 2.8 | 3.1 | 3.5 | 4.0 | 5.2 | 5.8 | 6.6 | 7.0 | 7.6 | 8.6 | 9.0 | 9.2 | 10.5 | 10.9 | 12.0 | 6.8 | 8.1 | 9.1 | 10.7 | 3.1 | 5.7 | 7.0 | 8.9 | 11.5 | 16.0 |
| Greece | 7.2 | 7.3 | 7.5 | 8.2 | 8.2 | 8.7 | 10.1 | 11.2 | 13.7 | 15.3 | 15.7 | 15.7 | 15.4 | 17.3 | 18.1 | 19.7 | 12.4 | 15.5 | 15.5 | 17.7 | 6.9 | 9.1 | 10.2 | 11.9 | 14.1 | 18.0 |
| Spain | 8.3 | 8.4 | 9.2 | 9.7 | 10.7 | 13.0 | 13.8 | 13.2 | 14.3 | 15.3 | 16.2 | 16.3 | 17.4 | 17.6 | 17.5 | 18.4 | 13.9 | 15.8 | 16.9 | 17.5 | 8.7 | 11.0 | 12.1 | 13.8 | 16.0 | 20.0 |
| France | 9.5 | 9.6 | 9.3 | 10.2 | 11.2 | 12.2 | 12.7 | 10.9 | 13.3 | 13.9 | 14.4 | 14.9 | 15.5 | 15.9 | 16.4 | 17.2 | 12.1 | 14.2 | 15.2 | 16.2 | 10.3 | 12.8 | 14.1 | 16.0 | 18.6 | 23.0 |
| Croatia | 23.4 | 23.7 | 22.7 | 22.2 | 22.0 | 23.6 | 25.1 | 25.4 | 26.8 | 28.0 | 27.8 | 29.0 | 28.3 | 27.3 | 28.0 | 28.5 | 26.1 | 27.9 | 28.6 | 27.7 | 12.6 | 14.1 | 14.8 | 15.9 | 17.4 | 20.0 |
| Italy | 6.3 | 7.5 | 8.3 | 9.8 | 11.5 | 12.8 | 13.0 | 12.9 | 15.4 | 16.7 | 17.1 | 17.5 | 17.4 | 18.3 | 17.8 | 18.2 | 14.2 | 16.9 | 17.5 | 18.0 | 5.2 | 7.6 | 8.7 | 10.5 | 12.9 | 17.0 |
| Cyprus | 3.1 | 3.1 | 3.3 | 4.0 | 5.1 | 5.9 | 6.2 | 6.3 | 7.1 | 8.5 | 9.2 | 9.9 | 9.9 | 10.5 | 13.9 | 13.8 | 6.7 | 8.8 | 9.9 | 12.2 | 2.9 | 4.9 | 5.9 | 7.4 | 9.5 | 13.0 |
| Latvia | 32.8 | 32.3 | 31.1 | 29.6 | 29.8 | 34.3 | 30.4 | 33.5 | 35.7 | 37.0 | 38.6 | 37.5 | 37.1 | 39.0 | 40.0 | 41.0 | 34.6 | 37.8 | 37.3 | 39.5 | 32.6 | 34.1 | 34.8 | 35.9 | 37.4 | 40.0 |
| Lithuania | 17.2 | 16.8 | 16.9 | 16.5 | 17.8 | 19.8 | 19.6 | 19.9 | 21.4 | 22.7 | 23.6 | 25.7 | 25.6 | 26.0 | 24.7 | 25.5 | 20.7 | 23.1 | 25.7 | 25.4 | 15.0 | 16.6 | 17.4 | 18.6 | 20.2 | 23.0 |
| Luxembourg | 0.9 | 1.4 | 1.5 | 2.7 | 2.8 | 2.9 | 2.9 | 2.9 | 3.1 | 3.5 | 4.5 | 5.0 | 5.4 | 6.2 | 9.0 | 7.0 | 3.0 | 4.0 | 5.2 | 7.6 | 0.9 | 2.9 | 3.9 | 5.4 | 7.5 | 11.0 |
| Hungary | 4.4 | 6.9 | 7.4 | 8.6 | 8.6 | 11.7 | 12.7 | 14.0 | 15.5 | 16.2 | 14.6 | 14.5 | 14.4 | 13.5 | 12.5 | 12.6 | 14.8 | 15.4 | 14.4 | 13.0 | 4.3 | 6.0 | 6.9 | 8.2 | 10.0 | 13.0 |
| Malta | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 1.0 | 1.8 | 2.9 | 3.8 | 4.7 | 5.1 | 6.2 | 7.2 | 8.0 | 8.5 | 2.4 | 4.3 | 5.7 | 7.6 | 0.0 | 2.0 | 3.0 | 4.5 | 6.5 | 10.0 |
| Netherlands | 2.0 | 2.5 | 2.8 | 3.3 | 3.6 | 4.3 | 3.9 | 4.5 | 4.7 | 4.7 | 5.4 | 5.7 | 5.8 | 6.5 | 7.3 | 8.8 | 4.6 | 5.1 | 5.7 | 6.9 | 2.4 | 4.7 | 5.9 | 7.6 | 9.9 | 14.0 |
| Austria | 22.6 | 24.4 | 26.3 | 28.1 | 28.8 | 31.0 | 31.2 | 31.6 | 32.7 | 32.7 | 33.6 | 33.5 | 33.4 | 33.1 | 33.8 | 33.6 | 32.1 | 33.1 | 33.4 | 33.5 | 23.3 | 25.4 | 26.5 | 28.1 | 30.3 | 34.0 |
| Poland | 6.9 | 6.9 | 6.9 | 6.9 | 7.7 | 8.7 | 9.3 | 10.4 | 11.0 | 11.5 | 11.6 | 11.9 | 11.4 | 11.1 | 11.5 | 12.2 | 10.7 | 11.5 | 11.6 | 11.3 | 7.2 | 8.8 | 9.5 | 10.7 | 12.3 | 15.0 |
| Portugal | 19.2 | 19.5 | 20.8 | 21.9 | 22.9 | 24.4 | 24.2 | 24.6 | 24.6 | 25.7 | 25.5 | 30.5 | 30.9 | 30.6 | 30.2 | 30.6 | 24.6 | 27.6 | 30.7 | 30.4 | 20.5 | 22.6 | 23.7 | 25.2 | 27.3 | 31.0 |
| Romania | 16.8 | 17.6 | 17.1 | 18.2 | 20.2 | 22.2 | 22.8 | 21.2 | 22.8 | 23.9 | 24.8 | 24.8 | 25.0 | 24.5 | 23.9 | 24.3 | 22.0 | 24.4 | 24.9 | 24.2 | 17.8 | 19.0 | 19.7 | 20.6 | 21.8 | 24.0 |
| Slovenia | 18.4 | 19.8 | 18.4 | 19.6 | 18.6 | 20.7 | 20.9 | 20.8 | 21.3 | 22.9 | 22.1 | 22.4 | 21.5 | 21.1 | 20.9 | 21.7 | 21.0 | 22.5 | 21.9 | 21.0 | 16.0 | 17.8 | 18.7 | 20.1 | 21.9 | 25.0 |
| Slovakia | 6.4 | 6.4 | 6.6 | 7.8 | 7.7 | 9.4 | 9.1 | 10.3 | 10.5 | 10.1 | 11.7 | 12.9 | 12.0 | 11.5 | 11.9 | 16.9 | 10.4 | 10.9 | 12.5 | 11.7 | 6.7 | 8.2 | 8.9 | 10.0 | 11.4 | 14.0 |
| Finland | 29.2 | 28.8 | 30.0 | 29.6 | 31.2 | 31.2 | 32.3 | 32.7 | 34.3 | 36.7 | 38.8 | 39.3 | 39.0 | 40.9 | 41.2 | 43.1 | 33.5 | 37.8 | 39.2 | 41.0 | 28.5 | 30.4 | 31.4 | 32.8 | 34.7 | 38.0 |
| Sweden | 38.7 | 40.3 | 42.0 | 43.6 | 44.3 | 47.5 | 46.6 | 48.1 | 50.0 | 50.8 | 51.8 | 52.9 | 53.3 | 54.2 | 54.7 | 56.4 | 49.1 | 51.3 | 53.1 | 54.4 | 39.8 | 41.6 | 42.6 | 43.9 | 45.8 | 49.0 |
| United Kingdom | 1.1 | 1.3 | 1.5 | 1.7 | 2.8 | 3.4 | 3.9 | 4.4 | 4.5 | 5.5 | 6.7 | 8.4 | 9.0 | 9.9 | 11.1 | 12.3 | 4.4 | 6.1 | 8.7 | 10.5 | 1.3 | 4.0 | 5.4 | 7.5 | 10.2 | 15.0 |
| Iceland | 58.9 | 60.1 | 60.8 | 71.9 | 69.1 | 70.3 | 71.0 | 72.4 | 73.8 | 73.9 | 73.1 | 71.5 | 74.8 | 73.5 | 76.7 | 78.2 | 73.1 | 73.5 | 73.2 | 75.1 | 55.0 | 56.8 | 57.7 | 59.1 | 60.9 | 64.0 |
| Norway | 57.1 | 58.8 | 59.2 | 59.2 | 60.8 | 63.8 | 60.3 | 63.6 | 64.5 | 65.7 | 68.2 | 68.2 | 69.1 | 70.6 | 71.8 | 73.7 | 64.0 | 67.0 | 68.6 | 71.2 | 58.2 | 60.1 | 61.0 | 62.4 | 64.2 | 67.5 |
| Montenegro | .. | 35.7 | 34.8 | 32.9 | 32.3 | 39.4 | 40.6 | 40.6 | 41.5 | 43.7 | 44.1 | 43.1 | 41.5 | 39.7 | 38.8 | 37.4 | 41.1 | 43.9 | 42.3 | 39.3 | .. | 27.6 | 28.3 | 29.3 | 30.7 | 33.0 |
| Albania | 29.6 | 31.4 | 32.1 | 32.7 | 32.4 | 31.4 | 31.9 | 31.2 | 35.2 | 33.2 | 31.9 | 34.9 | 36.9 | 35.9 | 36.8 | 36.7 | 33.2 | 32.5 | 35.9 | 36.4 | .. | 32.6 | 33.2 | 34.3 | 35.6 | 38.0 |
| Serbia | 12.7 | 14.3 | 14.5 | 14.3 | 15.9 | 21.0 | 19.8 | 19.1 | 20.8 | 21.1 | 22.9 | 22.0 | 21.1 | 20.3 | 20.3 | 21.4 | 20.0 | 22.0 | 21.6 | 20.3 | .. | 22.4 | 22.9 | 23.8 | 25.0 | 27.0 |
| Kosovo* | 20.5 | 19.8 | 19.5 | 18.8 | 18.4 | 18.2 | 18.2 | 17.6 | 18.6 | 18.8 | 19.5 | 18.5 | 24.5 | 23.1 | 24.6 | 25.7 | 18.1 | 19.2 | 21.5 | 23.8 | .. | 20.1 | 20.7 | 21.6 | 22.9 | 25.0 |

Note: .. means data not available

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

(1) S2005 is the share of energy from renewable sources in 2005, baseline used for the calculation of the indicative trajectory (in accordance with Directive 2009/28/EC on the promotion of the use of energy from renewable sources).

Source: Eurostat (online data code: nrg_ind_ren)

Table 1: Share of energy from renewable sources, 2004-2019 (% of gross final energy consumption)
Source: Eurostat (nrg_ind_ren)

The rest of this article's statistical findings deal with the developments from 2004 to 2019 in the share of energy from renewable sources in three areas: electricity, heating and cooling, and transport.

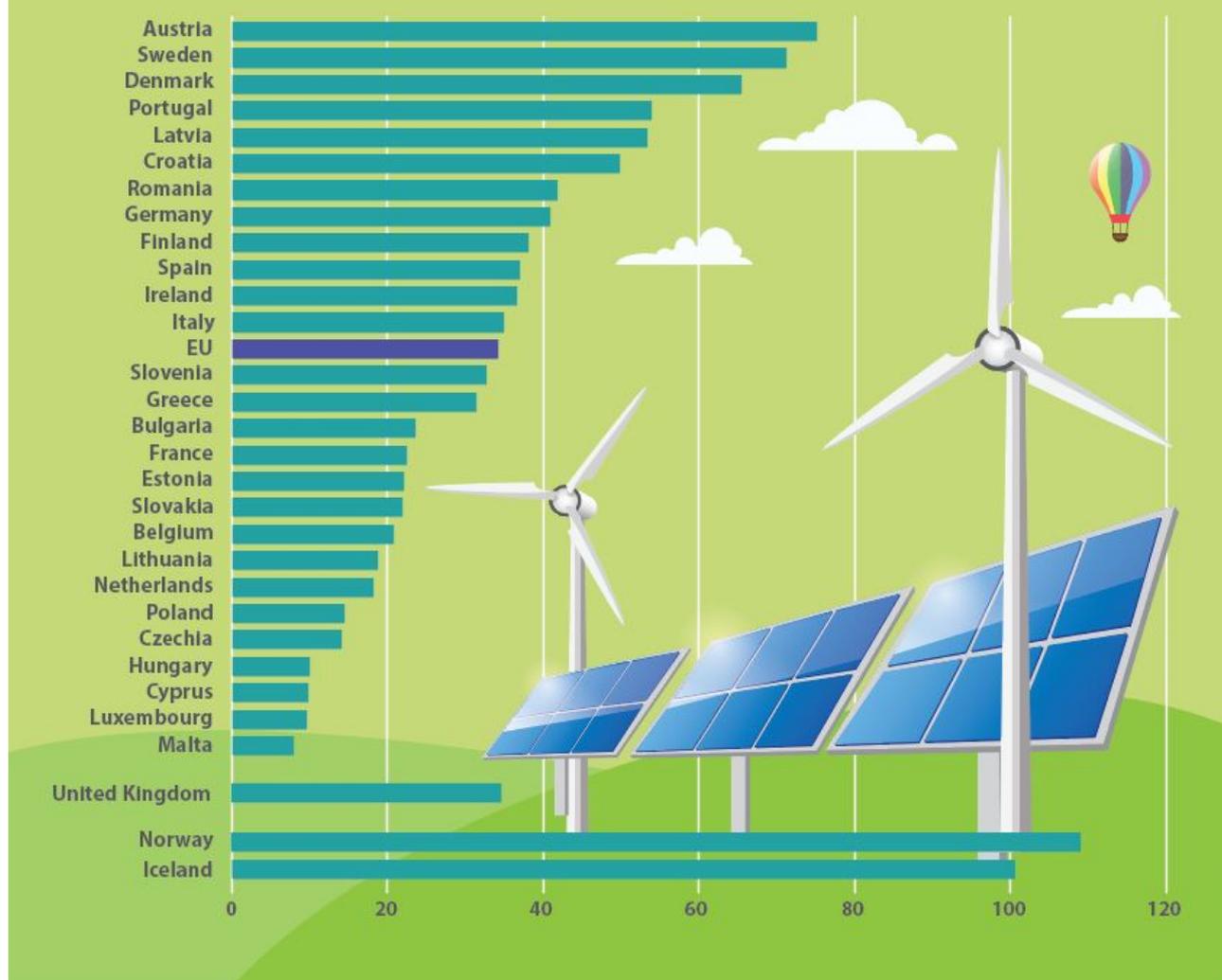
Wind and water provide most renewable electricity; solar is the fastest-growing energy source

The accounting rules in Directive 2009/28/EC prescribe that electricity generated by hydro power and wind power have to be normalised to account for annual weather variations (hydro is normalised over the last 15 years and wind over the last 5 years). This article presents the results applying these accounting rules.

The growth in electricity generated from renewable energy sources during the period 2009 to 2019 largely reflects an expansion in three renewable energy sources across the EU, principally wind power, but also solar power and solid biofuels (including renewable wastes). In 2019, renewable energy sources made up 34 % of gross electricity consumption in the EU-27, slightly up from 32 % in 2018. Wind and hydro power accounted for two-thirds of the total electricity generated from renewable sources (35 % each). The remaining one-third of electricity generated was from solar power (13 %), solid biofuels (8 %) and other renewable sources (9 %). Solar power is the fastest-growing source: in 2008, it accounted for 1 %. This means that the growth in electricity from solar power has been dramatic, rising from just 7.4 TWh in 2008 to 125.7 TWh in 2019. The share of energy from renewable sources in electricity is presented in Figure 2.

Share of electricity from renewable sources, 2019

(% of total gross electricity consumption)



ec.europa.eu/eurostat

Figure 2: Share of energy from renewable sources in gross electricity consumption, 2019 (% of gross final energy consumption) Source: Eurostat (nrg_ind_ren)

Among the EU-27 Member States, more than 70 % of electricity consumed in 2019 was generated from renewable sources in Austria (75 %) and Sweden (71 %). The consumption of electricity from renewable sources was also high in Denmark (65 %), Portugal (54 %) and Latvia (53 %), accounting for more than half of electricity consumed. At the other end of the scale, the share of electricity from renewable sources was 10 % or less in Malta (8 %), Cyprus, Luxembourg and Hungary (all 10 %), see Table 2.

Table 2: Share of energy from renewable sources in gross electricity consumption, 2004-2019
(%)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|----------------|------|------|-------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| EU-27 | 15.9 | 16.4 | 16.9 | 17.6 | 18.5 | 20.7 | 21.3 | 23.3 | 25.2 | 26.9 | 28.7 | 29.7 | 30.2 | 31.1 | 32.2 | 34.1 |
| EU-28 | 14.3 | 14.9 | 15.4 | 16.1 | 17.0 | 19.0 | 19.7 | 21.7 | 23.5 | 25.3 | 27.4 | 28.8 | 29.5 | 30.7 | 32.1 | 34.2 |
| Belgium | 1.7 | 2.4 | 3.1 | 3.6 | 4.6 | 6.2 | 7.2 | 9.0 | 11.3 | 12.5 | 13.5 | 15.6 | 15.9 | 17.3 | 18.9 | 20.8 |
| Bulgaria | 8.4 | 8.7 | 8.7 | 8.9 | 9.5 | 10.9 | 12.4 | 12.6 | 15.8 | 18.7 | 18.7 | 19.0 | 19.1 | 19.0 | 22.4 | 23.5 |
| Czechia | 3.7 | 3.8 | 4.1 | 4.6 | 5.2 | 6.4 | 7.5 | 10.6 | 11.7 | 12.8 | 13.9 | 14.1 | 13.6 | 13.7 | 13.7 | 14.0 |
| Denmark | 23.8 | 24.6 | 24.0 | 25.0 | 25.9 | 28.3 | 32.7 | 35.9 | 38.7 | 43.1 | 48.5 | 51.3 | 53.7 | 59.9 | 62.4 | 65.4 |
| Germany | 9.4 | 10.6 | 11.9 | 13.7 | 15.1 | 17.5 | 18.2 | 20.9 | 23.6 | 25.3 | 28.2 | 30.9 | 32.3 | 34.6 | 37.8 | 40.8 |
| Estonia | 0.5 | 1.1 | 1.4 | 1.4 | 2.0 | 6.0 | 10.3 | 12.2 | 15.7 | 12.9 | 14.0 | 15.6 | 15.6 | 17.0 | 19.7 | 22.0 |
| Ireland | 6.0 | 7.2 | 8.5 | 9.5 | 10.8 | 14.1 | 15.6 | 18.3 | 19.8 | 21.3 | 23.5 | 25.5 | 26.8 | 30.1 | 33.3 | 36.5 |
| Greece | 7.8 | 8.2 | 8.9 | 9.3 | 9.6 | 11.0 | 12.3 | 13.8 | 16.4 | 21.2 | 21.9 | 22.1 | 22.7 | 24.5 | 26.0 | 31.3 |
| Spain | 19.0 | 19.1 | 20.0 | 21.7 | 23.7 | 27.8 | 29.8 | 31.6 | 33.5 | 36.7 | 37.8 | 37.0 | 36.5 | 36.3 | 35.1 | 36.9 |
| France | 13.8 | 13.7 | 14.1 | 14.3 | 14.4 | 15.1 | 14.8 | 16.2 | 16.5 | 17.0 | 18.5 | 18.8 | 19.2 | 19.9 | 21.1 | 22.4 |
| Croatia | 35.0 | 35.2 | 34.8 | 34.0 | 33.9 | 35.9 | 37.5 | 37.6 | 38.8 | 42.1 | 45.2 | 45.4 | 46.7 | 46.4 | 48.1 | 49.8 |
| Italy | 16.1 | 16.3 | 15.9 | 16.0 | 16.6 | 18.8 | 20.1 | 23.5 | 27.4 | 31.3 | 33.4 | 33.5 | 34.0 | 34.1 | 33.9 | 34.8 |
| Cyprus | 0.0 | 0.0 | 0.0 | 0.1 | 0.3 | 0.6 | 1.4 | 3.4 | 4.9 | 6.7 | 7.4 | 8.4 | 8.6 | 8.9 | 9.4 | 9.8 |
| Latvia | 46.0 | 43.0 | 40.4 | 38.6 | 38.7 | 41.9 | 42.1 | 44.7 | 44.9 | 48.7 | 51.0 | 52.2 | 51.3 | 54.4 | 53.5 | 53.4 |
| Lithuania | 3.6 | 3.8 | 4.0 | 4.7 | 4.9 | 5.9 | 7.4 | 9.0 | 10.9 | 13.1 | 13.7 | 15.5 | 16.9 | 18.3 | 18.4 | 18.8 |
| Luxembourg | 2.8 | 3.2 | 3.2 | 3.3 | 3.6 | 4.1 | 3.8 | 4.1 | 4.7 | 5.3 | 6.0 | 6.2 | 6.7 | 8.1 | 9.1 | 9.7 |
| Hungary | 2.2 | 4.4 | 3.5 | 4.2 | 5.3 | 7.0 | 7.1 | 6.4 | 6.1 | 6.6 | 7.3 | 7.3 | 7.3 | 7.5 | 8.3 | 10.0 |
| Malta | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 1.1 | 1.6 | 3.3 | 4.3 | 5.7 | 6.8 | 7.7 | 8.0 |
| Netherlands | 4.4 | 6.3 | 6.5 | 6.0 | 7.5 | 9.1 | 9.6 | 9.7 | 10.4 | 9.9 | 9.9 | 11.0 | 12.5 | 13.8 | 15.2 | 18.2 |
| Austria | 61.6 | 62.9 | 63.5 | 65.7 | 65.9 | 68.6 | 66.4 | 66.8 | 67.4 | 68.9 | 71.1 | 71.5 | 72.5 | 71.6 | 74.2 | 75.1 |
| Poland | 2.2 | 2.7 | 3.0 | 3.5 | 4.4 | 5.8 | 6.6 | 8.2 | 10.7 | 10.7 | 12.4 | 13.4 | 13.4 | 13.1 | 13.0 | 14.4 |
| Portugal | 27.4 | 27.7 | 29.3 | 32.3 | 34.1 | 37.6 | 40.6 | 45.8 | 47.5 | 49.1 | 52.1 | 52.6 | 54.0 | 54.2 | 52.2 | 53.8 |
| Romania | 28.4 | 28.8 | 28.1 | 28.1 | 28.1 | 30.9 | 30.4 | 31.1 | 33.6 | 37.5 | 41.7 | 43.2 | 42.7 | 42.0 | 41.8 | 41.7 |
| Slovenia | 29.3 | 28.7 | 28.2 | 27.7 | 30.0 | 33.8 | 32.2 | 31.0 | 31.6 | 33.1 | 33.9 | 32.7 | 32.1 | 32.4 | 32.3 | 32.6 |
| Slovakia | 15.4 | 15.7 | 16.6 | 16.5 | 17.0 | 17.8 | 17.8 | 19.3 | 20.1 | 20.8 | 22.9 | 22.7 | 22.5 | 21.3 | 21.5 | 21.9 |
| Finland | 26.7 | 26.9 | 26.4 | 25.5 | 27.3 | 27.3 | 27.7 | 29.4 | 29.5 | 30.9 | 31.4 | 32.5 | 32.9 | 35.2 | 36.8 | 38.1 |
| Sweden | 51.2 | 50.9 | 51.8 | 53.2 | 53.7 | 58.3 | 55.8 | 59.6 | 59.8 | 61.7 | 63.2 | 65.7 | 64.9 | 65.9 | 66.2 | 71.2 |
| United Kingdom | 3.4 | 4.0 | 4.3 | 4.6 | 5.2 | 6.4 | 7.2 | 8.6 | 10.5 | 13.5 | 17.5 | 21.9 | 24.3 | 27.7 | 31.3 | 34.8 |
| Iceland | 93.1 | 94.9 | 93.5 | 113.7 | 90.8 | 92.9 | 92.4 | 93.9 | 95.4 | 96.7 | 97.1 | 93.1 | 95.3 | 93.4 | 98.5 | 100.6 |
| Norway | 97.1 | 96.9 | 100.7 | 97.6 | 99.9 | 104.7 | 98.4 | 104.0 | 104.0 | 106.8 | 110.4 | 106.7 | 106.8 | 105.0 | 107.4 | 109.1 |
| Montenegro | | 39.1 | 37.7 | 37.6 | 38.3 | 46.6 | 45.7 | 41.6 | 42.8 | 49.1 | 51.4 | 49.6 | 51.0 | 50.1 | 52.4 | 52.7 |
| Albania | 18.5 | 22.4 | 23.6 | 24.8 | 25.9 | 28.3 | 28.2 | 27.5 | 28.5 | 28.0 | 30.3 | 28.9 | 29.2 | 27.4 | 28.7 | 30.1 |
| Serbia | 70.0 | 76.1 | 74.2 | 79.6 | 73.3 | 70.7 | 74.6 | 66.1 | 72.4 | 62.7 | 71.0 | 79.2 | 82.1 | 91.0 | 92.4 | 88.5 |
| Kosovo* | 0.5 | 0.6 | 0.9 | 1.0 | 1.0 | 1.1 | 1.4 | 1.4 | 1.5 | 1.6 | 1.9 | 1.8 | 4.0 | 3.6 | 4.2 | 5.2 |

Note: "-" means data not available

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data code: nrg_ind_ren)

eurostat 

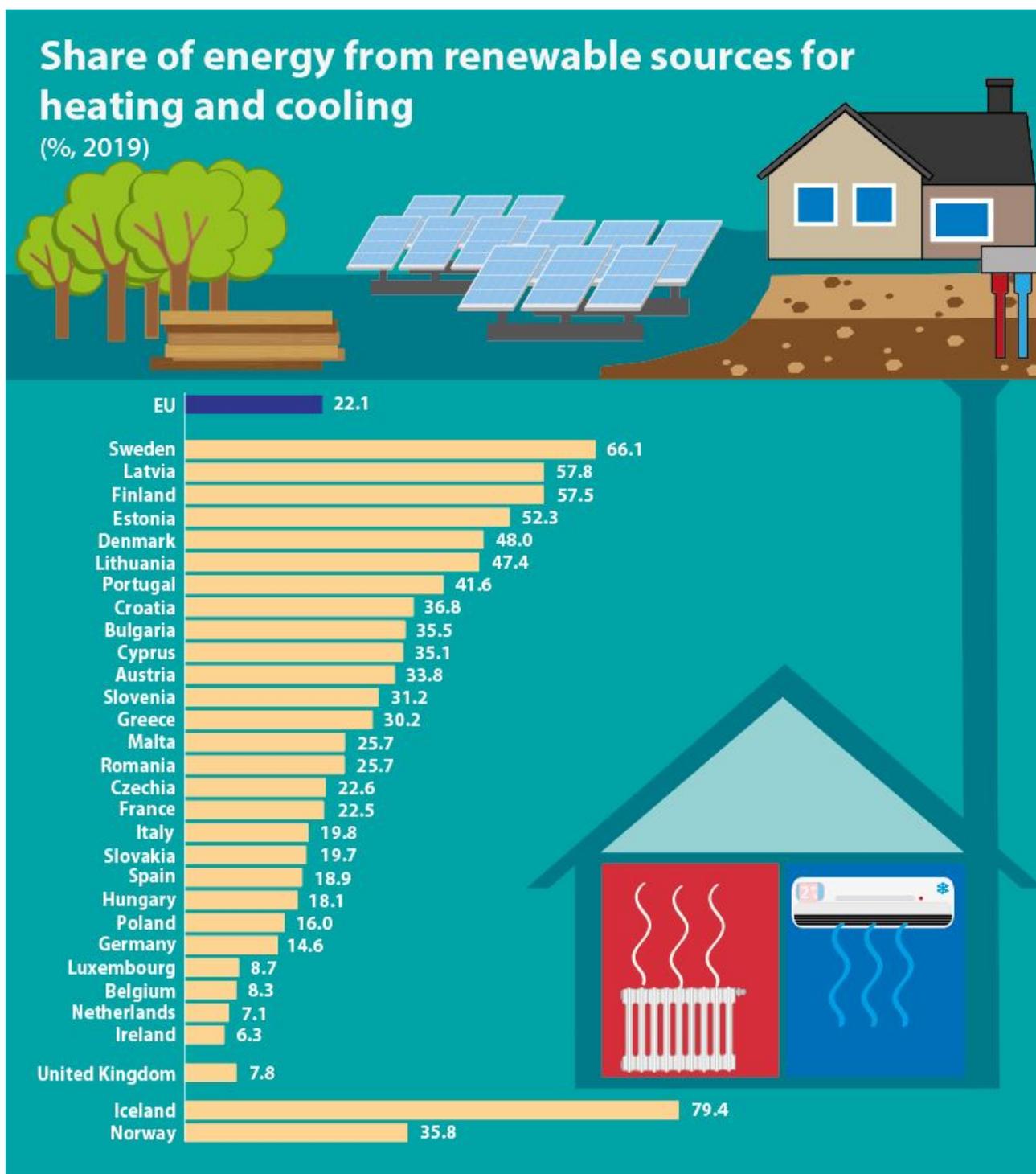
Table 2: Share of electricity from renewable sources in gross electricity consumption, 2004-2019
(%) Source: Eurostat (nrg_ind_ren)

Over one fifth of energy used for heating and cooling from renewable sources

In 2019, renewable energy accounted for 22.1 % of total energy use for heating and cooling in the EU-27, increasing from 11.7 % in 2004. Developments in the industrial sector, services and households contributed to this growth. Aerothermal, geothermal and hydrothermal heat energy captured by heat pumps for heating purposes is taken into account. The share of energy from renewable sources in heating and cooling is presented in Figure 3.

Share of energy from renewable sources for heating and cooling

(%, 2019)



ec.europa.eu/eurostat

Figure 3: Share of energy from renewable sources for heating and cooling, 2019 (% of gross final energy consumption) Source: Eurostat (nrg_ind_ren)

Among the EU-27 Member States the share of energy from renewable sources in heating and cooling was more than half in Sweden (66.1 %), Latvia (57.8 %), Finland (57.5 %) and Estonia (52.3 %). At the other side of the scale, the EU-27 Member States with a share of energy from renewable sources in heating and cooling of less than 10 % were Ireland (6.3 %), the Netherlands (7.1 %), Belgium (8.3 %) and Luxembourg (8.7 %), see Table 3.

Table 3: Share of energy from renewable sources for heating and cooling, 2004-2019

(%)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| EU-27 | 11.7 | 12.4 | 13.2 | 14.8 | 15.3 | 16.8 | 17.0 | 17.4 | 18.6 | 19.1 | 20.0 | 20.3 | 20.5 | 20.9 | 21.2 | 22.1 |
| EU-28 | 10.4 | 11.1 | 11.8 | 13.3 | 13.9 | 15.3 | 15.5 | 16.0 | 17.0 | 17.5 | 18.4 | 18.8 | 19.0 | 19.5 | 19.7 | 20.6 |
| Belgium | 2.8 | 3.4 | 3.7 | 4.6 | 5.0 | 5.9 | 6.7 | 6.6 | 7.1 | 7.6 | 7.7 | 7.9 | 8.2 | 8.1 | 8.3 | 8.3 |
| Bulgaria | 14.1 | 14.3 | 14.8 | 13.9 | 17.3 | 21.6 | 24.3 | 24.8 | 27.2 | 29.2 | 28.5 | 28.9 | 30.0 | 29.9 | 33.3 | 35.5 |
| Czechia | 9.9 | 10.8 | 11.2 | 12.4 | 12.9 | 14.3 | 14.1 | 15.4 | 16.2 | 17.7 | 19.5 | 19.8 | 19.9 | 19.7 | 20.6 | 22.6 |
| Denmark | 20.6 | 22.8 | 23.7 | 26.8 | 28.0 | 29.5 | 30.4 | 32.1 | 33.3 | 34.8 | 38.2 | 40.2 | 41.6 | 44.6 | 45.5 | 48.0 |
| Germany | 7.2 | 7.7 | 8.4 | 10.2 | 10.3 | 11.2 | 12.1 | 12.6 | 13.4 | 13.4 | 13.4 | 13.4 | 13.0 | 13.4 | 14.1 | 14.6 |
| Estonia | 33.3 | 32.2 | 30.7 | 32.8 | 35.5 | 41.8 | 43.2 | 44.0 | 43.0 | 43.0 | 45.0 | 49.3 | 50.9 | 51.7 | 53.7 | 52.3 |
| Ireland | 2.9 | 3.4 | 3.6 | 3.8 | 3.5 | 4.2 | 4.3 | 4.6 | 4.8 | 5.2 | 6.3 | 6.2 | 6.3 | 6.6 | 6.3 | 6.3 |
| Greece | 13.5 | 13.4 | 13.1 | 14.7 | 14.7 | 17.2 | 18.7 | 20.1 | 24.1 | 27.4 | 27.9 | 26.6 | 25.4 | 28.2 | 30.3 | 30.2 |
| Spain | 9.6 | 9.4 | 11.4 | 11.3 | 11.7 | 13.3 | 12.6 | 13.7 | 14.2 | 14.2 | 15.8 | 17.0 | 17.3 | 17.7 | 17.6 | 18.9 |
| France | 12.5 | 12.4 | 11.7 | 12.8 | 13.3 | 15.0 | 16.2 | 15.4 | 16.7 | 17.7 | 18.2 | 19.0 | 20.2 | 20.7 | 21.4 | 22.5 |
| Croatia | 29.4 | 30.0 | 29.1 | 29.3 | 28.8 | 31.3 | 32.9 | 33.8 | 36.6 | 37.3 | 36.2 | 38.6 | 37.6 | 36.6 | 36.7 | 36.8 |
| Italy | 5.7 | 8.2 | 10.1 | 13.3 | 15.3 | 16.4 | 15.6 | 13.8 | 17.0 | 18.1 | 18.9 | 19.3 | 18.9 | 20.1 | 19.2 | 19.7 |
| Cyprus | 9.3 | 10.0 | 10.4 | 13.1 | 14.5 | 17.3 | 18.8 | 20.0 | 21.8 | 22.6 | 22.3 | 24.1 | 24.8 | 26.5 | 37.2 | 35.1 |
| Latvia | 42.5 | 42.7 | 42.6 | 42.4 | 42.9 | 47.9 | 40.7 | 44.7 | 47.3 | 49.7 | 52.2 | 51.7 | 51.8 | 54.6 | 55.4 | 57.8 |
| Lithuania | 30.4 | 29.3 | 29.2 | 29.1 | 32.0 | 33.7 | 32.5 | 32.8 | 34.5 | 36.9 | 40.6 | 46.1 | 46.6 | 46.5 | 46.0 | 47.4 |
| Luxembourg | 1.8 | 3.6 | 3.6 | 4.4 | 4.6 | 4.6 | 4.7 | 4.7 | 4.9 | 5.4 | 7.1 | 6.9 | 7.0 | 7.5 | 8.5 | 8.7 |
| Hungary | 6.4 | 9.9 | 11.4 | 13.5 | 12.0 | 17.0 | 18.1 | 20.0 | 23.3 | 23.7 | 21.3 | 21.3 | 21.0 | 19.9 | 18.2 | 18.1 |
| Malta | 1.0 | 1.0 | 1.4 | 1.5 | 1.7 | 2.0 | 7.3 | 12.0 | 13.4 | 15.4 | 15.0 | 14.6 | 16.9 | 19.3 | 23.3 | 25.7 |
| Netherlands | 2.2 | 2.4 | 2.7 | 2.9 | 3.0 | 3.4 | 3.1 | 3.7 | 3.8 | 4.0 | 4.9 | 5.2 | 5.1 | 5.7 | 6.1 | 7.1 |
| Austria | 20.2 | 22.8 | 24.5 | 27.1 | 27.2 | 29.6 | 31.0 | 31.5 | 33.1 | 33.2 | 33.4 | 33.2 | 33.5 | 33.7 | 34.2 | 33.8 |
| Poland | 10.2 | 10.2 | 10.2 | 10.5 | 10.8 | 11.6 | 11.8 | 13.2 | 13.5 | 14.3 | 14.2 | 14.8 | 14.9 | 14.9 | 15.1 | 16.0 |
| Portugal | 32.5 | 32.1 | 34.2 | 35.0 | 37.5 | 38.0 | 33.8 | 35.2 | 33.2 | 34.6 | 40.5 | 40.1 | 41.6 | 41.0 | 40.9 | 41.6 |
| Romania | 17.3 | 17.9 | 17.6 | 19.5 | 23.2 | 26.4 | 27.2 | 24.3 | 25.7 | 26.2 | 26.7 | 25.9 | 26.9 | 26.6 | 25.4 | 25.7 |
| Slovenia | 22.8 | 26.3 | 24.3 | 29.2 | 27.4 | 28.7 | 29.3 | 31.4 | 32.6 | 34.5 | 33.9 | 35.2 | 34.4 | 33.4 | 31.1 | 31.2 |
| Slovakia | 5.1 | 5.0 | 4.5 | 6.2 | 6.1 | 8.2 | 7.9 | 9.3 | 8.8 | 7.9 | 8.9 | 10.8 | 9.9 | 9.8 | 10.6 | 19.7 |
| Finland | 39.5 | 39.1 | 41.4 | 41.4 | 43.1 | 42.9 | 44.0 | 45.8 | 48.2 | 50.8 | 52.0 | 52.6 | 53.7 | 54.6 | 54.6 | 57.5 |
| Sweden | 46.6 | 49.8 | 53.4 | 55.4 | 56.9 | 60.6 | 58.5 | 60.0 | 62.4 | 63.5 | 64.5 | 65.3 | 65.5 | 65.8 | 65.3 | 66.1 |
| United Kingdom | 0.7 | 0.8 | 0.9 | 1.0 | 2.4 | 2.9 | 3.2 | 3.7 | 3.9 | 4.7 | 5.5 | 6.2 | 6.6 | 7.0 | 7.5 | 7.8 |
| Iceland | 52.2 | 53.4 | 56.9 | 60.9 | 64.3 | 64.6 | 66.4 | 68.3 | 69.1 | 66.3 | 67.1 | 67.6 | 76.6 | 76.3 | 78.3 | 79.4 |
| Norway | 25.6 | 28.9 | 28.5 | 29.4 | 31.0 | 31.9 | 33.1 | 33.7 | 32.7 | 32.5 | 31.0 | 34.4 | 34.2 | 34.0 | 34.6 | 35.8 |
| Montenegro | . | 52.9 | 51.4 | 49.1 | 46.0 | 62.1 | 76.5 | 81.3 | 79.8 | 68.5 | 67.6 | 68.5 | 69.2 | 65.8 | 64.5 | 62.8 |
| Albania | 33.1 | 37.8 | 31.0 | 33.1 | 37.1 | 34.7 | 31.3 | 31.4 | 39.1 | 37.8 | 31.0 | 34.6 | 32.5 | 24.2 | 22.4 | 24.9 |
| Serbia | 14.0 | 15.6 | 15.8 | 13.2 | 16.7 | 26.5 | 23.2 | 21.1 | 23.2 | 25.1 | 28.8 | 26.9 | 25.1 | 24.9 | 24.3 | 26.6 |
| Kosovo* | 51.9 | 49.5 | 48.9 | 49.2 | 47.8 | 47.8 | 45.5 | 44.7 | 49.3 | 49.7 | 51.8 | 46.7 | 51.8 | 50.5 | 56.7 | 54.6 |

Note: "." means data not available

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data code: nrg_ind_ren)

eurostat **Table 3: Share of energy from renewable sources for heating and cooling, 2004-2019 (%) Source: Eurostat (nrg_ind_ren)**

8.9% of renewable energy used in transport activities in 2019

The EU agreed to set a common target of 10 % for the share of renewable energy (including liquid biofuels, hydrogen, biomethane, 'green' electricity, etc.) used in transport by 2020.

The average share of energy from renewable sources in transport increased from 1.6 % in 2004 to 8.9 % in 2019. Among the EU-27 Member States, the share of renewable energy in transport fuel consumption ranged from highs of 30.3 % in Sweden, 21.3 % in Finland and 12.5 % in the Netherlands down to 4 % or less in Greece and Lithuania (both 4.0 %) and Cyprus (3.3 %). The EFTA country Norway also reported a high share of renewable energy in transport fuel consumption (27.6 %), see Figure 4.

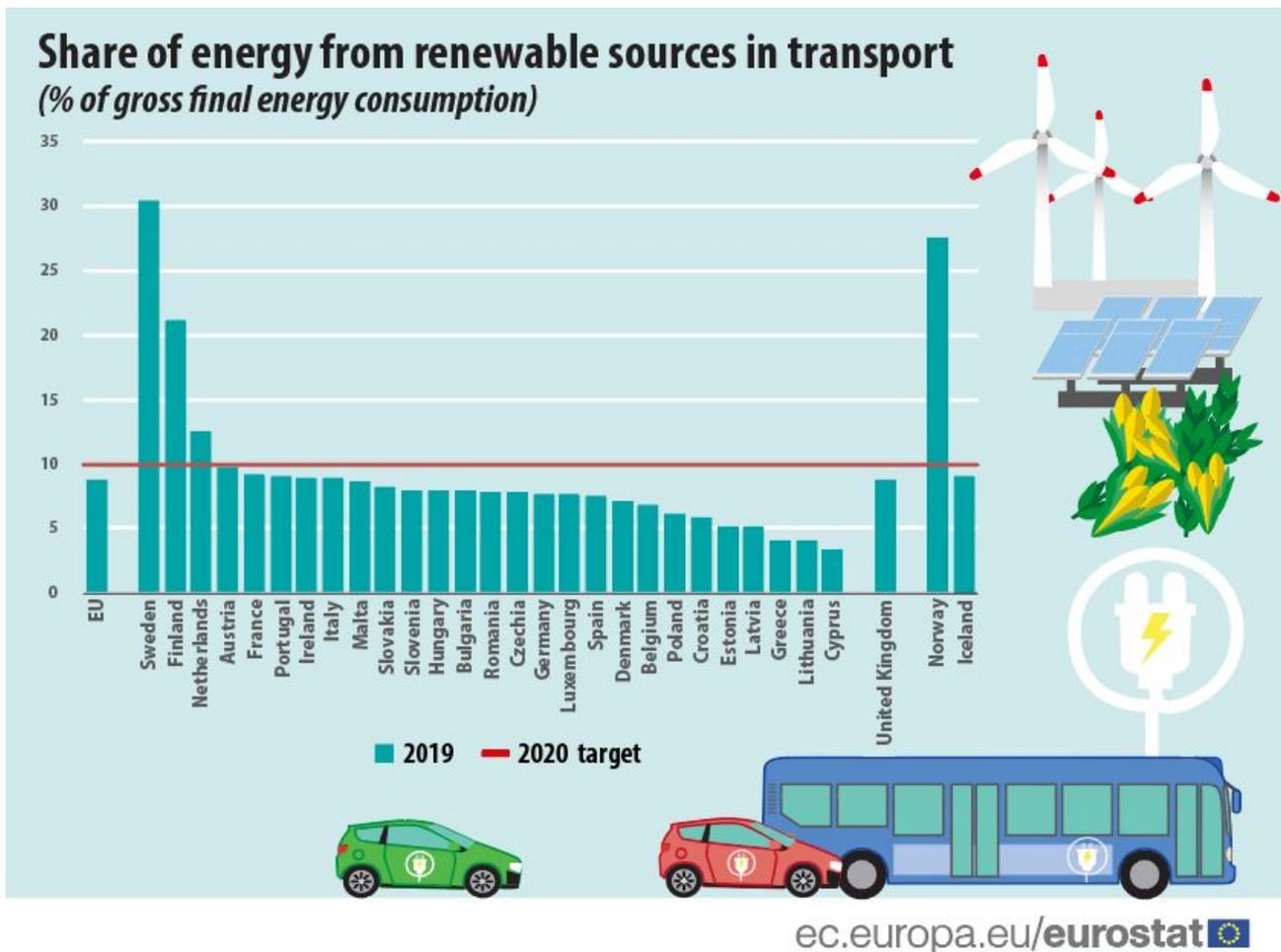


Figure 4: Share of energy from renewable sources in transport, 2019 (% of gross final energy consumption) Source: Eurostat (nrg_ind_ren)

In 2019, 22 EU-27 Member States registered an increase in the average share of energy from renewable sources in transport compared with 2018, with the largest increases observed for Finland (+3.6 percentage points (pp)), Croatia (+3.3 pp), the Netherlands (+2.9 pp) and Slovenia (+2.5 pp). The EFTA country Norway also registered a substantial increase (+6.1 pp).

More details on the share of energy from renewable sources in transport can be found in Table 4.

Table 4: Share of energy from renewable sources in transport, 2004-2019

(% of gross final energy consumption)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 target |
|----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------|
| EU-27 | 1.6 | 2.0 | 2.7 | 3.4 | 4.1 | 4.9 | 5.5 | 4.1 | 5.8 | 6.1 | 6.6 | 6.8 | 7.2 | 7.5 | 8.3 | 8.9 | 10.0 |
| EU-28 | 1.4 | 1.8 | 2.5 | 3.1 | 3.9 | 4.6 | 5.2 | 3.9 | 5.2 | 5.5 | 5.9 | 6.5 | 6.9 | 7.1 | 8.1 | 8.9 | 10.0 |
| Belgium | 0.6 | 0.7 | 0.6 | 0.6 | 0.7 | 2.2 | 4.8 | 4.8 | 4.9 | 5.1 | 5.8 | 3.9 | 6.0 | 6.6 | 6.7 | 6.8 | 10.0 |
| Bulgaria | 1.0 | 0.9 | 1.0 | 1.0 | 0.9 | 1.1 | 1.5 | 0.9 | 0.6 | 5.9 | 5.7 | 6.5 | 7.2 | 7.3 | 8.1 | 7.9 | 10.0 |
| Czechia | 1.2 | 1.1 | 1.1 | 1.0 | 2.8 | 4.3 | 5.2 | 1.3 | 6.2 | 6.4 | 7.0 | 6.5 | 6.5 | 6.6 | 6.6 | 7.8 | 10.0 |
| Denmark | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.7 | 1.1 | 3.6 | 6.3 | 6.5 | 6.6 | 6.4 | 6.7 | 6.9 | 6.9 | 7.2 | 10.0 |
| Germany | 2.1 | 4.0 | 6.7 | 7.5 | 6.3 | 5.9 | 6.4 | 6.5 | 7.3 | 7.3 | 6.9 | 6.6 | 7.0 | 7.0 | 7.9 | 7.7 | 10.0 |
| Estonia | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 3.3 | 5.1 | 10.0 |
| Ireland | 0.0 | 0.1 | 0.1 | 0.5 | 1.3 | 2.0 | 2.5 | 3.8 | 4.0 | 4.9 | 5.2 | 5.9 | 5.2 | 7.4 | 7.2 | 8.9 | 10.0 |
| Greece | 0.1 | 0.1 | 0.7 | 1.3 | 1.1 | 1.1 | 1.9 | 0.6 | 0.9 | 1.0 | 1.3 | 1.1 | 1.6 | 4.0 | 4.1 | 4.0 | 10.0 |
| Spain | 1.0 | 1.3 | 0.8 | 1.4 | 2.2 | 3.7 | 5.0 | 0.8 | 0.9 | 1.0 | 1.0 | 1.1 | 5.2 | 5.8 | 6.9 | 7.6 | 10.0 |
| France | 1.6 | 2.1 | 2.4 | 4.0 | 6.2 | 6.6 | 6.6 | 1.0 | 7.4 | 7.6 | 8.2 | 8.4 | 8.4 | 8.8 | 9.0 | 9.2 | 10.0 |
| Croatia | 1.0 | 1.0 | 1.0 | 1.1 | 1.1 | 1.3 | 1.1 | 1.0 | 1.0 | 2.7 | 2.7 | 2.4 | 1.2 | 1.2 | 2.6 | 5.9 | 10.0 |
| Italy | 1.2 | 1.0 | 1.0 | 1.0 | 2.6 | 3.9 | 4.8 | 5.0 | 6.1 | 5.4 | 5.0 | 6.5 | 7.4 | 6.5 | 7.7 | 9.0 | 10.0 |
| Cyprus | 0.0 | 0.0 | 0.0 | 0.0 | 1.9 | 2.0 | 2.0 | 0.0 | 0.0 | 1.1 | 2.7 | 2.5 | 2.7 | 2.6 | 2.7 | 3.3 | 10.0 |
| Latvia | 2.1 | 2.4 | 2.2 | 1.7 | 1.7 | 1.9 | 4.0 | 4.1 | 4.0 | 4.0 | 4.1 | 3.6 | 2.4 | 2.3 | 4.7 | 5.1 | 10.0 |
| Lithuania | 0.4 | 0.7 | 1.9 | 3.8 | 4.3 | 4.5 | 3.8 | 3.8 | 5.0 | 4.8 | 4.4 | 4.6 | 3.6 | 4.3 | 4.3 | 4.0 | 10.0 |
| Luxembourg | 0.1 | 0.2 | 0.2 | 2.2 | 2.2 | 2.2 | 2.1 | 2.4 | 2.8 | 4.1 | 5.5 | 6.7 | 6.0 | 6.5 | 6.6 | 7.7 | 10.0 |
| Hungary | 1.0 | 1.0 | 1.2 | 1.6 | 5.2 | 5.9 | 6.2 | 6.2 | 6.0 | 6.3 | 7.0 | 7.2 | 7.8 | 7.7 | 7.7 | 8.0 | 10.0 |
| Malta | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 3.2 | 3.5 | 4.7 | 4.7 | 5.3 | 6.8 | 8.0 | 8.7 | 10.0 |
| Netherlands | 0.5 | 0.5 | 0.9 | 3.2 | 3.0 | 4.6 | 3.4 | 5.1 | 5.2 | 5.3 | 6.6 | 5.5 | 4.9 | 6.0 | 9.6 | 12.5 | 10.0 |
| Austria | 4.5 | 5.1 | 7.5 | 8.2 | 9.6 | 11.2 | 10.7 | 10.1 | 10.0 | 9.7 | 11.0 | 11.4 | 10.6 | 9.7 | 9.9 | 9.8 | 10.0 |
| Poland | 1.6 | 1.7 | 1.8 | 1.7 | 4.1 | 5.4 | 6.6 | 6.9 | 6.5 | 6.7 | 6.3 | 5.7 | 4.0 | 4.2 | 5.7 | 6.1 | 10.0 |
| Portugal | 0.4 | 0.5 | 1.6 | 2.4 | 2.5 | 3.9 | 5.5 | 0.7 | 0.8 | 0.9 | 3.7 | 7.4 | 7.6 | 7.9 | 9.0 | 9.1 | 10.0 |
| Romania | 1.8 | 1.9 | 1.5 | 1.6 | 1.3 | 1.3 | 1.4 | 2.9 | 5.0 | 5.4 | 4.7 | 5.5 | 6.2 | 6.6 | 6.3 | 7.8 | 10.0 |
| Slovenia | 0.9 | 0.8 | 1.1 | 1.5 | 1.8 | 2.3 | 3.1 | 2.5 | 3.3 | 3.8 | 2.9 | 2.2 | 1.6 | 2.6 | 5.5 | 8.0 | 10.0 |
| Slovakia | 1.5 | 1.7 | 3.3 | 4.0 | 4.3 | 5.4 | 5.3 | 5.7 | 5.6 | 6.2 | 8.0 | 8.6 | 7.8 | 6.9 | 7.0 | 8.3 | 10.0 |
| Finland | 1.0 | 0.9 | 1.0 | 1.0 | 2.9 | 4.6 | 4.4 | 1.0 | 1.1 | 10.7 | 24.5 | 24.8 | 8.9 | 18.8 | 17.7 | 21.3 | 10.0 |
| Sweden | 6.3 | 6.6 | 7.5 | 8.4 | 8.7 | 9.4 | 9.6 | 11.9 | 13.8 | 15.3 | 18.8 | 21.5 | 26.6 | 26.8 | 29.7 | 30.3 | 10.0 |
| United Kingdom | 0.4 | 0.5 | 0.8 | 1.2 | 2.3 | 2.9 | 3.3 | 3.2 | 1.7 | 1.8 | 1.9 | 4.5 | 5.0 | 4.8 | 6.5 | 8.9 | 10.0 |
| Iceland | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.9 | 1.3 | 2.1 | 2.8 | 6.2 | 6.0 | 6.7 | 8.2 | 9.0 | .. |
| Norway | 3.1 | 3.0 | 3.3 | 3.7 | 5.3 | 5.5 | 5.4 | 2.8 | 3.2 | 3.3 | 6.4 | 7.8 | 14.0 | 19.9 | 21.5 | 27.6 | .. |
| Montenegro | .. | 0.5 | 0.5 | 1.0 | 0.9 | 0.7 | 0.8 | 0.6 | 0.7 | 1.1 | 1.1 | 1.2 | 1.1 | 1.0 | 0.9 | 0.9 | .. |
| Albania | 0.5 | 0.4 | 0.4 | 0.7 | 0.7 | 1.5 | 0.7 | 1.9 | 2.0 | 1.7 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.1 | .. |
| Serbia | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | .. |
| Kosovo* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | .. |

Note: "..." means data not available

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data code: nrg_ind_ren)

eurostat 

Table 4: Share of energy from renewable sources in transport, 2004-2019 (% of gross final energy consumption) Source: Eurostat (nrg_ind_ren)

Source data for tables and graphs

- [Renewable energy: tables and figures](#)

Data sources

The statistics presented in this article are based on data compiled in accordance with accounting rules set down in the [Directive 2009/28/EC](#) on the promotion of the use of energy from renewable sources and calculated on the basis of energy statistics covered by [Regulation \(EC\) No 1099/2008](#) on energy statistics, most recently amended in November 2019 by [Regulation \(EU\) No 2019/2146](#). Directive 2009/28/EC will be used until reference year 2020. From that year onwards, the calculation of the share of energy from renewable sources will follow the accounting rules set down in [Directive 2018/2001/EU](#) on the promotion of the use of energy from renewable sources.

Data are available for all EU Member States, as well as the United Kingdom, Iceland, Norway, Montenegro, Serbia, Albania and Kosovo*. In general, data are complete, recent and reliably comparable across countries.

The share of renewable energy in gross final energy consumption is identified as a key indicator for measuring progress under the [Europe 2020 strategy](#) for smart, sustainable and inclusive growth. This indicator may be considered as an [estimate](#) for the purpose of monitoring [Directive 2009/28/EC](#) on the promotion of the use of energy from renewable sources — however, the statistical system in some countries for specific renewable energy technologies is not yet fully developed to meet the requirements of this Directive; for example, ambient heat energy for heat pumps is not reported by many countries.

All calculations take into account specific provisions as in place in Directive 2009/28/EC following its amendment by Directive (EU) 2015/1513 of the European Parliament and of the Council of 9 September 2015 amending Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

An important aspect to take into account when interpreting data is statistical revisions. The latest data for 2005 shows a small variation with respect to data available during the preparation and adoption of the Directive in 2007-2008. Changes are due to revisions in data sets transmitted by reporting countries in response to annual energy questionnaires. Due to revision of data for biomass consumption in households, the updated data for Croatia indicates that its consumption of energy from renewable sources is above its 2020 target since 2004 (the first year for which values are available). But Croatia is not the only case. As a consequence of the Renewable Energy Directive, countries are monitoring much closer the flows of renewable energy commodities in their economies. A very significant case is the consumption of biomass, where countries are launching new more detailed surveys that allow them to capture more data on the final energy consumption of biomass. As a consequence, several countries are revising their data leading to an increase in their share of energy from renewable sources (e.g. Croatia, France, Lithuania and Hungary).

Gross final consumption of energy is defined in the Renewable Energy Directive 2009/28/EC as the energy commodities delivered for energy purposes to industry, transport, households, services (including public services), agriculture, forestry and fisheries, including the consumption of electricity and heat by the energy branch for electricity and heat production and including losses of electricity and heat in distribution and transmission.

Energy production from non-renewable municipal wastes was deducted from the contribution of biomass to heating and electricity generation. Consumption for pipeline transport was included in gross final consumption of energy, in line with the sectoral classification of the Energy Statistics Regulation. To improve accuracy and consistency with national statistics in calculating renewable energy shares, **national calorific values** were used, where available, for converting quantities of all energy products into energy units, instead of the default calorific values.

Data for the period 2004-2010 : Directive 2009/28/EC did not yet exist or had not been transposed into national legislation. The values in these years are not used for any measurement of legislative compliance with the indicative trajectory defined in part B of Annex I of the Directive. The Renewable Energy Directive 2009/28/EC stipulates that only biofuels and bioliquids that fulfil sustainability criteria should be counted for the targets. It was decided that for the years 2004-2010 all biofuels and bioliquids would be counted towards the numerator of the share of energy from renewable sources.

Data for 2011 onwards : Compliance with Article 17 (Sustainability criteria for biofuels and bioliquids) has to be assessed with respect to Article 18 (Verification of compliance with the sustainability criteria for biofuels and bioliquids). As of reference year 2011, countries are to report as compliant only those biofuels and bioliquids for which compliance with both Article 17 and Article 18 can be fully demonstrated. Only reported compliant biofuels and bioliquids are counted towards the respective shares of renewables. In some countries consumption of biofuels and bioliquids in the period 2011-2015 were not certified as compliant (sustainable) due to late implementation of Directive 2009/28/EC. While the share of renewable energy as a whole is increasing since 2004, between 2010 and 2011 its share in transport decreased. This can be attributed in part to the total absence of compliant biofuels reported by several EU countries (countries did report some biofuel use, but none or very little of it compliant in 2011). As some countries have not yet fully implemented all provisions of the Renewable Energy Directive, some biofuels and bioliquids are not counted as compliant (sustainable) in the period 2011-2015.

The share of electricity from renewable energy sources is defined as the ratio between electricity produced from renewable energy sources and gross national electricity consumption. As stipulated in the Renewable Energy Directive 2009/28/EC, gross final consumption of **electricity from renewable sources** is the electricity produced from renewable energy sources. This includes hydro power plants (excluding hydro power electricity produced from pumped storage plants using water previously pumped uphill), as well as electricity generated from solid biofuels/wastes, wind, solar and geothermal installations. The Directive also requires electricity production from hydro power and wind power to be normalised. Given the 15-year normalisation requirement for hydro power production and the availability of energy statistics (for the EU, starting from 1990), long time series of this indicator are not available.

For the purpose of calculating the share of **renewable energy in heating and cooling**, final consumption of energy from renewable sources is defined as the final consumption of renewable energy in industry, households, services, agriculture, forestry and fisheries for heating and cooling purposes, plus district heating produced from renewables. The total final consumption for heating and cooling is the final consumption of all energy commodities, except electricity, for purposes other than transport, plus the consumption of heat for own

use at electricity and heat plants and heat losses in networks. For more detailed definition, please see [SHARES tool manual](#).

The share of renewable energies in fuel consumed in transport is calculated on the basis of energy statistics, according to the methodology as described in Directive 2009/28/EC. The contribution of all liquid biofuels is included within the calculation for this indicator until 2010. From 2011, the data for liquid biofuels in transport are restricted only to liquid biofuels compliant with Directive 2009/28/EC (in other words satisfying the sustainability criteria).

Context

Becoming the world's first climate-neutral continent by 2050 is the greatest challenge and opportunity of our times. To achieve this, on 11 December 2019 the European Commission presented the [European Green Deal \(COM\(2019\) 640 final\)](#), the most ambitious package of measures that should enable European citizens and businesses to benefit from sustainable green transition. Measures accompanied with an initial roadmap of key policies range from ambitiously cutting emissions, to investing in cutting-edge research and innovation, to preserving Europe's natural environment. Above all, the European Green Deal sets a path for a transition that is just and socially fair. It is designed in such a way as to leave no individual or region behind in the great transformation ahead.

The Green Deal is an integral part of the Commission's strategy to implement the United Nation's 2030 Agenda and the sustainable development goals, and the other priorities announced in President von der Leyen's political guidelines. As part of the Green Deal, the Commission will refocus the European Semester process of macroeconomic coordination to integrate the United Nations' sustainable development goals, to put sustainability and the well-being of citizens at the centre of economic policy, and the sustainable development goals at the heart of the EU's policymaking and action. The [European Commission](#) has set out several energy strategies for a more secure, sustainable and low-carbon economy. Aside from combating climate change through a reduction in greenhouse gas emissions, the use of renewable energy sources is likely to result in more secure energy supplies, greater diversity in energy supply, less air pollution, as well as the possibility for job creation in environmental and renewable energy sectors.

On 11 December 2018, the EU adopted [Directive 2018/2001/EU](#) on the promotion of the use of energy from renewable sources. The new regulatory framework includes a binding renewable energy target for the EU for 2030 of 32 % with an upwards revision clause by 2023. This will greatly contribute to the Commission's political priority as expressed by President Juncker in 2014 for the European Union to become the world number one in renewables. This will allow Europe to keep its leadership role in the fight against climate change, in the clean energy transition and in meeting the goals set by the Paris Agreement.

In February 2015, the European Commission set out its plans for a framework strategy for a resilient [energy union](#) with a forward-looking climate change policy in a Communication ([COM\(2015\) 80 final](#)). The Communication proposes five dimensions for the strategy, one of which is decarbonising the economy.

On 6 June 2012, the European Commission presented a Communication titled, ' [Renewable energy: a major player in the European energy market](#) ' ([COM\(2012\) 271 final](#)), outlining options for a renewable energy policy for the period beyond 2020. The Communication also called for a more coordinated European approach in the establishment and reform of support schemes and an increased use of renewable energy trading among EU Member States. In January 2014, the European Commission put forward a set of energy and climate goals for 2030 with the aim of encouraging private investment in infrastructure and low-carbon technologies. One of the key targets proposed is for the share of renewable energy to reach at least 27 % by 2030. These objectives are seen as a step towards meeting the greenhouse gas emissions targets for 2050 put forward in the [Roadmap for moving to a competitive low-carbon economy in 2050 \(COM \(2011\) 112 final\)](#).

At the origin of these initiatives is the [2020 climate and energy package](#) adopted in December 2008, which provided a further stimulus for increasing the use of renewable energy sources to 20 % of total energy consumption by 2020, while calling for energy consumption and greenhouse gas emissions to both be cut by 20 %. Directive 2009/28/EC of the European Parliament and Council on the promotion of the use of energy from renewable sources set an overall goal across the EU for a 20 % share of energy consumption to be derived from renewable sources by 2020, while renewables should also account for a 10 % share of the fuel used in the transport sector by the same date. The Directive changes the legal framework for promoting renewable electricity,

requires [national action plans](#) to show how renewable energies will be developed in each EU Member State, creates cooperation mechanisms, and establishes [sustainability](#) criteria for liquid biofuels (following concerns over their potential adverse effects on crop prices, food supply, forest protection, [biodiversity](#), water and soil resources). A report on the [sustainability of solid and gaseous biofuels used for electricity, heating and cooling](#) (SWD(2014) 259) was adopted in July 2014.

Other articles

- [Calculation methodologies for the share of renewables in energy consumption](#)
- [Energy statistics introduced](#)
- [Energy statistics - an overview](#)
- [Electricity production, consumption and market overview](#)
- [Energy production and imports](#)
- [The EU in the world - energy](#)

Publications

- [Shedding light on energy in the EU - A guided tour of energy statistics \(2020 edition\)](#)
- [Energy data \(2020 edition\)](#)
- [Energy, transport and environment statistics \(2020 edition\)](#)
- [Sustainable development in the European Union — Monitoring report on progress towards the SDGs in an EU context \(2020 edition\)](#)

Main tables

- [Energy \(t_nrg\)](#), see:

[Energy statistics - main indicators \(t_nrg_ind\)](#)

[Energy statistics - quantities \(t_nrg_quant\)](#)

Database

- [Energy \(nrg\)](#), see:

[Energy statistics - quantities, annual data \(nrg_quanta\)](#)

Dedicated section

- [Energy](#)

Methodology

- [Energy Statistics Manual](#)
- [Energy statistics — quantities](#) (ESMS metadata file — [nrg_quant_esms](#))
- [Share of energy from renewable sources \(nrg_ind_ren\)](#) (ESMS metadata file — [nrg_ind_ren_esms](#))

External links

- [EURObserv'ER](#)
- [European Commission — Directorate-General for Energy — Renewable energy](#)
- [Europe's Energy Portal](#)
- [International Renewable Energy Agency](#)
- [International Energy Agency \(IEA\) — Renewable energy](#)
- [Concerted Action on Renewable Energy Sources Directive](#)

**This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.*

View this article online at https://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics