COMBATING CLIMATE CHANGE

At the UN climate conference in Paris in December 2015, Parties worldwide agreed to limit global warming to well below 2°C above pre-industrial levels. The EU is committed to reducing greenhouse gas emissions by at least 40% below 1990 levels by 2030, while improving energy efficiency by 27% and increasing the share of renewable energy sources to 27% of final consumption. A key mechanism in fighting climate change is the EU Emissions Trading System.

LEGAL BASIS AND OBJECTIVES

Article 191 of the Treaty on the Functioning of the European Union (TFEU) makes combating climate change an explicit objective of EU environmental policy.

GENERAL BACKGROUND

A. Global warming

Without additional emission reduction policies, the average global temperature is projected to increase by between 1.1°C and 6.4°C over the course of this century. Human activities such as the burning of fossil fuels, deforestation and farming lead to the emission of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and fluorocarbons. These greenhouse gases (GHGs) trap heat that is radiated from the earth's surface and prevent it from escaping into space, thereby causing global warming.

B. Impacts of climate change

Global warming has led and will lead to more extreme weather events (such as floods, droughts, heavy rain and heatwaves), forest fires, water scarcity, disappearance of glaciers and rising sea levels, shifts in the distribution of or even extinction of fauna and flora, plant diseases and pests, food and fresh water shortages, and 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 rise above pre-industrial levels.

C. Cost of action versus cost of inaction

Back 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 to invest in a low-carbon economy, and fighting climate change would in return induce health benefits and greater energy security and reduce other damage.

D. Adaptation to climate change

Adaptation to climate change ranges from soft and inexpensive measures (water conservation, crop rotation, drought-tolerant crops, public planning and awareness-raising) to costly protection and relocation measures (increasing the height of dykes; relocating ports, industry and people away from low-lying coastal areas and flood plains). The EU Strategy on adaptation to climate change is aimed at making Europe more climate-resilient. It promotes greater coordination and information sharing between Member States and fosters the mainstreaming of adaptation into all relevant EU policies.

ACHIEVEMENTS

A. International climate policy

In December 2015, after more than two decades of negotiations, governments adopted the first universal agreement to combat climate change, at the 21st Conference of the Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) in Paris. The Paris Agreement strives to keep the increase in global average temperature to 'well below' 2°C, while trying to maintain it at 1.5°C above pre-industrial levels. To accomplish this goal, Parties aim to reach global peaking of GHG emissions as soon as possible, and to achieve net zero emissions in the second half of this century. Financial flows are to follow these goals. For the first time, all Parties have to make ambitious efforts to reduce GHG emissions, following the principle of 'common but differentiated responsibilities and respective capabilities', i.e. according to their individual situations and possibilities. Every five years all countries have to renew and upgrade their climate action plans ('nationally determined contributions') and communicate them in a transparent way so that the collective progress can be assessed ('global stocktake'). In particular, the most vulnerable, the Least Developed Countries and Small Island Developing States, will be supported both financially and via capacity-building. Adaptation — mentioned on an equal footing with mitigation — is recognised as a global challenge; so is the importance of addressing 'loss and damage' associated with the adverse effects of climate change. The agreement entered into force in November 2016 after it had been ratified by the minimum number of 55 governments representing at least 55% of total global GHG emissions.

B. Efforts within the EU to combat climate change

By means of its 2030 climate and energy framework, which also represents its commitment under the Paris Agreement, the EU has committed itself to the following goals, to be reached by 2030: reducing greenhouse gas emissions by at least 40% below 1990 levels, improving energy efficiency by 27%, and increasing the share of renewable energy sources to 27% of final consumption. The 2030 framework comes as a follow-up to the '20-20-20 targets' decided 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 (all compared with 1990), all translated into binding legislative measures. The EU roadmap

for moving to a low-carbon economy by 2050 formulates a long-term GHG reduction target of 80%, while its most recent long-term strategy advocates a climate-neutral economy by 2050.

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. It 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 CO_2 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 — will help to upgrade energy systems in lower-income Member States and foster innovation by funding renewable energy, carbon capture and storage (CCS) and low carbon projects. The current exemption for intercontinental flights has been extended until the end of 2023, when the first phase of the International Civil Aviation Organisation's (ICAO) Carbon Reduction and Offsetting Scheme for International Aviation (CORSIA) 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. In a recent update, 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 and to contribute to the achievement of the objectives of the Paris Agreement. Furthermore, for the first time, each Member State will have to ensure that emissions from land use, land use change and forestry (LULUCF) do not exceed its removals. In other words, forests, croplands and grasslands will be managed sustainably, in order to absorb as many GHG emissions as possible, and at least as many as those emitted in the same sector ('no-debit-rule'), and thus make an important contribution to the fight against climate change.

The Renewable Energy Directive seeks to ensure that by 2020 renewable energy such as biomass, wind, hydroelectric power and solar power will make up at least 20% of the EU's total energy consumption in terms of electricity generation, transport, heating and cooling. A new target (32.5%) will apply for 2030. Each Member State adopts its own national renewable energy action plan, including sectorial targets. As part of the overall target, Member States are committed to providing at least 10% (14% in 2030) of their transport fuels from renewable energy sources. Parliament and the Council have also agreed on an EU energy efficiency target of 32% for 2030.

Carbon capture and storage (CCS) technology separates CO_2 from atmospheric emissions (resulting from industrial processes), compresses the CO_2, and transports it to a location where it can be stored. According to the IPCC, CCS could remove 80-90% of CO_2 emissions from fossil fuel-burning power plants. The EU has set up a regulatory framework to commercialise and subsidise this new technology. However, the implementation of the envisaged demonstration projects in Europe has proven more difficult than initially foreseen, high costs being one of the main barriers.

New passenger cars registered in the EU have to comply with CO2 emissions standards. The target to be reached by the average car fleet is 130g of CO_2/km for 2015 and will be reduced to 95g/km as from 2021. In order to create incentives for industry to invest in new technologies, so-called '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 CO_2 emissions. A similar regulation is in place for vans. Parliament and the Council have agreed on a further reduction of EU fleet-wide CO_2 emissions for new cars (37.5%) and new vans (31%) by 2030. In parallel and for the first time, a 30% CO_2 reduction target has been set for new lorries, with an intermediate target of 15% by 2025.

Information relating to the fuel economy of new passenger cars offered for sale or rental in the EU is already made available to consumers so that they can make an informed choice when buying a new car. Fuel quality is also an important element for GHG emission reductions. EU legislation aims to reduce the GHG intensity of fuels by 6% by 2020: this is to be achieved by, among other measures, the use of biofuels, which must, however, meet certain sustainability criteria.

CO_2 emissions from international maritime shipping are significant, and are expected to grow considerably. While pressing for a global approach, the EU has established a Union-wide system for the monitoring, reporting and verification (MRV) of CO2 emissions from ships, as a first step towards cutting them. Large ships have to monitor and annually report their verified CO_2 emissions released on their way to and from EU ports and within those ports, along with other relevant information.

Following bans on chlorofluorocarbons (CFCs) in the 1980s to stop the depletion of the ozone layer, fluorinated 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 23 000 times that of CO_2. The EU has therefore taken measures to control the use of fluorinated gases and ban their use in new air conditioning appliances and refrigerators by 2022-2025, thereby setting the pace for a global phase-out.

ROLE OF THE EUROPEAN PARLIAMENT

In response to the Commission's proposal for a policy framework for 2030 on climate and energy, Parliament gave a strong signal, calling for three binding targets (more ambitious than those finally agreed): a reduction of at least 40% in domestic GHG emissions from 1990 levels; a 30% share for renewable energy sources in final energy consumption; and a 40% increase in energy efficiency.

Prior to the Paris climate conference 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 with the introduction of CORSIA, instead focusing mainly on offsets with no guarantee of quality and only having legally binding status from 2027 onward, with major ICAO members 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 by 2020.

During negotiations with the Council on fluorinated gases (F-gases), Parliament advocated a complete phase-out of climate-damaging F-gases in several new sectors where safe, energy-efficient and cost-effective alternatives are available.

In an earlier update on CO_2 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 CO_2 emissions.

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