RENEWABLE ENERGY

Renewable sources of energy (wind power, solar power, hydroelectric power, ocean energy, geothermal energy, biomass and biofuels) are alternatives to fossil fuels that contribute to reducing greenhouse gas emissions, diversifying energy supply and reducing dependence on unreliable and volatile fossil fuel markets, in particular oil and gas. EU legislation on the promotion of renewables has evolved significantly in the past 15 years. In 2018, EU leaders set a 32% target share for renewables in EU final energy consumption by 2030. In line with the EU ambition to become climate-neutral by 2050, in March 2023 the co-legislators agreed to increase the renewable energy target for 2030 to 42.5%, with the aim of achieving 45%. The updated policy framework for renewable energies for the 2030 and post-2030 period is under discussion.

LEGAL BASIS AND OBJECTIVES

Article 194 of the Treaty on the Functioning of the European Union.

ACHIEVEMENTS

A. Renewable Energy Directive


The original Renewable Energy Directive, adopted by codecision on 23 April 2009 (Directive 2009/28/EC, repealing Directives 2001/77/EC and 2003/30/EC), established that a mandatory 20% share of EU energy consumption must have come from renewable energy sources by 2020. The directive required all Member States to obtain 10% of their transport fuels from renewables and mapped out various mechanisms that Member States could apply in order to reach their targets, such as support schemes, guarantees of origin, joint projects, and cooperation between Member States and third countries, as well as sustainability criteria for biofuels. Until 2020, the directive confirmed existing national renewable energy targets for each country, taking into account the starting point and overall potential for renewables (from renewables shares of 10% in Malta to 49% in Sweden). Each EU country set out how it planned to meet its individual target and the general roadmap for its renewable energy policy in a national renewable energy action plan. Progress towards the national targets was measured every two years when EU countries published national renewable energy progress reports.
In December 2018, as part of the ‘Clean energy for all Europeans’ package, the revised Renewable Energy Directive ((EU) 2018/2001) entered into force with the aim of keeping the EU a global leader in renewables and meeting its emissions reduction commitments under the Paris Agreement. This directive, which had to become national law in EU countries by June 2021, established a new binding renewable energy target for the EU of at least 32% of final energy consumption by 2030, with a clause for a possible upwards revision by 2023 and an increased 14% target for the share of renewable fuels in transport by 2030. In accordance with Regulation (EU) 2018/1999, EU countries propose national energy targets and establish 10-year national energy and climate plans (NECPs) for the period 2021-2030. The NECPs are monitored every two years with progress reports and are assessed by the Commission, which can take measures at EU level to ensure their consistency with the overall EU targets.


In July 2021, as part of the ‘Fit for 55’ package, the Commission proposed an amendment (RED II) to the Renewable Energy Directive to align its renewable energy targets with its new climate ambition. The Commission proposed to increase the binding target of renewable sources in the EU’s energy mix to 40% by 2030 and promoted the uptake of renewable fuels such as hydrogen in industry and transport, with additional targets.

In May 2022, as part of its REPowerEU plan following the Russian aggression against Ukraine, the Commission proposed a first amendment (RED III) to accelerate the clean energy transition in line with the phase-out of Russian fossil fuel dependence. The Commission proposed installing heat pumps, increasing solar photovoltaic capacity and importing renewable hydrogen and biomethane to increase the 2030 renewable energy sources target to 45%.

On 9 November 2022, the Commission proposed a second amendment (RED IV) for a Council Regulation to accelerate the deployment of renewable energy. Under the proposal, renewable energy plants will be presumed to be of overriding public interest, allowing faster permitting for renewable projects and specific derogations from EU environmental legislation.

In March 2023, Parliament and the Council informally agreed to raise the 2030 renewable energy sources target to 42.5% by 2030, with Member States striving to achieve 45%, and for the first time included industry by setting binding (42% of renewable hydrogen in total hydrogen consumption by 2030) and indicative targets (1.6% annual increase in renewable energy use).

The energy policy framework for the 2030 and post-2030 period is currently under discussion.

B. The European Green Deal

On 11 December 2019, the Commission outlined its communication on the European Green Deal. This green pact sets out a detailed vision to make Europe a climate-neutral continent by 2050 by supplying clean, affordable and secure energy.
1. The REPowerEU plan

On 18 May 2022, following the Russian invasion of Ukraine, the energy legislative package, including the revised Energy Efficiency Directive, was amended by the REPowerEU plan to phase out the dependence on Russian fossil fuels. The new amendment proposed raising the binding target for the share of renewables in the EU energy mix to 45% by 2030 and aligning all sub-targets with the new REPowerEU ambitions, including:

— A phased-in obligation to install solar panels on new buildings;
— A target of 10 million tonnes of domestic renewable hydrogen production and imports by 2030;
— A doubling of the current deployment rate of heat pumps in individual buildings;
— A target for renewable fuels of non-biological origin (75% for industry and 5% for transport);
— An increase of biomethane production to 35 billion cubic metres by 2030.

2. Delivering on the European Green Deal

On 14 July 2021, the Commission published a legislative package on energy entitled ‘Fit for 55: delivering the EU’s 2030 Climate Target on the way to climate neutrality’. In the revision of the Renewable Energy Directive, it proposed raising the binding target for the share of renewables in the EU energy mix to 40% by 2030 and introducing targets at national levels, such as:

— A new benchmark of 49% renewables use by 2030 for buildings;
— A new benchmark of a 1.1 percentage point annual increase in renewables use for industry;
— A binding 1.1 percentage point annual increase for the Member States in the use of renewables for heating and cooling;
— An indicative 2.1 percentage point annual increase in the use of renewables and waste heat and cold for district heating and cooling.

In the effort to decarbonise and diversify the transport sector, it establishes:

— A target of a 13% reduction in the greenhouse gas intensity of transport fuels by 2030, covering all transport modes;
— A 2.2% share of advanced biofuels and biogas by 2030, with an intermediary target of 0.5% by 2025 (single counted);
— A 2.6% target for renewable fuels from non-biological origin and a 50% share of renewables in hydrogen consumption in industry, including non-energy uses, by 2030.

The future policy framework for the 2030 and post-2030 period is still under discussion.
3. **Clean energy for all Europeans**

On 30 November 2016, the Commission published the ‘**Clean energy for all Europeans**’ package as part of the broader **Energy Union strategy**. In December 2018, the revised **Renewable Energy Directive ((EU) 2018/2001)** entered into force, promoting the use of energy from renewables by:

— Further deploying renewables in the electricity sector;

— Mainstreaming renewables in the heating and cooling sector (an indicative annual increase of 1.3% for renewables in heating and cooling has been introduced);

— Decarbonising and diversifying the transport sector by introducing:
  — A 14% share of renewables in the total energy consumption of the transport sector by 2030;
  — A 3.5% share of advanced biofuels and biogas by 2030, with an intermediary target of 1% by 2025 (double-counted);
  — A 7% cap on the share of first-generation biofuels in road and rail transport, and plans to phase out the use of palm oil and other food-crop biofuels that increase CO2 emissions by 2030, through a certification scheme;

— Strengthening the EU sustainability criteria for bioenergy;

— Making sure the EU-level binding target is achieved on time and in a cost-effective way.

4. **Renewable energy financing mechanism**

As part of the ‘**Clean energy for all Europeans**’ package, **Regulation 2020/1294** established an EU financing mechanism based on Article 33 of the **Governance Regulation ((EU) 2018/1999)**, in force since September 2020. The main objective of this mechanism is to help countries achieve their individual and collective renewable energy targets. The financing mechanism links countries that contribute to the financing of projects (contributing countries) with countries that agree to have new projects built on their territories (host countries). The Commission sets out the implementation framework and means of funding for the mechanism, establishing that Member States, EU funds, or private sector contributions may finance actions under the mechanism. The energy generated through this financing mechanism will count towards the renewable energy targets of all participating countries and contribute to achieving carbon neutrality by 2050. The new REP\textsuperscript{ower}EU objectives required an additional investment of EUR 210 billion between 2022 and 2027.

C. **Future steps**

1. **Trans-European Networks for Energy**

The Trans-European Networks for Energy (TEN-E) is a policy that focuses on linking the energy infrastructure of EU countries.

On 23 June 2022, the revised **TEN-E Regulation** laying down new EU rules for cross-border energy infrastructure entered into force. The new regulation, in line with the upgraded 2030 targets and the 2050 climate neutrality objective, identifies eleven
priority corridors and three priority thematic areas, defines the new Projects of Common Interest (PCIs) among EU Member States, introduces Projects of Mutual Interest (PMIs) between EU and third countries, highlights the role of offshore wind projects, and excludes EU funding for future natural gas projects. It promotes the integration of renewables and new clean energy technologies into the energy system, continues to connect regions currently isolated from European energy markets, strengthens existing cross-border interconnections, promotes cooperation with partner countries and proposes ways to simplify and accelerate permitting and authorisation procedures.

2. Revision of the Energy Taxation Directive

In July 2021, the Commission published a proposal on the revision of the Energy Taxation Directive 2003/96, proposing to align the taxation of energy products with EU energy and climate policies, promoting clean technologies and removing outdated exemptions and reduced rates that currently encourage the use of fossil fuels.

D. Resource-specific issues

1. Solar

The REPowerEU plan introduced a strategy to double solar photovoltaic capacity to 320 GW by 2025 and install 600 GW by 2030. The plan also included a phased-in legal obligation to install solar panels on new public, commercial and residential buildings and a strategy to double the rate of deployment of heat pumps in district and communal heating systems. Under the plan, Member States are also required to identify and adopt plans for dedicated ‘go-to’ areas for renewables, with shortened and simplified permitting processes.

2. Biomass and biofuels

The Renewable Energy Directive ((EU) 2018/2001), which is currently in force, includes a target of 3.5% by 2030 and an intermediary target of 1% by 2025 for advanced biofuels and biogas in the transport sector. While the existing 7% cap on first-generation biofuels is maintained in road and rail transport, an EU-level obligation for fuel suppliers to provide a certain share (6.8%) of low-emission and renewable fuels and an extension of the scope of the EU sustainability criteria for bioenergy (to cover biomass and biogas for heating and cooling and electricity generation) is introduced. In July 2021, the Commission published a Renewable Energy Directive proposal with a target of a 2.2% share of advanced biofuels and biogas by 2030 and an intermediary target of 0.5% by 2025, which must align with the new REPowerEU targets. In March 2023, Parliament and the Council informally agreed to reinforce the regulatory framework for renewable energy use in transport (14.5% greenhouse gas intensity reduction or 29% share of renewable energy in final energy consumption), including a combined sub-target of 5.5% for advanced biofuels and renewable fuels of non-biological origin, including a minimum level of 1% for renewable fuels of non-biological origin.

3. Hydrogen

In July 2020, the Commission adopted the European strategy for energy system integration and a new strategy on hydrogen in Europe to explore how producing and using renewable hydrogen can help decarbonise the EU economy. The hydrogen strategy introduced three targets: at least 6 GW of renewable hydrogen electrolyser
in the EU and up to 1 million tonnes of renewable hydrogen produced by 2024; at least 40 GW of renewable hydrogen electrolysers and up to 10 million tonnes of renewable hydrogen produced in the EU by 2030; and the deployment of renewable hydrogen at a large scale from 2030 onwards. In May 2022, in its REPowerEU plan, the Commission set a target of producing 10 million tonnes of domestic renewable hydrogen and importing 10 million tonnes of renewable hydrogen by 2030. In March 2023, Parliament and the Council informally agreed to set a binding target of 42% of renewable hydrogen in total hydrogen consumption in industry by 2030.

4. Offshore wind

On 19 November 2020, the Commission published a dedicated EU strategy on offshore renewable energy entitled ‘An EU Strategy to harness the potential of offshore renewable energy for a climate neutral future’, which assesses the potential contribution of offshore renewables and goes beyond a narrow definition of the factors of energy production. This strategy aims to increase the EU’s production of electricity from offshore renewable energy sources from 12 GW in 2020 to over 60 GW by 2030 and 300 GW by 2050. The TEN-E Regulation, which entered into force in June 2022, sets out concrete steps for achieving the ambitions set in the offshore energy strategy. The latest REPowerEU amendments to the Renewable Energy Directive shorten and simplify permitting processes.

5. Ocean Energy

In January 2014, the Commission published a communication entitled ‘Blue Energy: Action needed to deliver on the potential of ocean energy in European seas and oceans by 2020 and beyond’. The communication set out an action plan to support the development of ocean energy, including that generated by waves, tidal power, thermal energy conversion and salinity gradient power. The ‘EU Strategy to harness the potential of offshore renewable energy for a climate neutral future’ also highlighted that the marine renewables industry would need to be scaled up 5 times by 2030 and 25 times by 2050.

ROLE OF THE EUROPEAN PARLIAMENT

Parliament has consistently advocated the use of renewables and highlighted the importance of setting mandatory targets for 2020 and, more recently, for 2030.

In February 2014, Parliament adopted a resolution calling for a binding 30% share of renewables in energy consumption at EU level, to be implemented through individual nationally binding targets, and for an extension of transport fuel targets after 2020.

In June 2016, Parliament adopted a resolution reiterating the call for an increase of the EU target for renewables to at least 30% by 2030, to be implemented by means of individual national targets, and for 2020 targets taken as the minimum baseline when revising the Renewable Energy Directive.

In January 2018, in view of the 2018 revision of the Renewable Energy Directive, Parliament supported a binding target for the Union of at least 35% renewable energy in 2030 and reinforced self-consumption as a right. After negotiations with the Council, the EU’s binding target was decreased to at least 32%.
In January 2020, Parliament adopted a resolution on the European Green Deal calling for a revision of the Renewable Energy Directive and the setting of binding national targets for each Member State, and recommending the implementation of the ‘energy efficiency first’ principle in all sectors and policies.

In May 2021, Parliament adopted a resolution on a European strategy for energy system integration and a resolution on a European Strategy for Hydrogen, which advocated for the decarbonisation of and use of renewables in the production of electricity and hydrogen, and called on the Commission to assign a guarantee of origin to renewable hydrogen and promote the development of renewables.

In February 2022, Parliament adopted a resolution on a European strategy for offshore renewable energy. The resolution noted that the installed capacity of offshore wind should be 70-79 GW to ensure a cost-competitive transition to a 55% reduction in greenhouse gas emissions by 2030 and called on Member States and the public and private sectors to go beyond the 55% reduction target by 2030.

In September 2022, in its first reading position on the revision of the Renewable Energy Directive, Parliament supported the Commission’s proposal to raise the share of renewables in the EU’s final energy consumption to 45% by 2030.

In March 2023, Parliament negotiated with the Council a provisional agreement for increasing the EU’s binding renewable target for 2030 to a minimum of 42.5%, with the aim of achieving 45%, almost doubling the existing share of renewable energy in the EU.

For more information on this topic please see the website of the Committee on Industry, Research and Energy (ITRE).

Matteo Ciucci
04/2023