

Renewable Energies and Energy Intensity

**Extract from France's 2021 Environmental Performance
Review**



Renewable Energies and Energy Intensity

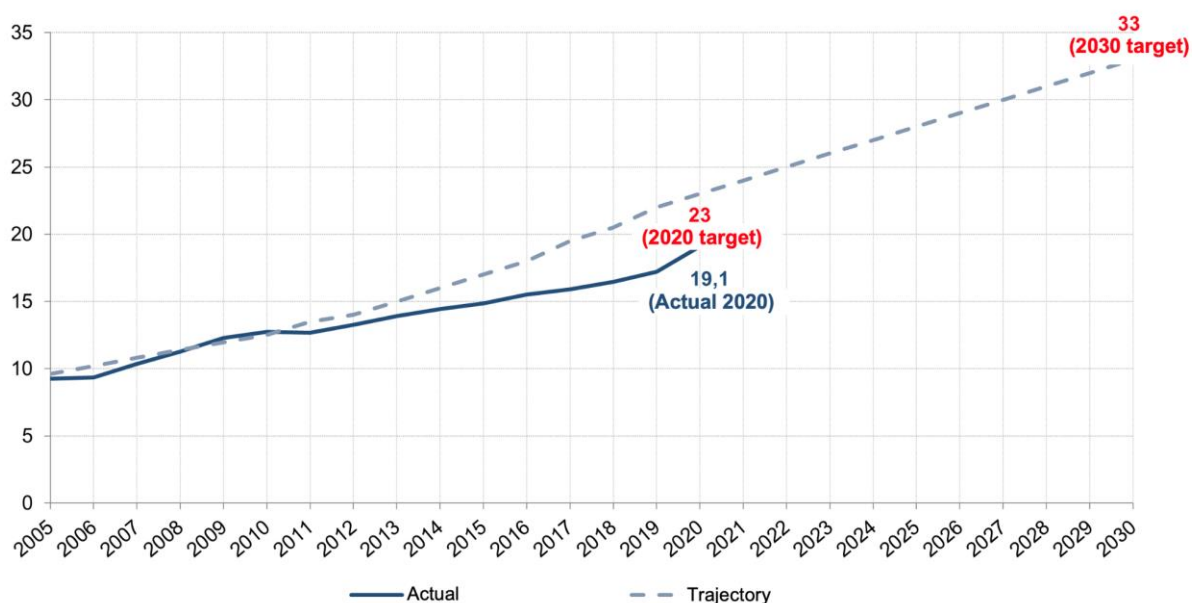
There are many forms of renewable energies: water, wind, solar radiation, geothermal energy, wood fuel and other biomass resources, organic fuel and waste. In a context of potential depletion of fossil resources and with a view to reducing greenhouse gas emissions, the development of renewable energies is an issue of growing importance.

THE SHARE OF RENEWABLE ENERGIES IN GROSS FINAL ENERGY CONSUMPTION INCREASED IN 2020

In 2020, renewable energies represented 19.1% of gross final energy consumption in France. This proportion has increased by over six points in ten years. This is the result of a significant increase in the consumption of renewable energies, the consequence of public incentives to encourage renewable energy development, and to a lesser extent, the overall decline in final energy consumption due to the economic slowdown caused by the Covid-19 pandemic. However, the share of renewable energies in gross final energy consumption remains below France's 2020 target of 23%. Further increase is required to reach the 2030 target of 33% set by the law for energy and climate dated 8 November 2019 (*Figure 1*). The Multi Annual Energy Plan provides for the development of the various renewable energy sectors by 2023 and 2028.

Figure 1: Trends in the share of renewable energies in gross final energy consumption and the trajectory towards the 2030 target by sector.

In %



Note: objectives set out in Article L100-4 of the Energy Code.

Scope: France.

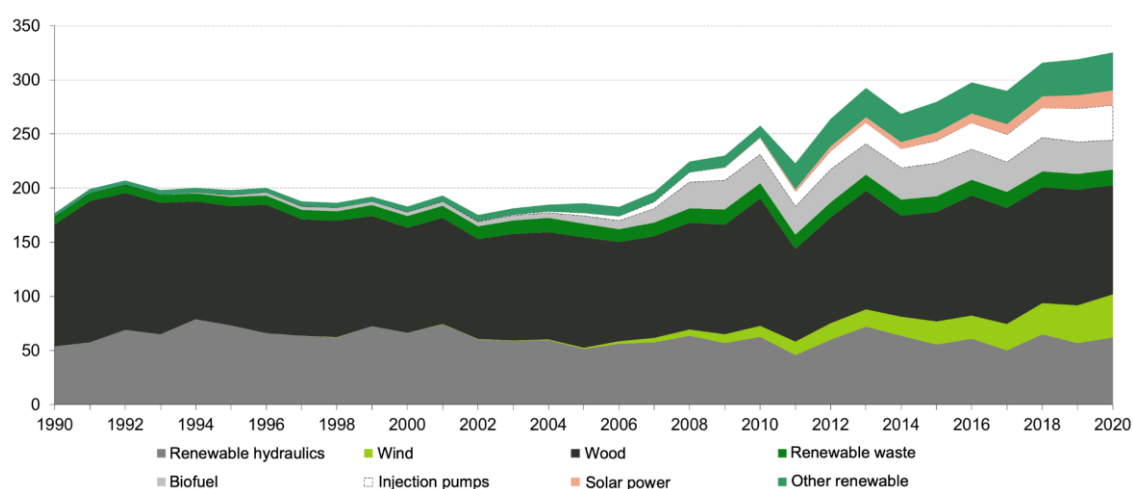
Source: SDES

Fact Sheet: Renewable Energies and Energy Intensity

PRIMARY RENEWABLE ENERGY PRODUCTION IS DOMINATED BY BIOMASS AND WIND POWER

In 2020, in France, primary renewable energy production amounted to 325 TWh, of which 318 TWh in Metropolitan France and 7 TWh in the French Overseas departments and regions. Primary renewable energy production increased by 12.9% between 2015 and 2018, but has since slowed down to an increase of 3.0% between 2018 and 2020 – (Figure 2).

Figure 2: Trends in primary production of renewable energies by sector
TWh

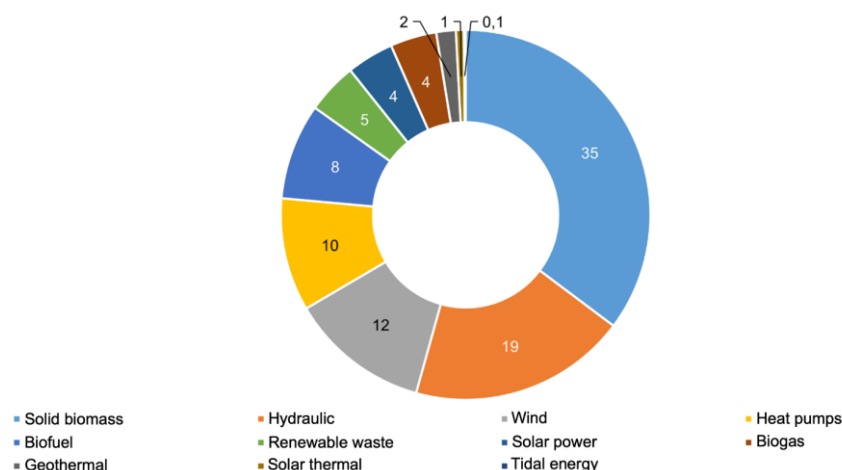


Scope: up to and including 2010 with geographical scope of metropolitan France. Since 2011, it also includes the five French Overseas departments and regions (DROM).

Source: SDES

The two main sectors are solid biomass with 35% of the total and hydraulics at 19% (Figure 3). Hydraulic energy is mainly used for electricity generation, whereas solid biomass is mainly used for heating (Figures 4 and 5).

Figure 3: Primary production of renewable energies by sector
In %

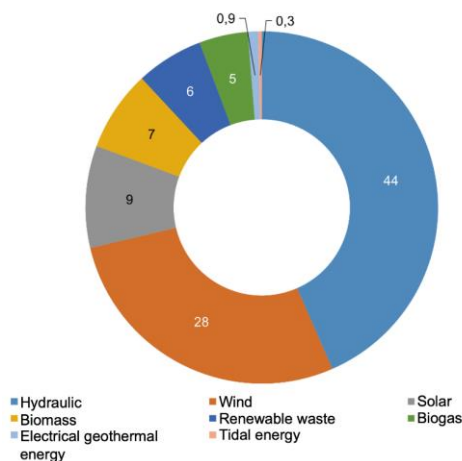


Scope: France.

Source: SDES, according to sources by sector, 2020

Fact Sheet: Renewable Energies and Energy Intensity

Figure 4: Primary consumption of renewable energies for electricity production, by sector
In %

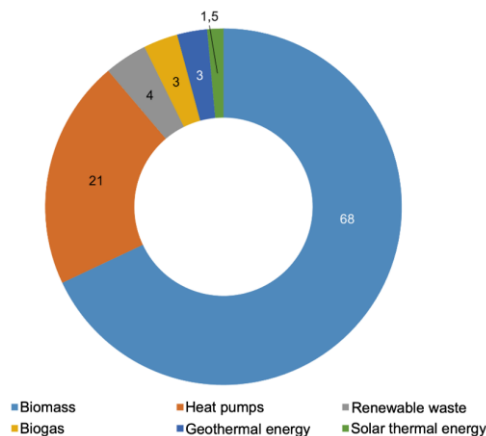


Note: primary biomass consumption for electricity generation includes solid biomass (10.6 TWh in 2020) and biofuels used to generate electricity (0.02 TWh in 2020).

Scope: France.

Source: SDES, according to sources by sector, 2020

Figure 5: Primary consumption of renewable energies for heat production, by sector
In %



Note: primary biomass consumption for electricity generation includes solid biomass (104.7 TWh in 2020) and biofuels used to generate electricity (0.3 TWh in 2020).

Scope: France.

Source: SDES, according to sources by sector, 2020

Primary consumption of renewable energy, obtained by adding primary production and imports of biofuels and wood energy (net of exports), reached a total of 333 TWh in 2020. 154 TWh were used to produce heat, almost exclusively in Metropolitan France, 143 TWh to produce electricity, and 2 TWh were injected into natural gas networks in the form of biogas. Finally, primary consumption of biofuels reached 34 TWh.

JOBS AND INVESTMENTS IN THE RENEWABLE ENERGY SECTOR

In 2019, the renewable energy sector included nearly 80,000 full-time equivalent jobs, mainly in wood energy (23%), heat pumps (23%), hydroelectricity (16%) and wind power (12%). The number of jobs for producing, installing and maintaining equipment and for preliminary studies, was multiplied by 2.4 for all renewable energies since 2004. The most significant increases between 2014 and 2019 were observed in the biogas, heat pumps, geothermal and wind energy sectors.

Investments in renewable energies and energy recovery increased by 22% between 2017 and 2019 to reach €10.1 billion. The domestic heat pump sector alone accounted for 37% of these investments in 2019 (€3.8 billion).

In France, the development of renewable energies receives support from various public bodies such as the Heat Fund or the energy transition tax credit (CITE). The government subsidises compensation schemes for renewable electricity production sectors for producers, such as guaranteed purchase prices, and since 2016, remuneration supplements. Fiscal policies in favour of renewable energies complement these schemes.

THE ENERGY EFFICIENCY OF THE FRENCH ECONOMY IS STEADILY IMPROVING

The energy intensity of the French economy decreased by an annual average of 1.5% between 2000 and 2019. In 2020, the year marked by the pandemic and economic slowdown, energy intensity increased by 2.6% due to a smaller decrease in final energy consumption (-5.4%) than in gross domestic product (GDP) (-7.9%). This overall decline in energy intensity over the last two decades reflects efficiency gains in all consumer sectors. The reduction is also explained by the transition of the economy from industry to the service sector and slower growth in household demand (in transport services, in inhabited areas) than GDP growth.

FOR MORE INFORMATION

- *Chiffres clés des énergies renouvelables - Édition 2021*, SDES, *Datalab*, July 2021, 99pp.
- *Chiffres clés de l'énergie - Édition 2021*, SDES, *Datalab*, September 2021, 83pp.