Update to the long-term strategy for climate action of the Federal Republic of Germany

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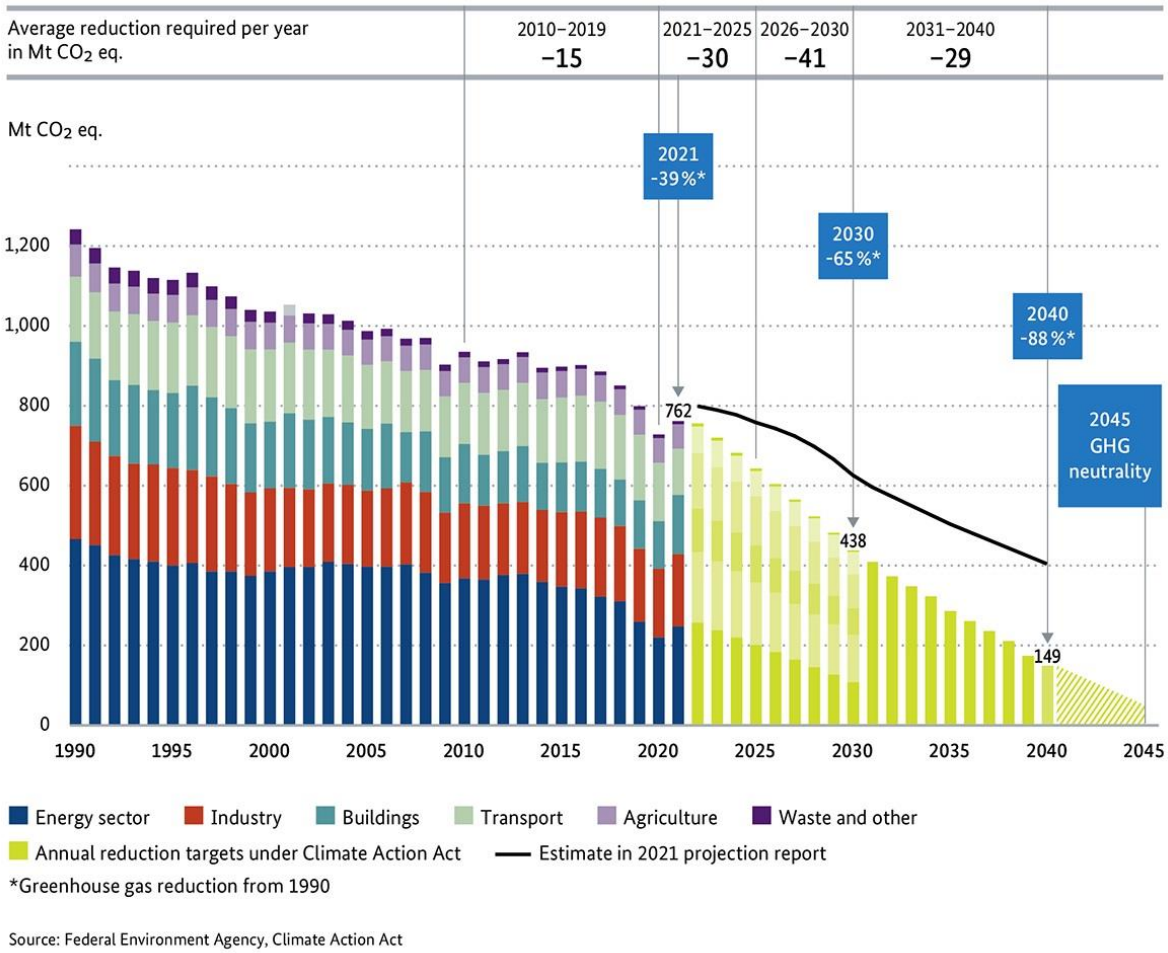
Introduction

In November 2016, the Federal Government adopted the 2050 Climate Action Plan, Germany's first long-term strategy for climate action. Since then, both climate policy objectives and the governance structures for German climate policy have evolved. In particular, 2019 saw the adoption of the Climate Action Act, which includes mandatory reduction targets, monitoring schemes and a mechanism for fine-tuning.

This paper provides an overview of the current climate targets, the governance system for compliance with the climate targets, complementary objectives for the transformation process, and selected policies and measures aimed at reducing greenhouse gas emissions and strengthening natural carbon sinks.

An update of the 2016 Climate Action Plan is to follow promptly. The long-term strategy for climate action is conceived as a learning process. In incorporating new insights and developments deriving from science, it follows the fundamental philosophy of regular reviewing, continuous learning, and steady improvement in accordance with the Paris Agreement.

Greenhouse gas emission trends



Source: Federal Environment Agency, Climate Action Act

According to current data, around 762 million tonnes of greenhouse gases (GHGs) were released in Germany in 2021, meaning a 38.7% fall since 1990.

Compared to the previous year, 2020, when emissions values were low primarily due to the COVID-19 pandemic, GHG emissions increased by 4.5%. The Federal Republic of Germany thus achieved its objective of reducing greenhouse gas emissions by at least 40% by 2020. The following year, however, the reduction in emissions once again dropped below the 40% mark.

Looking at emissions trends in individual sectors, a 77% reduction, or 29 million tonnes of CO_2-eq, was achieved in the waste sector between 1990 and 2021 with . In the building sector, emissions decreased by 44% or 97 million tonnes of CO_2-eq. At 102 tonnes of CO_2-eq, the reduction in industry was 36.1%. In the energy sector, it was 32.9% or 219 million tonnes of CO_2-eq, in agriculture 24.6% or 13 million tonnes of CO_2-eq, and in transportation 9.1% or 18 million tonnes of CO_2-eq since 1990. In recent years, the decline in emissions has sped up considerably, especially in the energy sector.

Reduction targets

With respect to the targets set out in the Paris Agreement, Germany is contributing to the EU's nationally determined contribution (NDC). In December 2019, the EU raised this from a 40% to a 55% reduction by 2030, and furthermore set 2050 as the target year for a greenhouse gas neutral EU.

In addition to the EU targets, Germany has set its own national reduction targets. Germany has committed to becoming greenhouse gas neutral by 2045. After 2050, the greenhouse gas balance is to be negative.

Germany has defined the reduction path towards greenhouse gas neutrality in the Federal Climate Change Act. The act stipulates that greenhouse gas emissions are to be reduced

- by at least 65% by 2030,
- by at least 88% by 2040,

relative to the emission levels of 1990.

Permitted annual emission volumes for different sectors were stipulated in the Federal Climate Change Act for the years 2020 to 2030:

Annual emission volume in millions of tonnes of CO_2-equivalent	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Energy sector	280		257								108
Industry	186	182	177	172	165	157	149	140	132	125	118
Buildings	118	113	108	102	97	92	87	82	77	72	67
Transport	150	145	139	134	128	123	117	112	105	96	85
Agriculture	70	68	67	66	65	63	62	61	59	57	56
Waste management and others	9	9	8	8	7	7	6	6	5	5	4

Section 4 of the Federal Climate Change Act regulates that sector-specific annual emission volumes during the period 2031 to 2040 are to be stipulated in 2024. As yet, there are annual reduction targets for the total volume of greenhouse gas emissions for this period, but no sector-specific targets. The Federal Government is to present a legislative proposal for the annual reduction objectives for the period from 2041 to 2045 at the latest in 2032.

Long-term targets for the emission balance were specified in section 3b of the Federal Climate Change Act for the land use, land-use change and forestry sector (LULUCF). By 2030, the sector's emissions balance is to be improved to at least minus 25 million tonnes of CO_2. By 2040, this net carbon sink capacity is to be improved to at least minus 35 million tonnes and at least minus 40 million tonnes by 2040. Because the sector's carbon storage capacity can vary considerably from year to year due to external influences and natural fluctuations, the average value for the target year and the preceding three calendar year will be drawn on when meeting the target.

Transformation paths – milestones

In addition to the binding GHG reduction targets in the Federal Climate Change Act which are described above, the Federal Government has also set itself the following milestones for the transition to greenhouse gas neutrality.

Electricity

The targets for the expansion of renewable energy were significantly increased. By 2030, at least 80% of Germany's gross electricity consumption is to be covered by renewable sources. Germany is striving to ideally end coal-fired power generation by 2030. According to the 1.5C path set out by the International Energy Agency, the industrialised countries need to attain the goal of climate neutrality in the electricity sector by 2035. Upon completing its phase-out of coal-fired power, Germany will aim for a power supply that is greenhouse gas neutral. Here, the use of fossil gas to generate power will be gradually cut back and partly replaced by green hydrogen.

Heat

By 2030, 50% of the heat supply is to be produced on a climate-neutral basis. This requires much greater use of decentralised climate-friendly heating systems, energy-efficient refurbishment of buildings to reduce energy consumption, nationwide municipal heat planning, and the decarbonisation and expansion of heat networks.

Industry

A fundamental transformation of industrial production processes is necessary for Germany to become a climate-neutral centre of industry. This transformation must build on decarbonisation, electrification, energy and resource efficiency, the circular economy, and the use of hydrogen, increasingly produced in a climate-neutral manner from renewable energy. The direct capture and permanent storage of CO_2, or the circular use of it / long-term binding into products (CCS/CCU; Carbon Capture and Storage / Utilisation) is also an important element in the transformation of the industrial sector. Steel, chemicals and cement are the industries with the highest GHG emissions within the industrial sector. At the same time, they produce essential basic materials for German industry. Technical negative emissions will be

necessary to offset unavoidable residual emissions and ensure the attainment of the climate targets after 2045. Investment in innovative, climate-friendly, forward-looking technologies is an important prerequisite for making Germany climate-neutral by 2045.

Buildings

New-builds and the refurbishment of existing buildings will be oriented towards achieving the goal of climate neutrality by 2045, and thus to the decarbonisation of space heating and a significantly reduced energy requirement.

Transport

The target of at least 15 million electric cars in 2030, as set out in the coalition agreement, can raise the proportion of kilometres travelled by electric vehicles to such an extent that much of the shortfall in Germany's efforts to meet its climate target can be overcome. With regard to heavy freight transport on the roads, the aim is for roughly one-third of the kilometres travelled to take place on the basis of electrical drives or eFuels by 2030. The coalition agreement sets a target of having one million public charging points with non-discriminatory access installed in Germany by 2030, with a focus on developing the fast-charging infrastructure. This requires an acceleration of infrastructure expansion, with around 100,000 new public charging points being installed each year as early as 2025.

Agriculture

The Federal Government has set itself the target of expanding the proportion of agricultural land used for organic farming to 30% by 2030. Important ways to restructure agriculture in a climate-friendly manner include more efficient fertilisation using nitrogen, and climate-friendly animal husbandry including reduced livestock holdings. The German Sustainability Strategy of 2021 sets out an agreement to limit the nitrogen surplus to 70 kg/hectare of agricultural land in the five-year average from 2028-2032. Also, energy efficiency in agriculture is to be improved, e.g. via the federal programme to enhance energy efficiency and reduce carbon emissions in agriculture and horticulture.

LULUCF

Forests and peatlands are to be strengthened and expanded as natural carbon sinks. This will require, among other things, climate-adapted, near-natural forests, and the protection and rewetting of drained peatlands, most of which are used for agriculture at present, including the reduced use of peat. Permanent grassland is to be preserved as a further natural carbon sink. Carbonisation of arable land is also to be promoted via the preservation and increase of humus. Further to this, it is necessary to strengthen green infrastructure in settlement areas.

Sustainable nutrition

The Federal Government has set itself the target of adopting a nutrition strategy in 2023, with the aim of strengthening sustainable nutrition. The minimum 20% target set out in the programme to strengthen sustainability in canteen food for the proportion of organic food in canteens of the federal administration is to be achieved by 2025 at the latest. Also, food waste is to be avoided as far as possible, e.g. via the rigorous implementation of the national strategy to reduce food waste.

Negative emissions

Negative emissions/CDR (carbon dioxide removal) are necessary for the climate targets to be attained, but can only be a complement to and not a substitute for emission reductions. The

Federal Government is therefore currently funding research into marine and terrestrial CO_2 sequestration methods in order to cover the most pressing need for research. The findings from the research programmes are to feed into a national long-term strategy on negative emissions. Negative greenhouse gas emissions are to be achieved for the period after 2050.

Climate-neutral federal administration

The public sector, including the federal administration, must serve as a role model in line with the Climate Change Act. It is to be organised on a climate-neutral basis (including compensation) by 2030 at the latest, and to achieve material climate neutrality by 2045.

Policies and measures

Climate action programmes

The Federal Government's climate action programmes (in line with section 9 of the Federal Climate Change Act) stipulate the measures taken by the Government to attain the national climate targets in the individual sectors.

The Federal Government adopted the comprehensive **Climate Action Programme 2030** on 9 October 2019. Key elements of the Climate Action Programme 2030 included:

- Introduction of a carbon pricing system in the non-ETS sectors
- Relief for individuals
- Measures in the sectors (in particular, funding and incentive programmes) for more climate action

The measures of the Climate Action Programme 2030 aimed to attain the national reduction target in force at the time, of 55% by 2030; in 2021, the revised Federal Climate Change Act of 2021 raised this target to 65%.

At present, the Federal Government is working on the adoption of further reduction measures in the **2022 Immediate Climate Action Programme**. The aim is to comply with the more ambitious reduction paths set out in the revised Federal Climate Change Act. Initial measures to accelerate the expansion of renewable energy, to accelerate the expansion of the power grid, and to make further improvements to the electricity sector were adopted by the Bundestag and Bundesrat in July 2022. All the necessary acts, ordinances and measures deriving from the Immediate Climate Action Programme are to be adopted before the end of this year.

Selected policies and measures

In view of the very different challenges faced by the various sectors, the Federal Government is opting for a broad range of instruments drawing on regulation, carbon pricing, funding programmes, fiscal incentives and a variety of support measures for the stakeholders involved. The following section presents a few selected measures which have already entered into force and which make a significant contribution towards meeting the climate targets.

Fuel Emissions Trading Act

The national Emissions Trading System (nETS) for heating and transport covers the emissions from the combustion of fossil heating and motor fuels (in particular heating oil, liquefied gas, natural gas, coal, gasoline, diesel, fuel from waste products). Unlike EU

emissions trading, the national ETS does not in principle target the direct emitters, i.e. the consumers generating the emissions, but rather the upstream trading levels at the companies marketing the heating and motor fuels ("upstream ETS").

A carbon price increases the cost of using fossil heating and motor fuels, thus creating an incentive to reduce emissions that damage the climate. All the revenues are returned to the public and the companies, e.g. via the reduction of the EEG surcharge or the funding of the switch to climate-friendly heating and transport alternatives. The carbon price is a central element of climate policy, as it permits cost-efficient emissions reductions and helps to avoid rebound effects. Its impact is backed and improved by regulatory requirements and/or funding measures which also encourage the switch to more climate-friendly technologies.

Carbon pricing in the form of the national fuel emission trading system was launched on 1 January 2021. In accordance with the Fuel Emission Allowance Trading Act, the national carbon price for heating and transport rises steadily and predictably. The launch in 2021 saw a moderate price of €25 per tonne of CO_2, corresponding to less than 10 cents per litre of fuel or heating oil. This levy on climate-damaging emissions rises incrementally until 2025. The emission allowances are sold at a fixed price; from 2026, they are auctioned. A price corridor has been set for 2026 with a minimum price of €55 per emission allowance, and a maximum price of €65. The Federal Government has agreed in the coalition agreement that, in order to offset a future rise in the carbon price and to promote the acceptance of the market system, a social compensation mechanism will be developed which goes beyond the abolition of the EEG surcharge (climate benefit). The Federal Government is working on the implementation.

Immediate energy action package

On 24 June and 7 July 2022, the Bundestag adopted the largest revision of energy policy for decades, the new legislation including the revisions of the Renewable Energy Sources Act, the Offshore Wind Energy Act, the Energy Industry Act and other energy-related acts, as well as introducing the Wind Energy Area Requirements Act. This expedites the expansion of renewable energy across the board: on water, on land and on roofs. It anchors in law the principle that the use of renewable energy is in the overriding public interest and serves public security. This can simplify and accelerate planning and approval processes. The expansion of renewable energy on land and at sea will be raised to an entirely new level. By 2030, at least 80% of Germany's gross electricity consumption is to be covered by renewable sources. Comprehensive measures are being taken to drive forward the expansion of renewables. For example, the expansion paths and volumes up for auction in the fields of photovoltaics, onshore wind and offshore wind are being massively increased in order to bring them into line with the new targets. In order to ensure that this will actually take place, a statutory target has been introduced stating that at least 2% of the federal territory must be made available for onshore wind energy by 2032. The expansion paths are also underpinned by numerous individual measures. For example, new sites are also being provided for the expansion of photovoltaics, the participation of the municipalities in onshore wind and photovoltaics extended, more use made of the potential of less windy sites, and the policy environment for citizens' energy projects and for the expansion of roof-top PV installations improved. The volumes of offshore wind energy up for auction are being raised significantly, and sites that have not been subject to a centralised pre-examination will also be auctioned. Further to this, the grid expansion needed for the transformation of the electricity system is being significantly accelerated, with the target of climate neutrality being anchored in law.

Buildings Energy Act and federal funding for efficient buildings

The Buildings Energy Act is to be incrementally revised. Standards to be met by new buildings are to be tightened in two stages. Requirements to be met when retrofitting takes place are to be made more stringent. New heating systems are to draw 65% of their energy from renewable sources from 2024. From 2026, it will no longer be permissible to install purely oil-fired heating systems.

The reform of July 2022 has focused the federal funding for efficient buildings (BEG) scheme more clearly on retrofitting. Available public money will be used where the impact on climate action, and thus funding efficiency, is the greatest. Since April 2022, new buildings have only been eligible for funding if they meet more stringent conditions that embrace the entire life cycle of the building. This significantly reduces the emissions related not only to the operation of the building, but also to the manufacture, replacement and dismantling of the building. New buildings need to meet the requirements of an Efficiency House/Building 40 Sustainability and bear the Sustainable Building quality mark.

Promotion of electric mobility

The Federal Government has a package of measures to advance the change in drive technologies of motor vehicles. Electric vehicles first registered by the end of 2025 will be exempted from the motor vehicle tax, and this exemption can apply up to the end of 2030 at the latest. A reduced tax rate also applies to the private use of battery-electric and plug-in hybrid company cars until 2030.

In line with the Electric Mobility Funding Guidelines, a call for proposals was published in February 2021 for the procurement of electric cars, vans, special vehicles and the operationally required charging infrastructure for municipal and commercial fleet operators. A further call for proposals for cars and vans, oriented to municipalities, followed in June 2022. March 2021 and April 2022 saw the publication of two calls for proposals for the development of electric mobility concepts.

The expansion of the charging infrastructure is also being advanced in a targeted manner. The Charging Infrastructure Master Plan is currently being revised. The activities to expand the charging infrastructure are being coordinated in a National Charging Infrastructure Coordination Office, which was set up in December 2019. The expansion of the charging infrastructure is also being boosted by various funding programmes.

Commercial vehicles with climate-friendly drives are to become competitive with conventional vehicles as quickly as possible. The guidelines on the funding of commercial vehicles with alternative, climate-friendly drives and related fuelling and charging infrastructure (KsNI) make a significant contribution towards reducing additional spending on the procurement of vehicles and infrastructure.

National decarbonisation programme for industry

The funding guidelines on decarbonisation in industry entered into force on 1 January 2021. The funding programme is being implemented by the Competence Centre on Climate Change Mitigation in Energy-intensive Industries. Three projects in the field of climate-friendly glass production have already been approved. Applications for funding have been made for several industrial projects. Further funding applications and project outlines are in preparation or being drafted by companies.

In the context of the programme to decarbonise industry, carbon contracts for difference (CCfDs) are being drawn up. The CCfDs are to offset the higher operating costs of low- and zero-GHG processes. Also, the Chemistry 4 Climate platform is being set up as part of the programme.

Investment programme – energy efficiency and process heat from renewable energy in the business sector

The investment programme pools five previous funding programmes (highly efficient cross-cutting technologies, climate-friendly production processes, avoiding and utilising waste heat, energy management systems and renewable process heat) and develops them further. The programme is being extended to cover resource efficiency, and is also supplemented by the promotion of transformation concepts. Further to this, a higher rate of funding will apply to measures for the use of waste heat outside the company, and the funding cap for SMEs has also been raised.

Reduction in nitrogen surpluses including cuts in ammonia emissions, targeted reduction of nitrous oxide emissions, and improvements in nitrogen efficiency

The Federal Government has already launched many changes in the law on fertilisers. This results in a further reduction in nitrogen surpluses, including a reduction in ammonia and nitrous oxide emissions. The Fertiliser Package is also backed by funding for low-emission slurry stores and emission-cutting application systems.

Strengthening the fermentation of farmyard manure and agricultural residues

The second key measure refers to the use for energy purposes of farmyard manure of animal origin and agricultural residues in biogas plants. Existing and new instruments are to promote the increased use of farmyard manure in biogas plants and the gas-tight storage of fermentation residues. A new funding system for new facilities is integrated into the funding guidelines which entered into force in 2022, and funding is also going towards the retrofitting of existing facilities.

Protection of peatlands including the reduction of the use of peat in growing media

The Federal Government published a call for proposals to protect peatland on 1 October 2021. The wet peatland management approach (with paludiculture) is to be demonstrated comprehensively in a practice-oriented manner. To this end, approximately five model and demonstration projects are to be funded with €100 million over ten years, so that the path towards the deployment of paludiculture on practice areas and the use of the biomass can be implemented on a trial basis and assessed.

The measures to reduce the use of peat in growing media, set out in the Federal Agriculture Ministry's Peat Reduction Strategy and the adaptation of the existing legal and funding framework, GAP (GLÖZ2), along with the creation of new funding instruments, are being realised.

The Federal Environment Ministry published its National Peatland Protection Strategy in September 2021. The Federation-Länder target agreement on climate change mitigation via the protection of peatlands was signed in October 2021 by the Environment and Agriculture Ministries, and by the relevant Länder ministries. Since January 2022, the Federal Government has been spending a total of around €50 million over ten years to fund four collaborative projects to advance ambitious peatland protection. The pilot projects serve the development of innovative approaches to managing and using peatland. They address not only

climate aspects, but also questions of biodiversity, landscape water management and the socio-economic aspects of sustainable peatland use.

Research, development and innovation for climate change mitigation

If the reduction targets and transformation paths are to be achieved, a boost to innovation, driven by research, innovation and transfers, will be needed. Research, development and innovation is therefore a core element of German climate policy. A technology-neutral, systemic and impact-oriented research and innovation package therefore forms part of the 2030 Climate Action Programme, and will be an element of future programmes. In this way, specific gaps in technology will be closed and the implementation of innovations accelerated.

Measures for a socially just transformation

Our climate action policy will only be successful if – in addition to an effective reduction in greenhouse gas emissions – we also address economic prosperity and social justice as key policy principles. Burdens must be distributed in a way that means those who cause the problems pay for them, and it is necessary to avoid overburdening low-income households. For this reason, the Federal Government will prioritise climate action that contributes equally to climate change mitigation and to social justice. Where alternative and equally efficient climate action options are available, preference will be given to those which also contribute to social justice and a high level of employment. Where such measures are not available, the Federal Government will provide downstream social re-balancing. Accordingly, the Federal Government has agreed in the coalition agreement that, in order to offset a future rise in the carbon price and to promote the acceptance of the market system, a social compensation mechanism will be developed which goes beyond the abolition of the EEG surcharge (climate benefit).
Also, in parallel to the launch of carbon pricing, households and businesses will be given relief via the electricity price. The burdens from the EEG surcharge were gradually reduced in 2021 and 2022; since 1 July 2022, the EEG surcharge has been fully abolished.

In order to avoid social hardships in the face of rising heating costs, those on housing benefit will be supported via an increase in housing benefit. The Act to Relieve the Burden of Heating Costs in the Housing Allowance in the Context of Carbon Pricing entered into force on 1 January 2021. Also, there will be a major reform of housing benefit in 2023 which will include a climate component. In order to restrict the possibility for landlords to pass on the carbon price to tenants, the Federal Government adopted the draft of an act to share the carbon price on 25 May 2022: from 1 January 2023, it will only be possible to pass on some of the carbon costs that accrue on top of the heating costs. A staggered model is to be introduced, distributing the CO_2 costs in line with the energy characteristics of the respective residential building. This provides a double incentive: for tenants to be energy efficient, and for landlords to invest in climate-smart heating systems and energy upgrades.

The Federal Ministry for Economic Affairs and Climate Action is planning to set up a Climate Action Social Monitoring system, with the Federal Ministry of Labour and Social Affairs closely involved, to improve the evaluation of social and redistributive aspects of climate policy. The social monitoring is to assist an analysis of the social redistributive effects of climate measures already at the stage of their development, and to design the measures to be as socially just as possible. Also, the Climate Action Social Monitoring is to continually evaluate the public acceptance of climate policies and instruments. Building on this, there may be a need for further measures to shape a socially just transformation, in order to achieve

the described aspiration of the social orientation of climate action which is designed to be socially just and which enjoys broad public acceptance and active support.

Climate action governance

The main provisions on governance in German climate policy are set out in the Federal Climate Change Act.

Monitoring and fine-tuning where targets are missed

Compliance with the annual emissions volumes for the sectors is reviewed annually. The Federal Environment Agency publishes the emissions data estimate for the preceding year on 15 March, using the National Greenhouse Gas Inventory. If it is found that a sector has exceeded the admissible annual emissions, the federal ministry responsible for that sector is obliged to propose an immediate action programme which ensures compliance with the sector's annual emission volumes in the coming years.

The Federal Government will discuss these measures and adopt them as quickly as possible. It will be supported in this process by a council of experts for climate issues, which will examine the assumptions regarding greenhouse gas reductions due to the proposals, and will pass on a corresponding report to the Federal Government.

The Federal Government will inform the Bundestag about the measures adopted.

Council of experts on Climate Change

The establishment and the mandate of a national council of experts on climate change are stipulated by the Federal Climate Change Act.

The expert council consists of five people with "outstanding scientific knowledge and experience from one of the following areas: climate science, economic science, environmental science and social issues". The members are appointed by the Federal Government for a period of five years.

The tasks of the council of experts include:

- the examination of the emissions data used to confirm compliance with the annual emissions volumes, and the evaluation of these data for the Federal Government and the Bundestag;
- the assumptions of greenhouse gas reductions in the immediate action programmes which the ministries are to draw up in the case of non-compliance;
- comments on the alteration or stipulation of annual emissions volumes under the Federal Climate Change Act, on the updating of the Climate Action Plan, and on the adoption of climate action programmes.
- In 2022 for the first time, and then every two years, the council of experts will present an expertise to the Bundestag and the Federal Government on the development so far of greenhouse gas emissions, on the trends in the annual emissions volume, and on the effectiveness of measures to reduce emissions in terms of compliance with the targets set out in the Federal Climate Change Act.

Climate change mitigation scientific platform

The Federal Government has set up the climate change mitigation scientific platform to back up the long-term strategy for climate action, oriented to fundamental and forward-looking

strategic support for climate policy. The platform's main task is to support the Federal Government with the implementation and ongoing development of Germany's long-term strategy for climate action. This includes the evaluation of climate-related issues using the platform's scientific expertise, the provision of orientation and decision-making expertise for the review and updating of the Climate Action Plan, and advice on success monitoring. The platform's steering group consists of independent scientists from various disciplines.

Reporting requirements on national climate policy

Along with the reporting requirements under the United Nations Framework Convention on Climate Change and the Paris Climate Agreement, as well as additional reporting requirements to the European Union on the National Energy and Climate Plan, the Federal Government presents a Climate Action Report to the Bundestag on 30 June of each year.

The subject of the report is the development in greenhouse gas emissions per sector in the preceding year, the status of implementation of the climate action programmes and immediate action programmes, and a forecast of the impact of the expected reductions. From 2024, and every two years thereafter, the Climate Action Report will be supplemented by a description of the status and ongoing development of carbon pricing in the EU and worldwide.

Public and stakeholder participation

When climate action programmes are drawn up in line with section 8 of the Federal Climate Change Act, the participation of the Länder, municipalities, business associations and civil society associations, the climate change mitigation scientific platform and supporting scientific bodies of the Federal Government in a public consultation procedure is stipulated by law.

The Climate Action Plan is also to be updated "in a process of social debate with broad participation of the Länder, municipalities, commerce, civil society and citizens". It has been agreed that these participation processes are to be evaluated and developed further.

Outlook

At present, the Federal Government is drafting an Immediate Climate Action Programme to ensure compliance with the ambitious target path towards greenhouse gas neutrality in 2045. This will necessitate a significant increase in annual emissions reductions: compared with the average for the last 10 years, annual GHG reductions must be doubled in the short term and almost tripled in the second half of this decade so that the interim 2030 target can be safely reached. The programme is to embrace additional GHG reduction and binding measures for the sectors covered by the Federal Climate Change Act and for the LULUCF sector, as well as cross-sectoral measures. To this end, all the necessary laws, ordinances and measures are to be set in motion before the end of 2022.