



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 help cut greenhouse gas emissions, diversify the energy supply and reduce dependence on unreliable and volatile fossil fuel markets, particularly oil and gas. EU legislation to promote renewables has evolved significantly over the past 15 years. In 2021, renewable energy accounted for 21.8% of the EU's gross final energy consumption. In 2023, the co-legislators increased the EU renewable energy target for 2030 to 42.5%, with the aim of achieving 45%.

LEGAL BASIS AND OBJECTIVES

Article 194 of the [Treaty on the Functioning of the European Union](#).

ACHIEVEMENTS

A. Renewable Energy Directive

1. Renewable Energy Directive: towards 2020

The original Renewable Energy Directive, adopted on 23 April 2009, established that 20% of the EU's gross final energy consumption and 10% of each Member State's transport energy consumption must come from renewable energy sources by 2020. The directive set and confirmed mandatory national targets consistent with the EU's overall target, and asked Member States to develop indicative trajectories to achieve their targets, to submit national renewable energy action plans and to publish national renewable energy [progress reports](#) every two years. It mapped out various mechanisms that Member States could apply in order to promote investment in renewable energy sources, such as support schemes, guarantees of origin, joint projects, cooperation with third countries, as well as sustainability criteria for biofuels.

In December 2018, as part of the '[Clean energy for all Europeans](#)' package, the revised [Renewable Energy Directive](#) entered into force. 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 gross final energy consumption by 2030 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](#)), due by March 2023, for the period 2021-2030. The NECPs are monitored every two years with



progress reports and assessed by the Commission, which can take measures at EU level to ensure their consistency with the overall EU targets.

2. Renewable Energy Directive: towards 2030

The revised [Renewable Energy Directive](#) updated by [Directive \(EU\) 2023/2413](#), was the result of three major modifications. In July 2021, as part of the 'fit for 55' package, a first amendment aimed to align the Union's renewable energy targets with its new climate ambition, increasing the binding renewable energy sources target for the EU to 40% by 2030 and promoting the uptake of renewable fuels, such as hydrogen, in industry and transport with additional sub-targets. In May 2022, as part of its [REPowerEU plan](#) following the Russian aggression against Ukraine, a second amendment sought to accelerate the clean energy transition in line with the decision to phase-out dependence on Russian fossil fuels, increasing the binding renewable energy sources target for the EU to 45% by 2030 by installing heat pumps, increasing solar photovoltaic capacity and importing renewable hydrogen and biomethane. In November 2022, a third amendment (released as a Council Regulation) aimed to accelerate the deployment of renewable energy by presuming renewable energy plants to be of overriding public interest, allowing faster permitting for renewable projects and specific derogations from EU environmental legislation.

In October 2023, the update of the Renewable Energy Directive (RED) [raised](#) the 2030 renewable energy sources target to 42.5% by 2030, with Member States striving to achieve 45%. The new directive speeds up procedures to grant permits for new renewable energy power plants, such as solar panels or wind turbines, and sets the maximum time to approve new installations to 12 months in go-to areas for renewables and to 24 months elsewhere. In the transport sector, it establishes either: a 29% target for the share of renewable energy by 2030, or a 14.5% reduction of greenhouse gas emissions, by greater use of advanced biofuels and renewable fuels of non-biological origin, such as hydrogen. For industry, the directive introduces a binding target of 42% of renewable hydrogen in total hydrogen consumption by 2030 and 60% by 2035 and an indicative target of an annual average increase of 1.6 percentage points in renewable sources. It also introduces an indicative target of 5% of newly installed renewable energy capacity from innovative technologies by 2030 for Member States.

B. The European Green Deal

On 11 December 2019, the [European Green Deal](#) committed to tackle energy, climate and environmental challenges and to achieve climate neutrality by 2050 in accordance with the Paris Agreement. The transformation of the energy system plays a fundamental role, as the production and use of energy accounts for more than 75% of the EU's greenhouse gas emissions.

In July and December 2021, the 'fit for 55' package, a set of proposals to revise and update EU energy, climate and biodiversity legislation, operationalised the EU green pact. The package included proposals on the Renewable Energy Directive, the Energy Efficiency Directive, the Energy Taxation Directive, the Energy Performance of Buildings Directive, the Hydrogen and Decarbonised Gas Market Package, the Methane Emissions Reduction in the Energy Sector Regulation, a Social Climate Fund and several other proposals.



In March and May 2022, following Russia's aggression against Ukraine, the [REPowerEU plan](#) amended the 'fit for 55' package to phase out the dependence on Russian fossil fuels. Based on REPowerEU, the EU adopted several measures, including the [Permitting Regulation](#), which simplified and speeded up renewable permitting procedures by focusing on specific technologies and projects such as solar photovoltaic, wind and heat pumps, as well as repowering.

Negotiations on these important files have made significant progress and have largely already been finalised in 2023.

1. Renewable energy financing mechanism

[Regulation \(EU\) 2020/1294](#) establishes an EU financing mechanism to help countries achieve their individual and collective renewable energy targets. The 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 mechanism will count towards the renewable energy targets of all participating countries.

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. The [TEN-E Regulation](#), in line with the 2050 climate neutrality objective, lays down EU rules for cross-border energy infrastructure. It identifies 11 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 future natural gas projects from EU funding. It also promotes the integration of renewables and new clean energy technologies into the energy system, connects 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/EC](#), 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, biofuels and hydrogen

The [Renewable Energy Directive \(\(EU\) 2018/2001\)](#) includes a target of 1% by 2025 and 5.5% by 2030 for advanced biofuels, biogas and renewable fuels of non-biological origin (RFNBO) in the transport sector.

In July 2020, the EU strategy for [energy system integration](#) and the [hydrogen](#) strategy introduced three targets: at least 6 GW of renewable hydrogen electrolyzers in the EU and up to 1 million tonnes of renewable hydrogen produced by 2024; at least 40 GW of renewable hydrogen electrolyzers and up to 10 million tonnes of renewable hydrogen produced in the EU by 2030; and the large-scale deployment of renewable hydrogen from 2030 onwards. In May 2022, the REPowerEU plan established the double target of producing and importing 10 million tonnes of renewable hydrogen by 2030. In October 2023, the Renewable Energy Directive established the indicative target of 42% of renewable hydrogen in total hydrogen consumption by 2030 and 60% by 2035 for industry.

3. Offshore wind

On 19 November 2020, the Commission published an EU strategy on [offshore renewable energy](#) aiming 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, introduced non-binding regional agreements for the deployment of offshore renewables. In January 2023, Member States agreed on higher non-binding goals for offshore renewable energy generation of 111 GW and 317 GW by 2030 and 2050.

4. Ocean Energy

In January 2014, the Commission published its [blue energy](#) action plan to support the development of ocean energy, including that generated by waves, tidal power, thermal energy conversion and salinity gradient power. The [offshore renewable energy](#) strategy also highlighted that the marine renewables industry would need to be scaled up fivefold by 2030 and 25-fold 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 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 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 October 2023, Parliament and Council raised the 2030 renewable energy target to 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 [Committee on Industry, Research and Energy](#) (ITRE) website.

[Visit the European Parliament homepage on renewable energy.](#)

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11/2023

