



COMBATING CLIMATE CHANGE

The European Union is among the leading major economies when it comes to tackling greenhouse gas (GHG) emissions. In 2020, [EU GHG emissions were down by 31%](#) from 1990 levels, their lowest level in 30 years, exceeding the EU's Kyoto Protocol target of reducing emissions by 20% by 2020. In 2019, the Commission presented the European Green Deal and is now proposing a set of measures aimed at increasing the EU's GHG emission reduction ambition to 55% by 2030 and decarbonising the EU's economy by 2050, in line with the Paris Agreement.

LEGAL BASIS AND OBJECTIVES

Article 191 of the Treaty on the Functioning of the EU makes combating climate change an explicit objective of EU environmental policy.

GENERAL BACKGROUND

Human activities such as the burning of fossil fuels, deforestation and farming lead to the emission of GHGs such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and fluorocarbons. These GHGs trap heat that is radiated from the Earth's surface and prevent it from escaping into space, thereby causing global warming. The assessed best estimates of the rise in the average global temperature by the end of the century vary from 1.4 °C to 4.4 °C, according to the [sixth synthesis report on climate change](#) of the Intergovernmental Panel on Climate Change (IPCC), published in March 2023.

Global warming has led and will lead to more extreme weather events (e.g. floods, droughts, heavy rain and heatwaves), forest fires, the disappearance of glaciers and rising sea levels, biodiversity loss, plant diseases and pests, food and fresh water shortages, desertification and the migration of people fleeing these dangers. Science shows that the risks of irreversible and catastrophic change would greatly increase if global warming exceeded a 2 °C – or even 1.5 °C – rise above pre-industrial levels.

In 2006, the Stern Review suggested that managing global warming would cost 1% of global GDP every year, while inaction could cost at least 5% and up to 20% of global GDP in a worst-case scenario. Thus, only a small part of total global GDP would be required for investment in a low-carbon economy, while fighting climate change would, in return, entail much greater net benefits.

The Kyoto Protocol was the first international treaty to set legally binding targets to cut GHG emissions. It was adopted on 11 December 1997 and entered into



force in 2005. The Protocol was ratified by 192 Parties and represented a landmark international agreement to combat climate change. It committed industrialised countries to reduce their GHG emissions in line with agreed individual targets under the principle of ‘common but differentiated responsibility and respective capabilities’. The first universal agreement to combat climate change was adopted in December 2015 at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change, in Paris. The Paris Agreement strives to keep the increase in the average global temperature ‘well below’ 2 °C, while trying to limit the temperature increase to 1.5 °C above pre-industrial levels. To accomplish this goal, Parties are aiming to reach a global peak in GHG emissions as soon as possible, and to achieve net-zero emissions in the second half of this century. Financial flows are to be made consistent with these goals. For the first time, all Parties must make ambitious efforts to reduce their GHG emissions, following the principle of ‘common but differentiated responsibilities and respective capabilities’, i.e. in line with their individual situations and the possibilities available to them. They are required to upgrade their climate action plans (‘nationally determined contributions’) every five years and communicate them in a transparent manner. The most vulnerable and least developed countries and small island developing states will be supported through financial and capacity-building means. Adaptation (e.g. water conservation, crop rotation, public planning and awareness-raising, increasing the height of dykes, relocating ports, etc.) and mitigation (e.g. increasing renewable energy use, promoting behavioural change, etc.) are recognised as global challenges, along with the importance of addressing ‘loss and damage’ associated with the adverse effects of climate change. In order to be ratified, The agreement needed a threshold number of 55 Parties representing at least 55% of total global GHG emissions. The EU formally ratified the Paris Agreement on 5 October 2016, thus enabling its entry into force on 4 November 2016.

OBJECTIVES AND ACHIEVEMENTS

A. EU efforts to combat climate change

By means of its 2030 climate and energy framework, agreed on in 2014 prior to the Paris Agreement, the EU has committed itself to the following goals, to be reached by 2030: reducing GHG emissions by at least 40% below 1990 levels, improving energy efficiency by 32.5% and increasing the share of renewable energy sources to 32% of final consumption. The 2030 framework is a follow-up to the ‘20-20-20 targets’ agreed on in 2007 by EU leaders for 2020: a 20% reduction in GHG emissions, a 20% increase in the share of renewable energy in final energy consumption and a 20% reduction in total EU primary energy consumption (compared to 1990 levels). These targets were all translated into binding legislative measures, which were also linked to the EU’s targets under the Kyoto Protocol.

The [EU Emissions Trading System \(ETS\)](#), the first and still the largest international carbon market, is a key EU policy instrument for fighting climate change. Set up in 2005, the ETS is based on the ‘cap and trade’ principle: a ‘cap’ is set on the total amount of GHG emissions that can be emitted by the more than 11 000 installations (factories, power stations, etc.) included in the scheme. Each installation buys or receives ‘emission allowances’ auctioned by the Member States. These credits – corresponding



to one tonne of CO₂ each – can be traded with other installations if unused. Over time, the overall amount of allowances is progressively reduced. Two funds – a modernisation fund and an innovation fund – help to upgrade energy systems in lower-income Member States and foster innovation by funding renewable energy, carbon capture and storage and low-carbon projects. Aviation emissions are also covered by the ETS, although the current [exemption for intercontinental flights](#) has been extended until the end of 2023, when the first phase of the International Civil Aviation Organization’s (ICAO) Carbon Reduction and Offsetting Scheme for International Aviation is set to begin. [Switzerland and the EU have agreed to link their emissions trading systems](#).

Emissions from sectors not covered by the ETS, such as road transport, waste, agriculture and buildings, are subject to binding annual GHG emission reduction targets for each Member State, laid out in [the Effort Sharing Regulation](#). Parliament and the Council agreed on minimum targets for 2021-2030 to help reach the EU’s goal of a 30% GHG reduction from these sectors compared to 2005 and to contribute to the achievement of the objectives of the Paris Agreement. Furthermore, for the first time, each Member State must ensure that emissions from [land use, land use change and forestry](#) do not exceed removals. In other words, forests, croplands and grasslands have to be managed sustainably in order to absorb as much GHGs from the atmosphere as possible, and at least as much as the sector emits (‘no-debit-rule’), and thus make an important contribution to the fight against climate change.

The [Renewable Energy Directive](#) seeks to ensure that, by 2030, renewable energy such as solar power, wind, hydroelectric power and biomass will make up an initial target of at least 32% of the EU’s total energy consumption in terms of electricity generation, transport, heating and cooling. Each Member State is required to adopt its own national renewable energy action plan, including sectoral targets. In order to mainstream the use of renewable energy in the transport sector, Member States must set an obligation on fuel suppliers to ensure that the share of renewable energy within the final energy consumption of the transport sector is at least 14% by 2030.

The 2018 revision of the [Directive on Energy Efficiency](#) sets a 2030 energy efficiency target of 32.5% for the EU (calculated using the 2007 reference baseline scenario), with a clause for upward revision by 2023. In addition, the revised [Directive on the Energy Performance of Buildings](#), adopted in May 2018, included measures to accelerate the rate of building renovation and the move towards more energy-efficient systems, and intelligent energy management systems.

Moreover, for the first time, the [Governance Regulation](#) implements a transparent governance process to track progress towards the objectives of the EU Energy Union and Climate Action, including monitoring and reporting rules. Member States are obliged to adopt integrated national energy and climate energy plans for the 2021-2030 period. In September 2020, the Commission [took stock of the final plans](#) and confirmed their overall consistency with the Union’s 2030 targets with the exemption of energy efficiency, for which an ambition gap for 2030 remains. The governance process also provides an opportunity to update the plans every two years to reflect experience and to take advantage of new opportunities for the remainder of the decade.



[Carbon capture and storage](#) technology separates CO₂ from atmospheric emissions (resulting from industrial processes), compresses the CO₂ and transports it to a location where it can be stored. According to the Intergovernmental Panel on Climate Change, this process could remove 80-90% of CO₂ emissions from fossil fuel-burning power plants. However, the implementation of the envisaged demonstration projects in Europe has proven more difficult than initially foreseen, with high costs being one of the main barriers.

New passenger cars registered in the EU have to comply with [CO₂ emissions standards](#), which have set an EU fleet-wide target of 95g/km for cars, as of 2021. In order to create incentives for the industry to invest in new technologies, ‘super-credits’ can be used, whereby the cleanest cars in each manufacturer’s range count as more than one car when calculating the average specific CO₂ emissions.

[Fuel quality](#) is also an important element for GHG emission reductions. EU legislation aimed to reduce the GHG intensity of fuels by 6% by 2020: this was to be achieved by, among other measures, the use of biofuels, which also had to meet certain sustainability criteria.

CO₂ emissions from international maritime shipping are significant, and are expected to grow considerably. While pressing for a global approach, the EU has established an EU-wide system for the [monitoring, reporting and verification of CO₂ emissions from ships](#), as a first step towards cutting them. Large ships have to monitor and annually report their verified CO₂ emissions released on their way to and from EU ports and within those ports, along with other relevant information.

Following bans on chlorofluorocarbons in the 1980s to stop the depletion of the ozone layer, fluorinated gases (F-gases) are today used as substitutes in a range of industrial applications such as air conditioning and refrigeration, since they do not harm the ozone layer. However, they may have a global warming potential of up to 25 000 times higher than that of CO₂. The EU has therefore taken measures to control the use of [F-gases](#) and ban their use in new air conditioning appliances and refrigerators by 2022-2025, thereby setting the pace for a global phase-out.

B. The European Green Deal

On 11 December 2019, the Commission presented the [European Green Deal](#), an ambitious package of intended measures designed to enable the EU to become carbon neutral by 2050. The measures, which are accompanied by a [roadmap of key actions](#), range from ambitious cuts to emissions, to investing in cutting-edge research and innovation, and preserving Europe’s natural environment. Supported by investments in green technologies, sustainable solutions and new businesses, the Green Deal also aims to act as a new EU growth strategy to transform the EU into a sustainable and competitive economy. The involvement and commitment of the public and of all stakeholders is crucial to its success. Among the key actions proposed under the European Green Deal is the [European Climate Law](#) to ensure a climate-neutral EU by 2050. In particular, it makes provision for increasing [the 2030 target](#) to cut GHG emissions to at least 55% from 1990 levels. Moreover, other Commission proposals include communications on [the Sustainable Europe Investment Plan](#) and [the European](#)



[Climate Pact](#); proposals for regulations establishing the [Just Transition Fund](#) and revising the [guidelines for trans-European energy infrastructure](#); and EU strategies for [energy system integration](#) and for [hydrogen](#); and a new [EU strategy on adaptation to climate change](#).

On 14 July 2021, the Commission put forward [a package of legislative proposals with the aim of making the EU 'Fit for 55'](#) and delivering the transformational change that is needed across the economy, society and industry on the way to achieving climate neutrality by 2050. These proposals include the extension of the ETS to maritime, road transport and buildings, and cleaner fuels for the aviation and maritime sectors, including new infrastructure for alternative fuels. On 17 December 2022, Parliament and the Council reached an agreement on more ambitious measures to reform the ETS: an emission reduction target of 62% by 2030 compared to 2005 levels. To support Member States in their efforts to cut emissions from buildings, road transport and certain industrial sectors, a new separate emissions trading system (ETS II) will be launched in 2027. The above-mentioned package also introduces the new [Carbon Border Adjustment Mechanism](#) to counter carbon leakage, the new [Social Climate Fund](#) and enhanced modernisation and innovation funds.

The [Effort Sharing Regulation](#) (approved in March 2023 as part of the 'Fit for 55' package) increases the EU's climate ambition. In particular, all sectors covered by the regulation are required to achieve a collective reduction of 40% in their emissions by 2030 compared to 2005 levels. The updated Renewable Energy Directive proposes increasing the overall binding target of renewables in the EU's energy mix to 42.5%.

The [revision of the Energy Efficiency Directive](#), concluded after the interinstitutional negotiations in July 2023, sets an ambitious legally binding EU energy efficiency target of an 11.7% reduction in final energy consumption by 2030 compared to 2020.

Moreover, on 5 April 2022, the Commission presented a strengthened [F-gases proposal](#) that aims to save the equivalent of 40 million tonnes of CO₂ emissions by 2030. On 14 October 2020, the Commission also presented an [EU strategy to reduce methane emissions](#). Methane is the second biggest contributor to climate change after CO₂. Tackling methane emissions is therefore essential in reaching our 2030 climate targets and the 2050 climate neutrality goal. The Commission presented a further [proposal](#) on 15 December 2021 to reduce methane emissions in the energy sector in Europe and in the global supply chain.

The revision of the [Energy Performance of Buildings Directive](#), adopted on 15 December 2021, upgrades the existing regulatory framework, while providing Member States with the flexibility needed to take into account the differences in the building stock across Europe. The directive is currently being recast. On 14 March 2023, Parliament's plenary approved its stance on the directive, establishing a more ambitious position ahead of negotiations with Member States. The revised directive sets out how Europe can achieve a zero-emission and fully decarbonised building stock by 2050. In February 2023, Parliament and the Council agreed on a further EU fleet-wide emission reduction target for new cars (55%) and new vans (50%) by 2030. They also introduced a 30% CO₂ emission reduction target for new lorries, with an intermediate target of 15% by 2025. The revision of the Regulation on the land use,



land use change and forestry sector was adopted by Parliament on 14 March 2023, determining a new 2030 target to increase EU carbon sinks by 15%.

On 23 March 2023, Parliament and the Council reached an informal agreement on the sustainable maritime fuels law, aiming to reduce ship emissions by 2% as of 2025 and by 80% as of 2050. Furthermore, at least 2% of the EU's shipping fuels will need to come from e-fuels made with green electricity by 2034. The next step in the legislative procedure will be a formal agreement on the file, which is part of the 'Fit for 55' package.

ROLE OF THE EUROPEAN PARLIAMENT

On climate change issues, Parliament has traditionally participated in interinstitutional negotiations with the European Council having positions which add ambition to EU actions.

Prior to the COP 21 in 2015, Parliament reiterated the urgent need to 'effectively regulate and cap emissions from international aviation and shipping'. It expressed its disappointment at the fact that the ICAO had not agreed on emission reductions. The introduction of the Carbon Reduction and Offsetting Scheme for International Aviation mainly focuses instead on offsets, with no guarantee of quality and only having legally binding status from 2027 onward. Major ICAO members are not yet committed to participating in the voluntary phase.

Parliament favours broad-based carbon pricing and advocates the allocation of emissions trading revenues to climate-related investments. It asked for concrete steps, including a timetable, for the [phase-out of all fossil fuel subsidies](#).

In an earlier update on CO₂ emissions from passenger cars and vans, Parliament insisted on introducing the new UN-defined global test cycle as soon as possible, with a view to reflecting real-world driving conditions when measuring CO₂ emissions.

In view of the 24th Conference of the Parties in Katowice, for the first time, Parliament called, in its [resolution of 25 October 2018](#), for an increase of the EU's 2030 GHG emission reduction target of 55%. Moreover, Parliament considered that the profound and most likely irreversible impacts of a 2 °C rise in global temperatures might be avoided if the more ambitious Paris target of 1.5 °C is pursued, which would require that rising global GHG emissions fall to net-zero by 2050 at the latest. This is why it also called on the Commission to propose a long-term mid-century net-zero GHG emission strategy for the EU.

In July 2018, Parliament adopted a [resolution on EU climate diplomacy](#), in which it emphasised the EU's responsibility to lead on climate action as well as conflict prevention. It stressed that EU diplomatic capacities should be strengthened in order to promote climate action globally, support the implementation of the Paris Agreement and prevent climate change-related conflict.

On 28 November 2019, Parliament [declared a climate emergency](#) in Europe and urged all Member States to commit to net-zero GHG emissions by 2050. Parliament also wanted the Commission to ensure that all relevant legislative and budgetary proposals were fully aligned with the objective of limiting global warming to under 1.5 °C.



On 8 October 2020, Parliament adopted its negotiating mandate on the EU Climate Law, requesting that the 2030 emission reduction target be increased to 60%. Although the interinstitutional agreement reached on 21 April 2021 between Parliament and the Council confirmed the 55% target proposed by the Commission, Parliament succeeded in boosting the role and contribution of carbon removal, which has the potential to translate that target into 57%. Moreover, in line with Parliament's mandate, the Commission will make a proposal for a 2040 target at the latest six months after the first global stocktake of the Paris Agreement, taking into account the EU's projected indicative GHG budget. Finally, given the importance of independent scientific advice, the [European Scientific Advisory Board on Climate Change](#) has been set up to assess whether the policy is consistent and to monitor progress, as suggested by Parliament.

In a report entitled 'Scientific advice for the determination of an EU-wide 2040 climate target and a greenhouse gas budget for 2030–2050' published in January 2023, the European Scientific Advisory Board on Climate Change provides the EU institutions with a science-based estimate of a 2040 climate target and an EU greenhouse gas emissions budget for the period 2030-2050. According to this report, the EU must strive for net emissions reductions of 90-95% by 2040, relative to 1990 levels.

On 15 September 2022, Parliament adopted a [resolution](#) on the consequences of drought, fire and other extreme weather phenomena, aimed at further strengthening the EU's efforts to fight climate change.

For further information on this topic, please visit the website of the [Committee on the Environment, Public Health and Food Safety](#).

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09/2023

