



Federal Ministry  
for the Environment, Nature Conservation  
and Nuclear Safety



# Environmental policy for a sustainable society

Sustainable Development Report by the Federal Environment Ministry on the implementation of the United Nations 2030 Agenda

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# Introduction

**A world without poverty and hunger, where all people are empowered, enjoy equal rights and good health, and live and work in safe social and environmental operating spaces and where the natural resources on which life depends are safeguarded for the benefit of present and future generations. This, or something very similar, is the vision of a globally sustainable society in which all people live decent lives in dignity, peace and freedom, with the satisfaction of their needs and opportunities for active and self-determined political participation.**

There is no roadmap for progress towards this vision; instead, it involves an intensive search by society that will lead towards a radical and all-encompassing process of restructuring. The compass for this transformation is the guiding principle of sustainable development with its three dimensions: environmental, economic and social.

Protecting the ecological bases of life is the prerequisite for social stability and economic prosperity. Without intact ecosystems, it is impossible for the whole of society to share in economic prosperity, social progress and cultural development. In order to create a new, sustainable and globally responsible understanding of prosperity and social cohesion, we must therefore clarify, both as a global community and as national societies, how we can and want to live in future – and what will sustain us. With a growing global population with rising expectations of prosperity, we must focus our technological, economic and social capacities on

enabling every person in the world to live a decent life – without exceeding planetary boundaries.

## **The current pandemic is a sustainability problem**

The COVID-19 pandemic is currently the dominant social and political crisis that is shaking the foundations of our societies all over the world. It has revealed to us the global dependencies, the need for cooperation but also the unsustainable attitudes, behaviours, infrastructures and processes that characterise our societies. And it draws attention to the many areas where our economic model burdens the vital natural resources on which life depends. It is apparent that the large majority of countries were poorly prepared to control a pandemic in the short term, less still its systemic risks and long-term impacts.

The COVID-19 pandemic ties in with other critical developments, such as the failure to remain within the planet's ecological boundaries, to take precautions and build resilience in public infrastructures. It ties in with the populist and authoritarian challenge to pluralist democracies and the increasingly powerful attacks on multilateralism and public welfare.

Sustainability integrates the social, economic and environmental dimensions – and with its broad-based global system of risk detection, preparedness and management, it can provide a conceptual response to the coronavirus crisis. The 2030 Agenda adopted by the United Nations (UN), with its 17 Sustainable Development Goals (SDGs) and 169 targets, is a comprehensive policy framework for solutions to the COVID-19 pandemic and, more generally, for achieving a sustainable global society. It constitutes the future contract for world society for the 21st century. It is the 2030 Agenda which aims to, and should, build the network of resilience that will be essential in years to come.

### Environmental policy as a core area of German sustainable development policy

For Germany, the pathway to achieving the SDGs is mapped out in the German Sustainable Development Strategy. This Strategy sets out the principles to be applied in managing sustainability challenges and defines specific targets and actions for each of the 17 SDGs, along with indicators to measure progress.

Shaping environmental policies that are fit for the future is a key element of the socio-ecological restructuring, the sustainable transformation, that is the shared task of politics and society. Environmental policy puts the natural resources on which life depends – the basis of the economy, employment and social cohesion in Germany and worldwide – at the heart of governance.

In that sense, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) bears a particular share of the responsibility for achieving the national and international sustainability targets set out in the 2030 Agenda and the German Sustainable Development Strategy. The Sustainable Development Goals cannot be prioritised; they are indivisible and universally valid. The Goals are interconnected in a multitude of ways and cannot be viewed or implemented in isolation. However, these interconnections and

dependencies also reveal conflicts of interest between the individual SDGs.

### Systemic risks, integrated solutions – challenges not only for environmental policy

As the existing knowledge about the synergies and conflicts of interest between the SDGs shows, more resolute collective action by the various ministries is required and offers the prospect of success. For example, there needs to be more robust scrutiny of policy programmes and legislative initiatives to pinpoint possible conflicts with the German Sustainable Development Strategy. This is essential to make visible and hence adopt a systematic approach to the frequent conflicts between Goals and actions. These conflicts are partly the result of the division of ministerial responsibilities for particular Goals and for actions and measures that will have an impact on them. For example, the task of safeguarding intact terrestrial ecosystems (SDG 15; responsibility for the Goal lies with the BMU) can only be fulfilled if nitrogen surpluses in agriculture (for which the responsibility for taking action lies with the Federal Ministry of Food and Agriculture, BMEL) are significantly reduced and restrictions are imposed on pesticide use; in other words, if agricultural policy measures are initiated. The Action Programme for Insect Protection was therefore purposely adopted on a cross-departmental basis; its objectives include restoration of insect habitats, insect-friendly agriculture and the protection of biotopes in rural and urban areas.

Sustainability as an overarching and guiding principle of action is a good example of the need to stop viewing policy decisions and processes as separate from each other, with an insistence on individual spheres of responsibility, and instead look at the system as a whole. This systemic perspective focuses on the interactions between material/energy conversion (for example, the processing of crude oil into fuel for combustion engines in conventional passenger vehicles) and our socio-economic system (for example, the importance of the car-making industry for the German labour market).

In order to avoid climate change-induced tipping points in the Earth's substance cycles – for example, the collapse of major ecosystems such as the tropical rainforests – the almost complete decarbonisation of energy systems by 2050 is enshrined in the 2030

Agenda. The German Government's new Federal Climate Change Act (*Bundes-Klimaschutzgesetz*), which was developed and coordinated by the BMU as lead ministry and adopted in December 2019, provides the framework here and commits the individual government departments to achieve specific carbon dioxide (CO<sub>2</sub>) reduction targets.

Developing a broad-based vision for the transformation of our lifestyles, work and economic model that is happening now and will continue in future also means asking how a sustainable lifestyle can be achieved in people's daily lives. This vision must live up to the ambition of providing individual life chances in an intact environment and enabling people to shape the future by their own efforts.

## The BMU's Sustainable Development Report: an overview

The Federal Government has established various bodies to implement, revise and progress the German Sustainable Development Strategy. The State Secretaries' Committee for Sustainable Development provides ongoing advice on current topics of relevance to sustainability and discusses the individual ministries' regular reports on the implementation of the 2030 Agenda and the German Sustainable Development Strategy.

This report on the implementation of the 2030 Agenda by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety looks at all 17 Sustainable Development Goals and therefore aims to take account of their indivisibility. It links in with two earlier sustainability reports by the BMU, produced in 2009 and 2013.

In the first chapter of the report, the content of each Sustainable Development Goal is briefly described, with a focus on its environmental policy relevance. Those SDGs that address the environmental dimension of sustainable development, and thus fall within the BMU's own sphere of responsibility (SDGs 6, 11, 13, 14, and 15) are discussed in more detail. Moreover, the indicators defined in the German Sustainable Development Strategy and the progress made on Goal achievement are described. In some cases, the targets for the SDGs are also considered; in others, the Goal is discussed in more general terms. The descriptions focus on the role played by environmental policy in

achieving the Goal and the corresponding contributions made by the BMU. The sections on the individual SDGs conclude, in each case, with a look ahead to future activities and brief information about the thematic linkages to other SDGs. The main interactions with other SDGs are illustrated by the corresponding SDG logos at the end of the text.

The second chapter of the report describes progress on integrating sustainability into the internal administration of the BMU and its executive agencies and refers, in this context, to the Federal Government's current programme of measures on sustainability. This is based on the recognition that progress towards comprehensive sustainable development is not only achieved through the BMU's external activities. As an administration, we ourselves must lead by example – a role we are keen to embrace – by acting sustainably ourselves. Furthermore, the public administration can exert considerable leverage in its day-to-day operations and has a particular responsibility towards society. For that reason, the BMU introduced the Eco-Management und Audit Scheme (EMAS) for its premises in 2006 and achieved climate neutrality in 2020. By presenting this comprehensive overview from two different perspectives, the aim is to make visible the level of the BMU's sustainability ambition overall.



# Chapter 1

## Delivering the 2030 Agenda: the BMU's activities

### SDG 1

#### No Poverty

*End poverty in all its forms everywhere*

#### Which topics does the Goal address?

This Goal calls for a drastic reduction in poverty. The 2030 Agenda defines poverty as a condition in which basic human needs cannot be met and access to the material and non-material foundations for a life of human dignity is substantially curtailed. SDG 1 is therefore the prerequisite for achieving all the other Sustainable Development Goals and, accordingly, for implementing Germany's Sustainable Development Strategy. SDG 1 targets include building the resilience of the poor and vulnerable to climate change and ensuring equal and universal access to economic and natural resources.

#### How is this Goal relevant?

Worldwide, 736 million people live in extreme poverty today<sup>1</sup>. Wherever there is poverty, sustainable development is impossible. On the one hand, people who lack the most basic necessities of life have no capacities to engage for a pristine environment, equal rights, quality education and sustainable consumption. On the other, they themselves are denied access to these key elements of sustainable development. Ending poverty is therefore one of the foundational Sustainable Development Goals.

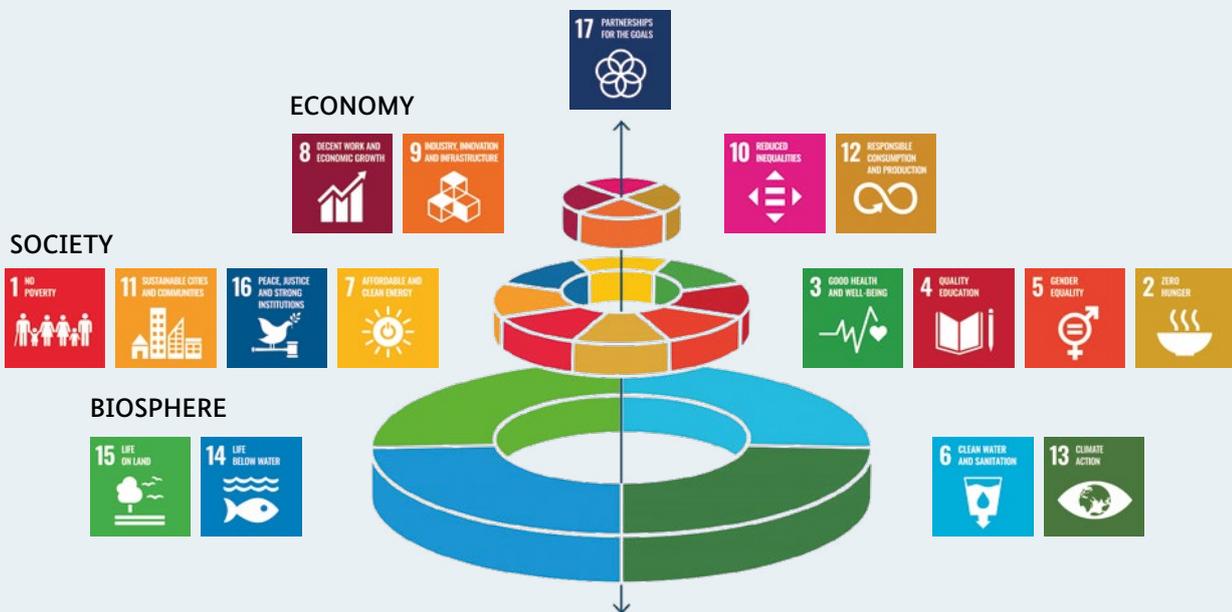
#### What is the role of environmental policy in reaching this Goal?

All forms of life and economic activity depend on an intact natural resource base – clean drinking water, clean air, fertile soil, species diversity, and so on. There

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<sup>1</sup> Source: United Nations (2019): The Sustainable Development Goals Report 2019, page 4: [www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren\\_flyer/infobroschueren/sMaterialie415\\_sdg\\_bericht.pdf](http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/sMaterialie415_sdg_bericht.pdf) (German); <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf> (English).

Figure 1: The Wedding Cake. A new frame of reference for the SDGs and their interdependencies<sup>2</sup>



Source: Azote Images for Stockholm Resilience Centre, Stockholm University

is thus a direct correlation between poverty risk and environmental conditions. A glance at conditions around the world makes this clear: the livelihood security of many families and small communities is based on forms of self-sufficiency such as subsistence farming. This type of economic activity is directly dependent on healthy ecosystems and a stable climate that safeguards biological diversity. A resistant and resilient environment is thus the prerequisite for stable incomes, social cohesion, peace and cooperation worldwide.

Economies and societies are seen as embedded parts of the biosphere; this concept, which applies to SDG 1 and, indeed, to the Sustainable Development Goals as a whole, is illustrated in Figure 1.

## How does the BMU contribute to Goal achievement?

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) implements a diverse range of measures in the national and inter-

national environmental and climate arenas aimed at achieving SDG 1, guided by the belief that responsible and ambitious environmental and resource policies in Germany can reduce poverty in other parts of the world as well. Global environmental justice is progressed through various projects in third countries and through more sustainable management of supply chains.

### **i** Sustainable supply chains (SDG 8)

Production and trade in goods nowadays are organised, for the most part, in international supply chains. The manufacturing and distribution of goods and services are designed with maximum efficiency in mind in order to guarantee international competitiveness. As a result, competitive pressure often keeps wages and social and environmental standards low. This increases the poverty risk, mainly for workers in countries of the Global South, many of whom are employed in the production of primary goods (agriculture, extraction of mineral resources) or in the garment industry – sectors that are particularly exposed to this strong price pressure. In order to ensure equitable sharing of prosperity, environmentally friendly production processes must be introduced and compliance with the International Labour Organization (ILO) labour standards enforced. Together, governments and businesses can thus help to reduce poverty.

<sup>2</sup> Source: Azote Images for Stockholm Resilience Centre, Stockholm University: <https://stockholmresilience.org/research/research-news/2016-06-14-how-food-connects-all-the-sdgs.html>

## Funding programmes

In Peru, for example, the BMU provided funding via the International Climate Initiative (IKI) for a project that advised the Peruvian Ministry of Agriculture on establishing a risk transfer system based on agricultural insurance for farmers. The system improves food security and economic stability in rural areas. Between 2014 and 2018, the cultivated area covered by agricultural insurance increased by 86 per cent.

In Indonesia, a BMU-funded project is helping to maintain and build livelihoods in local peat and mangrove ecosystems by introducing sustainable management techniques. In the priority regions, West Papua and North Sumatra, for example, the project is trialling sustainable economic solutions in crab fisheries, non-timber forest products and paludiculture. The project thus increases the climate change resilience of highly vulnerable communities and protects existing natural landscapes.

Through the IKI, the BMU also funds projects that provide tailored advice to partner countries on developing and implementing their national biodiversity strategies and action plans (NBSAPs). In many cases, this generates positive economic impetus for the conservation of biodiversity and the sustainable use of vital natural resources. Together with local partner organisations, mechanisms for the monetary valuation of ecosystem services (Payment for Ecosystem Services – PES) are tested in order to make visible the economic significance of these ecosystems. If the services provided by an intact natural environment are visible in business models and balance sheets, alternative value chains can be established and more sustainable income sources created for local communities.

Furthermore, the Partnership for Action on Green Economy (PAGE) – a UN alliance supported by the BMU – assists countries to implement reforms aimed at establishing sustainable and equitable labour markets. In Burkina Faso, for example, green business advisers trained by PAGE have, to date, provided training for more than 700 people, 40 per cent of them women, in small and medium-sized enterprises. In Ghana, PAGE works with the banking sector, the Ministry of Finance and other partner institutions on developing green financing schemes for micro, small and medium-sized enterprises. On the island of Mauritius, PAGE supported the development of a Marshall Plan against poverty and exclusion. The Plan includes a social contract that provides financial support for affected households.

## Citizen participation

Environmental awareness and, associated with it, consumers' decisions to buy eco-friendly products often depend on their individual financial capacities and how much time they have available. Here too, a correlation between poverty and the environment can be discerned. People on low incomes tend to participate less in democratic processes, as is evident from elections and levels of civic engagement. In that sense, it is plausible that more social justice may have a positive effect on citizen engagement in the environmental sphere. As environmental policy thrives on inclusion and citizen ownership, the BMU has a particular interest – and also a responsibility – to act in a fair and equitable manner. As a key contribution to achieving social (environmental) justice and promoting participation in democratic opinion-forming processes, the BMU therefore conducts citizen participation procedures on a systematic basis for all larger environmental policy initiatives (see also SDG 16: Strong Institutions).

## Outlook

The correlation between the environment, poverty and justice is not only relevant in the international sphere. In Germany too, the burdens associated with negative environmental impacts such as traffic-related air pollution and noise are distributed unequally; the same applies to access to green space and recreation areas. People with low socio-economic status are disadvantaged even though their ecological footprint is generally much smaller. Regulatory decisions on matters such as subsidies, taxation and charges can also have socially inequitable impacts.

The BMU's aim is to frame the necessary environmental policy measures in a way that safeguards their social compatibility, ensuring that the desired steering impacts are not achieved at the expense of demographic groups with few prospects for social and material benefit-sharing (see SDG 10).



## SDG 2

### Zero Hunger

*End hunger, achieve food security and improved nutrition and promote sustainable agriculture*

#### Which topics does the Goal address?

SDG 2 aims to end hunger in the world and ensure access to safe and nutritious food for all people all year round. Food producers should have guaranteed access to productive resources. As the world population continues to grow, resilient agricultural practices should be implemented that increase productivity and production.

#### How is this Goal relevant?

Without food, a life of human dignity is impossible and social tensions increase. Hunger is one of the leading causes of displacement and forced migration. Nutritious and sufficient food is essential for physical and cognitive development and for mobilising individuals' capacities to achieve all the other SDGs. Although enough food is produced globally to feed everyone, some 822 million people worldwide are still going hungry, and two billion people suffer from micronutrient deficiency. It follows from this that access to food but also the food production system itself must be

reformed in order to provide a sustainable food supply for all the world's people.

#### What is the role of environmental policy in reaching this Goal?

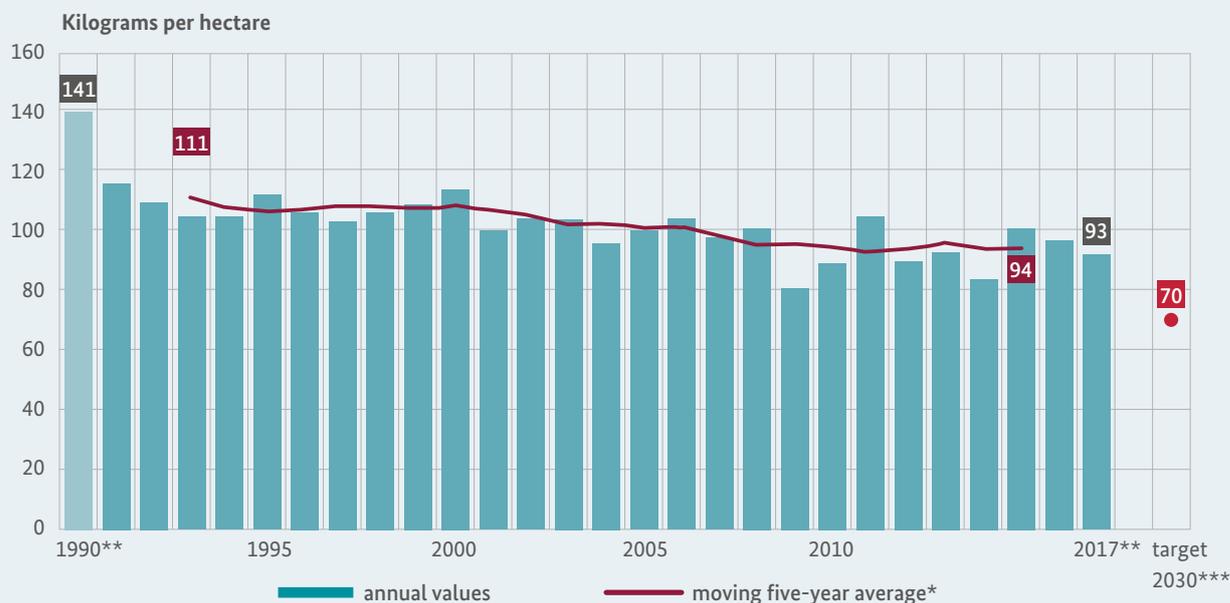
Sustainable agriculture is the basis for permanent and universal food security worldwide. Agriculture – both as a set of farming practices and a sector of the economy – has a particular responsibility to conserve natural resources. It is wholly and directly dependent on these resources, but massively impacts on them at the same time through intensive use. The conservation and protection of soils, water resources, air, climate and biological diversity must therefore be both the basis and the goal of sustainable and productive agriculture; in that sense, SDG 2 correlates closely with SDG 15: Life on Land in particular.

#### Environmental indicators to measure Goal achievement

Nitrogen is an essential source of nutrients for the development and sustenance of all living organisms. Agriculture in particular is therefore heavily reliant on nitrogen. However, nitrogen surpluses can cause nitrate pollution of soil, groundwater and drinking water, among other things. Excess nitrogen is also associated with eutrophication and acidification of near-natural ecosystems by ammonia emissions, as well as with biodiversity loss, climate damage caused by nitrous oxide emissions, and health impairments from exposure to particulate matter. The agricultural sector is responsible for a substantial proportion – around 63 per cent – of Germany's total nitrogen emissions, which come from excess fertiliser inputs per area unit and from intensive livestock husbandry.

As an alternative to conventional farming, sustainable agriculture/organic farming already pays a great deal of attention to the conservation of biodiversity. Organic farming does not use synthetically produced chemicals (plant protection products and fertilisers) and is a particularly resource-efficient and environmentally compatible form of agriculture. One of the targets set by the Federal Government in the German Sustainable Development Strategy is therefore to increase the share of organic farming on land used for agriculture to 20 per cent by 2030. Sustainability in conventional farming must also increase. The nitrogen surplus

Figure 2: Nitrogen surplus in agriculture\*



\* annual surplus refers to the middle year of the five-year period

\*\* 1990: data uncertain in part and of only limited comparability with the following years, 2017: provisional data

\*\*\* target of the German Sustainable Development Strategy, based on the five-year average, i.e. the period 2028 to 2032

Source: Umweltbundesamt (UBA) 2019

in land used for agriculture is a good indicator for measuring whether the right conditions are in place for sustainable farming. The target set by the Federal Government in the German Sustainable Development Strategy is for overall nitrogen surpluses for Germany to be reduced to 70 kilograms per hectare of utilised agricultural land in the annual average from 2028 to 2032. Based on the current trajectory, however, this target will not be reached (see Figure 2<sup>3</sup>).

### How does the BMU contribute to Goal achievement?

Germany frames its agricultural policy to a large extent in the European context, specifically the European Union's (EU) common agricultural policy (CAP). The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) does not have lead responsibility for the agriculture portfolio at the national level. However, the negative impacts of non-sus-

tainable agriculture on the climate, species diversity and landscape quality pose major environmental policy challenges. For that reason, the BMU inter alia follows the policy debate and the implementation of the measures described below.

### Establishing the right framework at European and national level

On the basis of the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK)<sup>4</sup> and the EU's common agricultural policy (CAP), financial resources are made available to increase the share of organic farming and to boost sustainability in conventional agriculture. In the current negotiations at EU level, one of the BMU's aims here is to secure the realignment of the post-2020 CAP towards the principle that public money should be spent on public goods. In this context, the incoming European Commission's European Green Deal also provides a strategic

3 Source: Umweltbundesamt (German Environment Agency – UBA) (2019): [www.umweltbundesamt.de/indikator-stickstoffueberschuss-der-landwirtschaft#textpart-1](http://www.umweltbundesamt.de/indikator-stickstoffueberschuss-der-landwirtschaft#textpart-1)

4 The Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK) is the main funding element of the National Strategy for the Development of Rural Areas.

framework for a transformation of production and consumption practices towards an eco-friendly, low-carbon resource policy at the European level.

## National nitrogen strategy

In response to Germany's persistently high nitrogen surpluses, the BMU led on the revision of the Fertiliser Application Ordinance (*Düngeverordnung*), which came into effect on 1 May 2020. Furthermore, the BMU is working towards an integrated nitrogen reduction strategy for Germany. Based on the Federal Government's first Nitrogen Report, adopted in May 2017, the BMU is currently developing an Action Programme for Integrated Nitrogen Reduction. The aim of the Action Programme is to reduce excessively high reactive nitrogen emissions to levels that are compatible with the environment through an integrated approach and ultimately to achieve sustainable nitrogen management. The Action Programme will include practical mitigation measures and address all the major sources of nitrogen emissions – agriculture, energy/industry and transport.

## Funding programme and dialogue

The BMU also makes a significant contribution to achieving this Goal through its climate change adaptation policy and intensive dialogue with the agricultural sector. As well as providing project support via its funding programme Adaptation to Climate Change in the Agriculture Sector, the BMU engages in regular dialogue with agricultural stakeholders on environment- and water-compatible farming and the impacts of the very hot and dry summers of 2018 and 2019. At the 2018 Practitioner Dialogue on Climate Change Mitigation and Adaptation in Agriculture, Federal Environment Minister Svenja Schulze held discussions with farmers on the potential for implementing climate change adaptation measures. Topics included possible pathways towards precision farming, more crop diversity and varied crop rotation patterns.

## Outlook

In undertaking the necessary reform of agriculture, it is essential to give more consideration to the environmental and social dimensions. The EU's Farm to Fork Strategy, published by the European Commission on 20 May 2020, is also intended to make agriculture and the food system as a whole – such as production, processing, trade and consumption – more sustainable and future-fit. Investments in sustainable systems must be protected, access must be provided to land, resources and markets, fair prices guaranteed for producers and jobs retained. This also means that agricultural production for food security must take precedence over the cultivation of crops as raw materials and energy feedstocks (see Infobox).



### Renewable energies / biomass (SDGs 7 and 15)

Intensive use of farmland in monocultures is associated with higher levels of pesticide and nutrient inputs. This has led to a general deterioration in biodiversity on these sites. The intensification of farming is partly driven by the demand for land to grow biomass for energy production (biogas or biofuels); this conflict is also known as the “food versus fuel” dilemma. The fast returns on biomass cultivation also encourage the conversion of ecologically valuable grassland into cropland, leading to further loss of habitats and sources of food for wildlife (flora and fauna). Although the use of renewable raw materials for energy generation can help to reduce Greenhouse gas emissions compared with fossil fuels, their contribution to meeting Germany's energy needs is minimal. In the context of the energy transition, the BMU is therefore working to ensure that, in the long term, bioenergy is generated solely from residues and waste and that, respecting the primacy of food production, the cascading use principle is applied, in other words, priority is given to use as raw materials rather than as energy.

Food waste must also be reduced: currently, approximately one third of all food produced for human consumption globally goes to waste.<sup>5</sup> This offers significant leverage for the development of sustainable systems for food security. The German Sustainable Development Strategy therefore focuses inter alia on the development potential of small family farms worldwide, that have proven ability to operate sustainably. This is reflected in their yields, their production-related environmental impacts and the development of local supply chains in rural systems.<sup>6</sup>



## SDG 3

### Good Health and Well-Being

*Ensure healthy lives and promote well-being for all at all ages*

#### Which topics does the Goal address?

SDG 3 focuses on the objective of maintaining and restoring human health and avoiding premature mortality. Key targets for this Goal include substantially reducing the number of deaths and illnesses from hazardous chemicals and from air, water and soil pollution and contamination.

#### How is this Goal relevant?

Health is a prerequisite for a decent life and for inclusion and participation in democratic processes. It is

5 Source: UBA (2019): [www.umweltbundesamt.de/themen/wider-die-verschwendung](http://www.umweltbundesamt.de/themen/wider-die-verschwendung)

6 Source: UBA (2019): [www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-08-15\\_texte\\_84-2019\\_transfern-ap1\\_0.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2019-08-15_texte_84-2019_transfern-ap1_0.pdf)

widely recognised that an intact natural environment is essential for a decent life and for physical and mental well-being. Specifically, this requires living spaces that provide clean air and water, as well as uncontaminated soil, safe products and minimal exposure to radiation.<sup>7</sup>

#### What is the role of environmental policy in reaching this Goal?<sup>8</sup>

Environmental pollution that has an impact on human health can be identified through health-related environmental monitoring and mitigated through environmental policy measures. Environmental protection measures ensure, for example, that substance inputs into the environment are minimised and non-hazardous. In this way, environmental impacts on human health can be avoided as far as possible. The interactions between climate change or traffic growth, on the one hand, and health-relevant environmental pollution, on the other, have been widely studied. Even so, the benefits of health-related environmental protection for society are not yet recognised to a sufficient extent.

#### Environmental indicators to measure Goal achievement

Clean air is vital for the healthy development of all terrestrial life. However, human activities release pollutants into the atmosphere, adversely affecting air quality; the main sources are agriculture, transport, industry, the energy sector and private households. These air pollutants are detrimental to human health and to ecosystem stability (see SDG 15). The German Sustainable Development Strategy includes two air pollution indicators and targets for SDG 3, which are shown in the table below.

7 Source: BMU und UBA (2018): [www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/ubs2018\\_-\\_m\\_3.3\\_basisdatenbroschuere\\_barrierefrei-02\\_cps\\_bf.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/ubs2018_-_m_3.3_basisdatenbroschuere_barrierefrei-02_cps_bf.pdf)

8 The coronavirus pandemic has shown that the risk of disease outbreaks, including pandemics, increases with worsening environmental degradation. Nature conservation and environmental protection are therefore an important tool in preventing the spread of novel infectious diseases. As this report was finalised for the most part before the start of the coronavirus pandemic, it contains only brief references to the related developments, mainly, although not exclusively, in the Introduction and Chapter 1 (SDG 15: Life on Land).

Figure 3: Air quality indicators and targets in the German Sustainable Development Strategy

Environmental indicator	Target
<p><i>Emissions of air pollutants:</i></p> <p>Mean value of the index of national emissions of sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), ammonia (NH<sub>3</sub>), volatile organic compounds (VOC) and particulate matter (PM<sub>2.5</sub>)</p>	To be reduced by 45 per cent by 2030 compared to 2005
<p><i>Share of the population with increased exposure to PM<sub>10</sub> (particulate matter):</i></p> <p>Number of persons who are exposed at their place of residence (urban setting) to an annual average of more than 20 µg/m<sup>3</sup> PM<sub>10</sub></p>	To be reduced to zero by 2030

Source: Authors' own data

Emissions of these five air pollutants fell by around 18 per cent on average up to 2016 in comparison to 2005. However, a linear continuation of this decrease is not sufficient; on the contrary, the trend must be accelerated in order to achieve the target set. With regard to the population's exposure to particulate matter pollution, on the other hand, the downward trend is adequate. By maintaining a stable trajectory, it may be possible to achieve a situation in which the public is no longer exposed to a concentration higher than 20 micrograms/cubic metre for particulate matter, other than at a few localised hotspots.

### How does the BMU contribute to Goal achievement?

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) contributes indirectly to health protection, for example through its climate change mitigation and adaptation measures, but it also makes direct contributions to protecting human health through air pollution control, chemical safety, noise abatement, radiation protection and restoration of healthy soils and clean water. It should be borne in mind that many of the applicable regulations are adopted at EU level; the BMU can contribute to the framing of this legislation via the relevant negotiation processes.

### Clean air

#### National Clean Air Programme

As described above, outdoor air pollution in Germany has significantly decreased in recent decades.

Nevertheless, nitrogen dioxide concentrations in some densely populated areas still exceed applicable EU limit values. Ozone concentrations also exceed the health-related target value almost everywhere. The applicable limit values for particulate matter are being met; however, exposure to particulate matter still has significant impacts on health.

The national emission reduction commitments for five air pollutants are set in the European Union's National Emission Ceilings (NEC) Directive. National air pollution control programmes were adopted to implement the provisions of the Directive; these programmes assess and quantify measures that are appropriate to fulfil the emissions reduction commitments. The Federal Government adopted the first National Clean Air Programme on 22 May 2019. If the assumptions made in the programme about the economic trajectory and the effectiveness of measures are correct, the projected pathway for emissions reductions can be achieved by 2030.

#### Reducing traffic-related air pollution

In order to rapidly reduce nitrogen dioxide pollution in urban centres, the BMU is providing approximately EUR 300 million in total under the Federal Government's Immediate Action Programme for Clean Air for the procurement of electric buses and electric commercial vehicles (trades and delivery vehicles, taxis, carsharing vehicles). Furthermore, together with the Federal Ministry of Transport and Digital Infrastructure (BMVI), the BMU is providing more than EUR 100 million to implement and analyse the impact of a range of measures in five model cities – Bonn, Essen, Herrenberg, Mannheim and Reutlingen – mainly focus-

ing on public transport (more frequent and extended services, tariff-related measures), as well as on cycling, corporate mobility management, and urban delivery traffic. A key contribution to reducing nitrogen oxide emissions from inner-city traffic is also being made through fleet renewal and retrofitting of diesel-powered passenger cars. In total, the Federal Government is providing approximately EUR 2 billion for measures to improve air quality in the transport sector.

## Chemical safety

Due to the potentially adverse impacts of chemicals on human health and the environment, Germany has comprehensive legislation and regulations in place governing chemicals and chemical compounds, including the active substances found in biocides, pesticides and pharmaceuticals, and the ingredients used in cosmetics, consumer products and food. The majority of these legal provisions are subject to EU-wide harmonisation, mainly by the European Commission, with the BMU actively influencing this process through its work.

In view of the increased volume of chemicals being produced and processed worldwide, the BMU advocates more effective and sustainable chemicals management. The BMU pursues a key objective in its capacity as chair of the fifth session of the International Conference on Chemicals Management (ICCM5) within the framework of the Strategic Approach to International Chemicals Management (SAICM), which is hosted by the United Nations Environment Programme (UNEP), through the establishment of an ambitious new mandate from 2020. Looking beyond the existing provisions of international conventions on chemical safety for specific sectors<sup>9</sup>, the aim is to establish an overarching system of sustainable management for chemicals throughout their life cycle (production, processing, use and disposal).

Furthermore, the BMU endeavours to promote sustainable chemistry, an approach that considers the life cycle of chemicals use, as well as its mainstreaming at the international level through the International Sustainable Chemistry Collaborative Centre (ISC3), which was set up for this purpose in Bonn. ISC3 is a platform

for engagement by diverse stakeholders from science, the private sector and industry, the public sector, international organisations and civil society, bringing their representatives together at expert workshops, an annual stakeholder workshop, showcases at international fairs, and political events.

Germany plays a lead role in the development of human biomonitoring. This includes developing new analytical methods and determining substance-specific reference values for chemicals in the human body. Germany also coordinates the European Human Biomonitoring Initiative, an EU project led and managed by the German Environment Agency (UBA). The public's exposure to chemicals and the effects of this exposure on (and in) the human body have been studied since the 1980s in two long-term programmes, the German Environmental Specimen Bank and the German Environmental Surveys.

## Resilience to climate change-induced health risks

Under the United Nations Framework Convention on Climate Change (UNFCCC), Germany has made a commitment to support adaptation measures in other countries. With the adoption of the German Strategy for Adaptation to Climate Change (DAS) in 2008, climate change adaptation was established as an ongoing political task in Germany, with the BMU as the lead ministry. The DAS identifies 15 fields of action, with human health playing a key role. Climate change can have direct and indirect impacts on health. Priority issues for health prevention include heat, the formation of ground-level ozone, increased UV radiation and the possible spread of harmful thermophilic organisms. New pathogens and exotic disease vectors are also priority topics and have gained in significance as a result of the COVID-19 pandemic.

## Noise abatement

The BMU works at EU and international level to ensure that noise emissions from as many types of appliances and products as possible are reduced at source, with the benchmark for limit values being the best available noise abatement technology. In Germany, various sources of noise and their effects on people and the environment are regulated in the Federal Immission Control Act (*Bundes-Immissionsschutzgesetz*). For noise

<sup>9</sup> Stockholm Convention on Persistent Organic Pollutants; Minamata Convention on Mercury; and the Rotterdam Convention, which deals with the exchange of information about chemicals and their effects.

from installations, the Technical Instructions on Noise Abatement (*TA Lärm*) – which fall within the purview of the BMU – define reference values for immissions. With the introduction of “urban area” as a new category in 2017, municipalities have more scope to facilitate construction activity in built-up urban areas and thus achieve the goal of a mixed-use city of short distances.

The Act for Protection against Aircraft Noise (*Gesetz zum Schutz gegen Fluglärm*), which falls within the purview of the BMU, provides protection for affected communities by means of building and other land use restrictions and precautionary measures. The Federal Government reported to the German Bundestag, or German parliament, on the review of the Act in 2019, with recommendations on its further development. In addition, the *Bundes-Immissionsschutzgesetz* transposes the EU Environmental Noise Directive (Directive 2002/49/EC). Among other things, it requires the preparation and regular updating, by the competent authorities (municipalities, federal states (*Länder*), Federal Railway Authority), of noise maps for major roads, major railways, major airports and agglomerations. The noise abatement measures implemented under noise action plans pursuant to the EU Environmental Noise Directive contribute not only to SDG 3 but also to SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable.

## Protection of water resources, soil conservation

Germany has abundant freshwater resources. Access to a safe drinking water supply and sanitation is guaranteed nationwide. The environmental quality targets specified in the EU Water Framework Directive have not yet been reached, however. The widespread presence of polluting substances in all environmental media means that surface waters have not achieved good chemical status: for example, the limit value of 50 milligrams per litre for nitrate is exceeded at almost 30 per cent of groundwater monitoring points. In order to improve the protection of water resources from pollution, the BMU tightened up the legal provisions on the application of sewage sludge to soil in the new Sewage Sludge Ordinance (*Verordnung zur Neuordnung der Klärschlammverwertung*), which entered into force at the beginning of October 2017.

Global responsibility and international cooperation are also an important aspect of German water policy. As examples: the German Environment Agency is a World Health Organization (WHO) Collaborating Centre for research on drinking water hygiene; Germany leads the activity on small-scale water supply and sanitation systems under the Protocol on Water and Health, jointly serviced by the WHO and the United Nations Economic Commission for Europe (UNECE); and support is provided for other countries via bilateral projects.

### Nitrogen (SDG 2, SDG 6)

Nitrogen inputs into the environment are still too high in some regions, meaning that compliance with limit values and environmental quality standards for water, air and soil is not achieved in full. In Germany and the EU, around 65 per cent of natural and near-natural ecosystems are at risk of nitrogen-induced eutrophication, which threatens biodiversity. Fertiliser use that exceeds plants' needs can release nitrogen inputs into the air (as ammonia) or water resources. As a result, our groundwater, for example, is heavily contaminated with nitrate, putting the drinking water supply at risk in the short or long term in some areas. The limit value applicable to the nitrate concentration in drinking water – 50 milligrams per litre – must not be exceeded. In addition to ammonia, nitrogen oxides (including nitrous oxide and nitrogen dioxide) are emitted into the air. Nitrous oxide is a potent greenhouse gas that destroys ozone in the upper layers of the stratosphere. Nitrogen dioxide is an air pollutant which is harmful to human health; it is also a precursor for ozone in the lower atmosphere, which also causes serious damage to human health and plants. Finally, nitrogen oxides bind with ammonia in the air to form particulate matter, another cause of serious damage to health.

## Radiation protection

The purpose of radiation protection is to limit the public's exposure to ionising and non-ionising radiation and thus avoid damage to health as far as possible. Whether health risks result from exposure to environmental radiation and the degree of risk involved depends on the type and intensity of the radiation concerned and the duration of exposure.

### Radon protection

Radon is a naturally occurring, radioactive noble gas that forms in the ground. It is released through cracks and gaps in the Earth's surface and can penetrate into indoor spaces, where it accumulates in indoor air unless adequate ventilation is installed. Radon is one of the main causes of lung cancer. With the updating of radiation protection legislation in 2018, comprehensive regulations are now in place, for the first time, to protect the public in Germany from radon, with substantially expanded rules for workplaces. The federal states (*Länder*) have until 31 December 2020 to designate radon precaution zones (*Radonvorsorgegebiete*), where it is expected that the statutory reference value will be exceeded in a large number of buildings. In these zones, more stringent regulations on radon protection apply to new builds and, in order to protect workers, to workplaces located at ground or basement level in buildings.

### Electromagnetic fields

An important health and environmental policy objective is to shield the public from the harmful effects of electric, magnetic and electromagnetic fields. This applies to mobile telephones and other wireless communication technologies that are in increasingly widespread use as a result of digitalisation, as well as to the expansion of electricity grids, which is urgently required in order to progress the energy transition. For stationary installations, such as power lines and mobile phone base stations, the applicable limit values are derived from science-based international recommendations and are set out in the Ordinance on Electromagnetic Fields (*Verordnung über elektromagnetische Felder*). For devices, the EU-wide harmonised product specifications apply. The BMU provides funding for further research in this field, ensures that the public has access to transparent information about potential risks, and advocates for rigorous attention to be paid to the issue of electromagnetic fields at every stage in the development of new technologies.

## Outlook

In future, the BMU will continue its active engagement at the interface between environmental conservation and health protection, particularly within the framework of the planned measures on adaptation to climate change and actions in the field of radiation protection.



## SDG 4

### Quality Education

*Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*

### Which topics does the Goal address?

This SDG calls for equal access for all to affordable and quality technical, vocational and tertiary education.

### How is this Goal relevant?

Education is essential in empowering individuals and society to recognise our planet's ecological boundaries and identify the appropriate action to be taken. Freely accessible quality education is a fundamental element for achieving sustainable development and is thus a tool that can be used to great effect in environmental policy: education, particularly in the Global South, is the key to eliminating poverty by enabling people to shape their own political, cultural, social and economic destiny.

## What is the role of environmental policy in reaching this Goal?

The quality of the environment and the way in which it is used have very significant impacts on every individual's reality of life, both present and future, especially children and young people. Environmental policy can reach the younger generations with appropriate educational offers and thus make a significant contribution to the environmental dimension of sustainability. In this context, it is important to design future-focused education programmes in a way that ensures they empower people to respond actively to changes and challenges. In other words, theoretical knowledge is not enough; it is about putting knowledge into practice and developing it further.

Education for Sustainable Development (ESD) is a United Nations programme and a key tool that environmental policy can use actively for achieving SDG 4. Against this background, the education offers of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) are consistently aligned to ESD principles. ESD aims to build people's future-focused cognitive and practical skills. It fosters dialogue skills, builds meaningful knowledge and encourages creative and critical thinking. It focuses on people's willingness to take responsibility for their own actions, to cope with uncertainty and conflicts, to solve problems and to participate in shaping a democratic and culturally diverse society. ESD creates space for experimenting and developing sustainable solutions and social innovations.

The BMU's education offer is therefore expressly designed to help increase children's and young people's opportunities for education and inclusion. In the spirit of the United Nations 2030 Agenda, issues of social justice, cultural diversity and gender equality are also of central importance.

## How does the BMU contribute to Goal achievement?

The BMU is not responsible for the education portfolio within the Federal Government; however, it has developed its own education offers for various target groups on the topics within its portfolio, which are available from the BMU's Education Service.

## The BMU Education Service

The Education Service provides theoretical and practical support aimed at involving children and young people actively in the BMU's programmes and activities by providing formats that are geared towards these groups and ensure contact on an equal footing. This also contributes to achieving SDG 16. The online platform [www.umwelt-im-unterricht.de](http://www.umwelt-im-unterricht.de) is an example of the type of resource provided by the BMU Education Service. Every two weeks, the website – which is designed primarily for teachers – provides educational materials on topical issues relating to the environment, nature conservation and sustainable development. The materials consist of background information and lesson plans for primary and secondary level. A selection of teaching aids such as worksheets, handouts, practical tips, photo series, infographics and information on resources provided free of charge by suitable Internet sources are also available on the website.

Vocational training is another key element of the BMU's Education Service. For example, through the European Structural Funds programme Vocational Education for Sustainable Development (*Berufliche Bildung für Nachhaltige Entwicklung*), the BMU provides funding for projects that help to raise awareness of aspects of sustainable development in an occupational context, thus empowering people to take practical action to protect the climate and resources in the workplace. The funding period runs from 2015 to 2022.

## Formats for youth participation

Against the backdrop of its long-term approach to youth inclusion, the BMU continuously develops and implements various participatory formats for engaging young people. In 2017 and 2018, the BMU hosted simulation games on the topics "sustainable mobility" and "insect conservation". Each of these simulation games gave teenagers and young adults an opportunity to spend two days experiencing the work routine in a ministry. The future-focused "wandel:bar" workshop in August 2019 was attended by 100 young people and was organised and managed by the young people themselves. At the start of this year, the BMU's second representative youth study was published. The study was prepared with active input from the target group at every stage, with support from a youth advisory council.

### Participation (SDG 16)

The BMU takes the view that a sustainable transformation of society can only succeed if we all show a collective willingness to radically change our lifestyles. Such an incisive change in our individual lives will inevitably encounter reservations and scepticism, but it also offers immense potential. The BMU is working actively to involve citizens in policy making processes in order to address their views and concerns. They thus have the opportunity to bring influence to bear on a range of issues, such as clean groundwater, mobility for the future, and climate-friendly food. The BMU has successfully institutionalised the required knowledge-sharing and participatory practices by setting up a specialised administrative division with responsibility for citizen participation. Through its participation procedures, the BMU is able to learn from citizens and integrate their ideas into policy making. The direct thematic dialogue with citizens is a key instrument in strengthening cohesion within our society.

For several years, the BMU has also supported the Youth Delegates for Sustainable Development. During their two-year appointment, the two young people concerned make regular visits to schools, other educational institutions and companies to report on the 2030 Agenda and represent the youth perspective at national and international conferences on sustainable development.

Within the framework of the Climate Change Conference (COP 23) in Bonn, the BMU hosted youth dialogues in three cities simultaneously in September 2017. A total of 200 participants aged between 16 and 25 years developed their ideas and solutions on the topic of climate change and climate action. Some of the young people, who were selected by drawing lots at the local dialogues, finalised the previously collected proposals at a workshop in Berlin and used them to prepare the youth report. The report was then presented to the Federal Environment Minister ahead of the COP 23. At COP 23 itself, the young people presented their proposals and ideas in the German Pavilion and at an international press conference. The process concluded with a conference at the BMU, which not only recognised the young people's engagement but also focused on the practical implementation of the proposals.

## Outlook

The BMU will continue its measures to engage teenagers and young people in future. Among other things, the BMU plans to hold two youth simulation games on environmental issues this year within the framework of Germany's Presidency of the Council of the European Union.<sup>10</sup> The games will build on and further develop the established format for youth participation. The two simulation games will be thematically linked and culminate in a youth camp for young people from all over Europe. The youth camp will be integrated into the annual conference of the European Sustainable Development Network (ESDN) in October 2020 and will actively involve conference participants.



## SDG 5

### Gender Equality

*Achieve gender equality and empower all women and girls*

### Which topics does the Goal address?

The focus of the gender equality Goal lies on ending all forms of discrimination and violence against women and girls. Access to economic and natural resources should be guaranteed irrespective of gender. A further aim is to ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in all social spheres.

<sup>10</sup> Due to COVID-19, both simulation games had to be cancelled.

## How is this Goal relevant?

Gender equality and women's equal participation in all social spheres are key factors for societies' equitable and sustainable development. The need for more conceptual development and systematic consideration of gender-based criteria is exemplified by climate change: when it comes to climate protection, women and men have different needs due to the inherent inequality in gender-specific roles, division of labour and caregiving responsibilities. At the same time, existing gender inequalities in participation, decision-making and also in personal security mean that women's needs for services in core areas of life are only partially fulfilled or not met at all.

One outcome, for example, is women's more climate-friendly mobility behaviour, on average, due to their lower level of participation in the labour market and in motorised transport. Another, however, is their often greater vulnerability to climate change impacts due to physical factors or (for example income-related) inequality in the distribution of environmental pressures. If climate policy fails to take account of the gender dimension, climate change will reinforce existing gender inequalities. Effective climate measures must therefore be based on an approach that is aligned to gender justice and equal, inclusive participation in decision-making.

## What is the role of environmental policy in reaching this Goal?

The correlation between gender equality and environmental policy is clearly demonstrated by the negative effects of environmental pressures on women, particularly in countries of the Global South. Worldwide, one in three women experience violence in their lifetime; in some countries, the figure is above 70 per cent.<sup>11</sup> A recent study by the International Union for Conservation of Nature (IUCN) concludes that there are significant linkages between environmental issues and gender-based violence.<sup>12</sup>

11 Source: BMZ: [www.bmz.de/de/themen/frauenrechte/arbeitsfelder\\_und\\_instrumente/gewalt\\_gegen\\_frauen/index.html](http://www.bmz.de/de/themen/frauenrechte/arbeitsfelder_und_instrumente/gewalt_gegen_frauen/index.html)

12 Source: IUCN (2019): Gender-based violence and environment linkages: The violence of inequality <https://portals.iucn.org/library/sites/library/files/documents/2020-002-En.pdf>

There are various reasons for this: on the one hand, there is the obstructed access to increasingly scarce resources due to gender and power factors, as well as habitat loss; and, on the other, there are the psychological impacts of natural disasters, which exacerbate violence and tensions in male-female relationships. For example, as a result of climate change-induced local water shortages, women may have to walk longer distances to fetch water, often to locations outside their own communities. The lack of assured protection for them along these paths or at these locations makes them more vulnerable to assault. Inequitable distribution and control of forest resources, agriculture, land, water and food in favour of men can also reinforce power structures and violence against women. According to the IUCN study, women and girls are often coerced into performing sexual acts in exchange for access to vital resources or land. Poor harvests caused by climate change are forcing many families to marry off their daughters at a young age, in other words, to enter into child or forced marriage.

For many women, resisting these structures is difficult or impossible due to pressure and violence in the home. Due to their challenging economic circumstances – partly the result of environmental change – and dependency, but also because of their particular vulnerability as members of economically marginalised groups, many women are unable to change or exit these situations.

## How does the BMU contribute to goal achievement?

Although the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) does not have lead responsibility for this portfolio, gender equality is one of the principles guiding German environmental policy and is of great relevance in developing, implementing and publicising all the BMU's measures and activities. In order to mainstream gender equality in environmental policy, an administrative division was established in the BMU in February 2019 to deal with gender aspects of environmental policy. In addition, a Gender and Climate Change Focal Point was set up in the BMU in July 2018 under the UNFCCC and the Paris Agreement.

## Communication and public relations

Through its PR activities, the BMU supports and publicises its activities that contribute to awareness-raising and education on gender equality. For example, the BMU reports on what it is doing most years to mark Diversity Day, held within the framework of the Diversity Charter (*Charta der Vielfalt*), and Girls' Day (an initiative to provide information about careers where women are underrepresented).

## Research

In the sphere of research, the UBA, the German Environmental Agency, has conducted a BMU-funded project to investigate "The contribution of gender justice to successful climate politics: impact assessment, interdependencies with other social categories, methodological issues and options for shaping climate policy" (*Gendergerechtigkeit als Beitrag zu einer erfolgreichen Klimapolitik: Wirkungsanalyse, Interdependenzen mit anderen Kategorien, methodische Aspekte und Gestaltungsoptionen*). The final report is available on the UBA website.<sup>13</sup>



### Environmental health protection (SDG 3) and gender

In order to protect unborn life in the context of radiation protection, Section 78(4) of the Radiation Protection Act (*Strahlenschutzgesetz*) specifies dose limits for women who are pregnant or of child-bearing age. In radiological emergency management, too, the German protection strategy applies more stringent radiological criteria for the provision of iodine tablets to pregnant women. Germany has also introduced a gender-specific national breast cancer screening programme for women aged 50-69 years. An assessment of the benefits and risks associated with this screening programme has been funded for some years by the BMU, the BMG (the Federal Ministry of Health) and Cooperation Mammography (*Kooperationsgemeinschaft Mammographie*). This exemplifies how Germany addresses gender-specific differences in predisposition or vulnerability in the context of environmental health protection.

## Dialogue and exchange

In the context of international climate cooperation, the BMU hosted a Women Leaders' Breakfast at the United Nations High-Level Political Forum (HLPF) in 2019. It serves as a platform for sharing the specific perspectives of women from diverse sectors, and for networking and generating effective publicity for the topic.

## Project funding

The BMU continues to provide targeted financial support from the IKI for projects and networks that promote gender-sensitive climate policy at the local and the global level. For example, the Gender Into Urban Climate Change Initiative (GUCCI) (budget: approximately EUR 1.9 million) focuses on the interface between urbanisation and gender-sensitive climate policy. In a total of 14 pilot cities, the project – which runs until 2020 – seeks to build capacity in order to strengthen women's participation and to integrate practical proposals for gender-sensitive strategies into local policy making.

## Outlook

In order to integrate gender justice into environmental policy, it is essential to think about and include the social dimension. Gender justice as a topic now features in all social and scientific debates, including those relating to climate protection and nature conservation. The implementation of the outcomes, however, is still progressing too slowly and is not given sufficient priority. The BMU is therefore preparing a strategy showing how gender equality can be mainstreamed in German environmental policy as a guiding principle and quality feature. Issues such as quality of life, structural change in rural and urban areas, future mobility and digitalisation in the environmental sector must be resolved. It is essential to show which insights women and men can provide and what kind of contribution they can make to integrated environmental policy.



13 Source: UBA (2020): [www.umweltbundesamt.de/publikationen/interdependente-genderaspekte-der-klimapolitik](http://www.umweltbundesamt.de/publikationen/interdependente-genderaspekte-der-klimapolitik)

## SDG 6

### Clean Water and Sanitation

*Ensure availability and sustainable management of water and sanitation for all*

#### Which topics does the Goal address?

SDG 6 is the first international goal to consider not only access to water and sanitation but also the protection of water resources. It covers long-term water availability, water use efficiency and the promotion of integrated water resources management. SDG 6 thus links development policy issues with challenges of environmental relevance.

#### How is this Goal relevant?

Water is our most vital resource, and yet worldwide, 785 million people still lack access to a basic drinking water supply.<sup>14</sup> The United Nations estimates that by 2030, water scarcity will have displaced up to 700 million people.<sup>15</sup> Human well-being therefore directly depends on how we manage our water resources now and in future. Good water status helps to maintain human health and protect habitats. SDG 6 is therefore closely connected to SDG 3: Health and SDG 15: Life on Land. However, water is essential not only for direct human consumption but also for agricultural production (SDG 2), and economic and industrial activities (SDGs 8 and 9).

#### What is the role of environmental policy in reaching this Goal?

In order to safeguard long-term water supply security, water resources must be protected from pollution and overexploitation. This applies particularly in view of

the possibility of seasonal and/or regional water shortages occurring in the future – including in Germany – as an effect of climate change. The quality of water management in Germany therefore has a direct or indirect bearing on success in achieving other German sustainability goals and has cross-sectoral significance. Environmental policy and environmental authorities monitor and regulate water use and quality, establish limit values for pollutant inputs, regulate wastewater management, designate protected areas, and ensure an adequate supply of drinking water.

#### Environmental indicators to measure Goal achievement

High nitrate and phosphorus inputs into our surface waters and groundwater pose a challenge to environmental policy. These inputs are a threat to aquatic ecosystems and biodiversity. The avoidance of substance inputs into groundwater reduces the effort involved in the treatment of drinking water and thus helps to ensure that drinking water can continue to be supplied to consumers at affordable prices in future. The German Sustainable Development Strategy therefore aims to reduce phosphorus inputs into flowing waters and nitrate inputs in groundwater.

Roughly half of the phosphorus entering flowing waters in Germany today comes from agriculture, and the other half originates from cities (via municipal water treatment plants and rainwater run-off). In addition to nitrate pollution, excessively high phosphorus inputs are one of the causes of an oversupply of nutrients (eutrophication) in rivers, lakes and seas. The consequences of this are algae growth, oxygen depletion, fish die-off or the growth of blue-green algae, which may be toxic to humans in some cases. In the German Sustainable Development Strategy, adherence to limit values for phosphorus at all monitoring points is defined as a goal for 2030. However, if Germany continues on its current trajectory and does not adopt additional measures, this target will be missed.

Nitrate pollution is caused primarily by leaching of surpluses from agricultural fertilisers and mainly affects groundwater. Groundwater performs important ecological functions and is also Germany's most important drinking water resource. Elevated levels of nitrate in surface waters can also adversely affect aquatic ecology. The aim is therefore to achieve compliance with the threshold value of 50 milligrams per

<sup>14</sup> Source: United Nations (2019): The Sustainable Development Goals Report 2019, page 9: [www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren\\_flyer/infobroschueren/sMaterialie415\\_sdg\\_bericht.pdf](http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/sMaterialie415_sdg_bericht.pdf) (German); <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf> (English)

<sup>15</sup> See *ibid.*

litre of nitrate in groundwater at all monitoring points by 2030, as stipulated in the Groundwater Ordinance (*Grundwasserverordnung*) and in the Surface Waters Ordinance (*Oberflächengewässerverordnung*). Based on the current status, however, this target will not be reached without additional measures. The threshold value of 50 milligrams per litre for nitrate in groundwater is currently exceeded at around 18 per cent of all official national monitoring points for reporting to the European Environment Agency.

### How does the BMU contribute to Goal achievement?

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) has lead responsibility at the national level for sanitation and the protection of water resources. The Federal Ministry of Health (BMG) is responsible for the supply and quality of drinking water. Many water resources, groundwater bodies and river basins are transboundary; for that reason, water protection policy is generally formulated at the European level. For example, the EU Water Framework Directive (WFD) sets objectives to ensure that “good status” of surface water and groundwater is achieved throughout the European Union.

### Transposition of the WFD in Germany

The BMU transposed the Water Framework Directive into national law via amendments to the Federal Water Act (*Wasserhaushaltsgesetz*) and various ordinances. The targets set must be reached by 2027 at the latest. In Germany, the supply of drinking water and sanitation is secured now and in the future within the framework of public service provision. However, there is a need for improvement with regard to water quality. Despite considerable progress in water protection, only 8.2 per cent of the 9,900 bodies of surface water and 63.7 per cent of the 1,180 bodies of groundwater had reached the “good ecological status” or the “good ecological potential” specified in the WFD by 2015. The main reasons include high nutrient inputs and contamination with ubiquitous substances such as mercury. Although mercury contamination from incinerators and power generation plants has decreased substantially over the past 25 years, concentrations in fish still far exceed the relevant environmental quality standard.

### The BMU’s activities at European level

In this context, at the conference of European environment ministers in November 2018, the BMU and the other environment ministries from within the EU agreed additional proposals aimed at achieving the objectives set in the EU Water Framework Directive by 2027. The proposals include measures to be taken at the EU, federal and state (*Land*) level. Measures at the federal level include the further revision of fertiliser legislation; this is a particular focus of action as the use of fertilisers in agriculture is the main source of nutrient surpluses. In May 2020, the Fertiliser Application Ordinance (*Düngeverordnung*) was amended again and tougher restrictions on the use of fertilisers containing nitrogen and/or phosphorus were introduced.

### Updating the Waste Water Charges Act

The coalition agreement between the CDU/CSU and SPD of 7 February 2018 states that the rules on wastewater charges should be updated with the aim of reducing water pollution. The German Working Group on Water Issues of the Federal States and the Federal Government (LAWA) has also requested the Federal Government to address the task of amending the Waste Water Charges Act (*Abwasserabgabengesetz*) during the current legislative term. Due to the coronavirus pandemic, work on updating the Act could not progress as planned during the first half of 2020. During the second half of the year, the BMU is focusing all the necessary capacities on Germany’s Presidency of the Council of the European Union. It will therefore be impossible to complete this ambitious project during the current legislative term.

In lieu of this, a LAWA workshop on the revision of the Act is planned for spring 2021 and will involve the local government associations.

### Waste Water Ordinance

Wastewater may only be discharged into a water body if the quantity and harmfulness are kept to the minimum achievable with the best available water treatment technology. The provisions on wastewater treatment are continuously adapted to current technological developments. At European level too, uniform standards have been adopted in the form of best

available techniques (BAT) conclusions for a range of industrial and commercial sectors.



### Health (SDG 3) and sustainable water resources management

Many different chemicals enter the aquatic environment through wastewater or other input pathways. The effects of these chemicals are, in some cases, unknown or unclear. Although in many instances, the concentrations of substances such as pharmaceuticals in the aquatic environment are very low (nano- or micrograms per litre), there is a discussion on whether and how these inputs into the wastewater path can be further reduced or avoided. Approaches based on legal or technical regulation to reduce these inputs are proving to be contentious among the various stakeholders and interest groups.

Against this background, the BMU conducted a multi-stakeholder dialogue on the Federal Government's Trace Substance Strategy from autumn 2016 to spring 2019. In this framework, recommendations on source-related and use-related measures were elaborated, a proposal was developed for the determination of relevant trace substances and a framework for end-of-pipe measures in the wastewater sector was outlined. The dialogue concluded with agreement on a pilot phase, during which the proposed measures and agreements will be tested and then evaluated before the end of 2020.

## Fracking regulations

Regulations on fracking have been in force since 2017. Under these rules, the use of fracking technology is restricted in Germany in order to protect water resources, and a general ban applies to unconventional fracking. To enhance scientific knowledge about unconventional fracking methods, a total of only four exploratory boreholes may be drilled nationwide in Germany, subject to the approval of the federal states (*Bundesländer*); stringent conditions apply. Conventional fracking schemes, which have existed in Germany since the 1960s, are banned in water protection areas and medicinal spring protection zones, as well as in the drainage areas of lakes and dams, springs, water extraction points for the public drinking water supply, national parks and nature conservation areas. The use of water-polluting

substances in fracking is also banned. Fracking schemes must undergo an environmental impact assessment, and there must be transparent disclosure of the chemicals being used.

## Outlook

Climate change, demographic developments, land use changes, technological innovations and shifts in consumer behaviour are creating a new set of parameters in the water industry that cannot be managed through sector-specific or local measures alone. The German water infrastructure is designed with supply security and longevity in mind, requiring forward planning and substantial financial investment. Significant efforts will continue to be required to protect water as a valuable resource for the long term. The BMU is therefore conducting a National Water Dialogue during the International Decade for Action on Water for Sustainable Development (2018 to 2028). The required strategic objectives and options for action are identified and discussed with key stakeholders in this context. Based on the findings and the BMU's own research, a national water strategy is currently being developed in the BMU. It is intended to provide long-term direction to 2050 and establish a framework for sustainable management of water resources. Initial discussions on the first draft of the strategy will take place in early 2021.



## SDG 7

### Affordable and Clean Energy

*Ensure access to affordable, reliable, sustainable and modern energy for all*

#### Which topics does the Goal address?

SDG 7 aims to ensure universal access to affordable, reliable, sustainable and modern energy services by 2030, to increase substantially the share of renewable energy in the global energy mix and double the global rate of improvement in energy efficiency. A further target is to support the expansion of energy infrastructure and upgrading of energy technologies in countries of the Global South.

#### How is this Goal relevant?

An adequate energy supply and energy access are essential for the functioning of modern economies and for economic and social development. Without energy, machinery and computers would cease to function, our mobility would be reduced to a minimum and our communication media would no longer enable people all over the world to connect with each other within a few seconds. And yet 840 million people worldwide are still without access to electricity; most of them live in rural regions of the Global South.<sup>16</sup>

Achieving many of the Sustainable Development Goals is directly dependent on a reliable energy supply; SDG 8: Decent Work and Economic Growth and SDG 9: Industry, Innovation and Infrastructure are examples. The correlation with other Goals arises from the requirement in SDG 7 that energy should be clean and affordable. The fact is that the environmental and social dimensions of sustainable development can be realised only if no climate-damaging greenhouse gas emissions or other forms of pollution are produced in energy generation and if there is universal access to energy.

### What is the role of environmental policy in reaching this Goal?

In order to achieve these targets, the existing energy system must be converted from fossil fuels to renewables. Germany aims to achieve climate neutrality by 2050, which means meeting all its energy needs in the power, heating and transport sectors from renewables by that date. On the one hand, the available potential for improving energy efficiency and energy saving must be leveraged for this purpose. On the other, large-scale accelerated expansion of renewable energies is required, along with the development of appropriate infrastructures, primarily modern and needs-based power grids. The role of environmental policy in this context is to ensure that all actions and measures aimed at furthering the energy transition are compatible with nature and ecology.



#### Nature conservation and the energy transition (SDG 15)

Structural change in the energy sector is placing new demands on the natural environment. Compared with Germany's existing power generation and supply system, the expansion, distribution and storage of renewable energies will change – and in some cases increase – the demand for land. This has become apparent in the expansion of wind power and ground-mounted solar PV systems, and the construction of power lines and cable routes for the required alignment of grid capacities. These measures will influence landscape appearance, ecosystems and biodiversity now and in future. Nature conservation and the energy transition are not mutually exclusive, however. As a responsibility to future generations, renewables-based energy security must be achieved in harmony with climate protection and the conservation of biodiversity and landscape. The system of targets and nature conservation/landscape preservation mechanisms are well-suited for striking a balance between the sometimes competing needs of the energy transition and nature conservation objectives, for example. In that sense, there is a very close correlation between SDG 7 and SDGs 13 (climate) and 15.

<sup>16</sup> Source: United Nations (2019): The Sustainable Development Goals Report 2019, page 10: [www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren\\_flyer/infobroschueren/sMaterialie415\\_sdg\\_bericht.pdf](http://www.bmz.de/de/mediathek/publikationen/reihen/infobroschueren_flyer/infobroschueren/sMaterialie415_sdg_bericht.pdf) (German); <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf> (English)

## How does the BMU contribute to Goal achievement?

In terms of its environmental focus, energy policy is aligned to the international climate target agreed in Paris, namely to hold the increase in the global average temperature to well below 2°C. It is also aligned to provisions adopted by the European Union, with its climate targets, energy market rules and legislation, and EU emissions trading. At the national level, the Federal Ministry for Economic Affairs and Energy (BMWi) is responsible for broad areas of energy policy and for the renewables expansion, whereas the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) leads on European emissions trading and the German Fuel Emissions Trading Act (*Brennstoffemissionshandelsgesetz*), which regulates the national emissions trading system. In addition, the BMU is involved on an ongoing basis at the national level due to the linkages with nature conservation and the major contribution made by energy policy decisions to climate change mitigation.

## Climate Action Programme 2030

In contrast to the power sector, where renewables – mainly wind and solar – already cover 40 per cent of gross electricity consumption, the transition in the heating and transport sectors is still at an early stage. The Climate Action Programme 2030, which was put forward by the BMU and adopted by the Federal Cabinet in October 2019, therefore defines a range of measures aimed at achieving sector-specific emission reduction targets in buildings, industry and transport as well.

## Energy Transition Monitoring Report

The energy transition will mitigate some environmental impacts and create synergies for a sustainable energy sector, but may potentially also adversely affect the environment and human health in new ways and encroach on nature and landscape. It thus raises classic sustainability issues, mainly in the sphere of environmental policy itself.

For example, with the continuing expansion of renewable energies, the scope for conflicts of interest and associated land use competition is increasing. All forms of energy conversion have impacts on the natural envi-

ronment, human communities and available resources. In the renewable energy sector, this problem arises primarily in connection with onshore wind and grid expansion at present. Annual monitoring is therefore an integral part of the process of energy transition. It identifies and assesses, at an early stage, the possible environmental and health effects and the likely impacts on nature, ecology and landscape. With the BMU as lead ministry, they are addressed in a separate chapter of the Monitoring Report as a basis for initiating appropriate measures to avoid adverse environmental impacts. In order to display energy transition-related changes in environmental status in a scientifically robust manner, an appropriate measuring tool is currently being developed.

## European emissions trading

The EU Emissions Trading System (EU ETS) is creating more incentives for the energy sector and industry to reduce their greenhouse gas emissions. In combination with the national emissions trading system, it ensures that there is across-the-board pricing of Germany's greenhouse gas emissions. The national emissions trading system is one of the measures agreed in the Climate Action Programme 2030 to progress the ecological restructuring of the heating and transport sectors and meet the reduction targets to which Germany is committed under the EU's Effort Sharing Regulation<sup>17</sup>. Through effective avoidance of greenhouse gas emissions, both measures make a major contribution to achieving SDG 7.

## Energy efficiency

In December 2019, the Federal Government adopted the Energy Efficiency Strategy 2050, with the Federal Ministry for Economic Affairs and Energy (BMWi) as lead ministry. The Strategy sets a target of cutting Germany's primary energy consumption by 30 per cent by 2030 compared to 2008. A further component of the Strategy is the second National Action Plan on Energy Efficiency (NAPE), which will be implemented and developed further in dialogue with stakeholders. The BMU makes an active contribution here. The BMU also makes a significant contribution to increasing energy efficiency and to energy saving via its climate funding

17 Regulation (EU) 2018/842

and information programmes, which include not only the National and International Climate Initiatives but also the My Climate Protection campaign and the Environmental Innovation Programme.

## Outlook

In the electricity sector, Germany is well on the way towards a green and sustainable energy supply: it now covers more than 40 per cent of its gross electricity consumption from renewable energies, mainly wind and solar. The target for 2030 is to increase this share to 65 per cent, which will require a greatly accelerated expansion of renewables. The last of Germany's remaining nuclear power plants are due to be shut down by 2022, with a regulated exit from coal-fired power generation by 2038. A radical transformation of the electricity supply has thus been initiated in recent years, with significant input from the BMU. It is already apparent, in this context, that complete decarbonisation of the electricity sector is required well in advance of 2050.

In order to achieve a successful energy transition overall while making up ground in the heating and transport sectors in particular, it is necessary, firstly, to substantially and sustainably reduce energy demand (Efficiency First principle). Secondly, renewable energy sources must be applied directly in all sectors as far as possible. And thirdly, there must be efficient utilisation of renewables-generated electricity for the heat supply, transport and industry via sector coupling. For sector coupling, such as connecting the energy sector with fossil-based industries (such as chemicals) via energy storage or conversion systems, appropriate incentives must be provided to reduce the price of electricity. The use of renewables-generated electricity for all other demand sectors in industry and energy management lies at the heart of sector coupling.



## SDG 8

### Decent Work and Economic Growth

*Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all*

### Which topics does the Goal address?

SDG 8 deals with the economic dimension of sustainable development: it is about shaping a future-fit economy to guarantee social prosperity for all. Through technological upgrading and innovation, the aim is to progressively improve, to 2030, global resource efficiency in consumption and production and thus decouple economic growth from environmental degradation. In accordance with the ten-year framework of programmes on sustainable consumption and production, the countries of the Global North are encouraged to take the lead and fulfil their international responsibility. A further objective, in this context, is to implement policies for sustainable tourism that creates jobs and promotes local culture and value-added.

### How is this Goal relevant?

All forms of economic activity are based on the use and processing of natural resources, whose availability, in many cases, is limited. This is a challenge, both in terms of planetary boundaries and as regards globally equitable distribution.

There is a close and visible correlation between SDG 8 and SDG 10 (Reduced Inequalities) in particular here. In order to do justice to both the economic and the social dimension, a double decoupling is required: firstly, (global) gross domestic product (GDP) must be decoupled from environmental degradation at every stage of the national and international value-adding process. Secondly, a new definition of prosperity is required – one that is separate from quantitative economic growth and broadened to include dimensions of sustainability. Qualitative criteria such as the environmental compatibility of products and services, social innovations such as the repair and exchange economy (SDG 12) or the provision of sufficient time for care-giving outside work (SDG 5) are examples of aspects

that could be considered in this context. Sustainable prosperity offers scope for collective efforts to identify and implement solutions to social and environmental challenges. A modern welfare state that is underpinned by a market economy utilises the public sector's room for manoeuvre here. Through smart investment, incentive schemes, procurement, a sustainable budget and appropriate legal frameworks, it can lay the foundation for secure employment, fair income distribution and prosperous, sustainable economic sectors.

### How does the BMU contribute to Goal achievement?

In building a sustainable economy that includes alternative and eco-friendly business models, innovations – both technological and social – are essential. They range from sustainable production and financing mechanisms to sustainable consumption strategies and debates about how much growth – and how much consumption – is enough. With its support for the development and export of environmental technologies, start-up funding and citizen participation procedures, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) makes a major contribution to addressing these challenges and transforming our economic system. In so doing, the BMU engages in intensive cooperation with stakeholders, particularly the trade unions and employee organisations, businesses and industry associations. The initiatives and programmes described below provide an overview of current activities in Germany and other countries.

### Trade union dialogue

The BMU has initiated a trade union dialogue on labour and environment, in which key topics are discussed with the trade unions and areas of overlapping interest are identified. This dialogue process commenced at the working and leadership levels with the Federal Minister and trade union chairpersons back in 2019. The initial discussions focused mainly on the topical issue of climate action, the exit from coal-fired power generation and the concurrent structural development measures in coal-mining regions.



### Gender equality (SDG 5) and the sustainable economy

The labour market and gender equality are interconnected and interdependent. In parallel to their paid employment, women still shoulder much of the responsibility for caregiving, home and family. This can lead to their unequal participation in working life and is one of the factors behind the gender pay gap. A sustainable economy therefore encompasses the social dimension and considers aspects such as policy frameworks for a better work/life balance and more wage equality. Gender equality is a key element in ensuring development opportunities for all and in promoting decent work.

### Enterprise Biological Diversity 2020: a platform for business associations

Within the framework of Enterprise Biological Diversity 2020 (*Unternehmen Biologische Vielfalt 2020*), the BMU has, since 2013, engaged in constructive dialogue with business associations and nature conservation organisations on measures to implement the National Strategy on Biological Diversity in the private sector. The focus is on communication, network building and awareness-raising (information material, website, and so on), but also on practical actions, which are publicised on an online platform. Key topics include nature-friendly design of company premises, nature conservation legislation and, in particular, the mainstreaming of biodiversity as a corporate management principle, including in supply chains. A competition on integrating biodiversity into supply chains was therefore held in 2019. Furthermore, alongside the annual dialogue forums, regular meetings are held for the supporters' group and for the contact network for chambers of industry and commerce, chambers of crafts and state ministries initiated by the German Association of Chambers of Industry and Commerce (DIHK). The supporters' group currently consists of six business federations, 19 industry associations from a variety of sectors (automotive, food, energy water, textiles, construction, tourism), six business and environment networks, and six nature conservation organisations.<sup>18</sup>

18 Source: BfN (2020): <http://biologischevielfalt.bfn.de/unternehmen-2020/ueber-ubi-2020.html>

## The National Bioeconomy Strategy

The Federal Government adopted the National Bioeconomy Strategy in January 2020. The sustainable production of biomass in agriculture and forestry is a central pillar of the Strategy. The BMU worked to ensure that the Strategy addressed the issue of conflicts of interest over land use, as well as impacts on biodiversity, water balance, nutrient cycles and the global climate balance.

## A sustainable economy within the framework of the Digital Policy Agenda for the Environment

A sustainable economy is based on the precautionary principle, systemic thinking and innovation capacity, an awareness of planetary boundaries, and social justice. The Digital Policy Agenda for the Environment, published by the BMU in February 2020, identifies opportunities to utilise environmental data in various economic sectors, and as part of an environmental management system, in a way that is fit for the future and cost-effective. The use of digital tools can make environmental and sustainability reporting significantly easier and more attractive, ultimately benefiting customers and investors.

## Sustainable Finance Strategy for Germany (sustainable financial industry)

Germany aims to become a leading centre for sustainable finance. By setting itself this ambitious goal, the Federal Government intends to mobilise all financial market actors to finance the transition to a sustainable economic and financial system and share in its success. In spring 2019, the State Secretaries' Committee for Sustainable Development therefore requested ministries to develop a Sustainable Finance Strategy for Germany. This was also taken up in the Climate Action Programme adopted in 2019. In summer 2019, the Federal Ministry of Finance (BMF) and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) therefore established a national Sustainable Finance Committee ([www.sustainable-finance-beirat.de](http://www.sustainable-finance-beirat.de)). The Committee will present its final report, with proposals and recommendations to the Federal Government on a Sustainable Finance Strategy, by early 2021. Financial market actors are also responding to this initiative and are increasingly structuring

their lending and investment portfolios in line with the targets of the Paris Agreement on Climate Change. A voluntary climate commitment<sup>19</sup> was signed by leading banks in late June 2020. The Federal Government is fulfilling its responsibilities as well. Germany's first green sovereign bond is due to be issued in September 2020 and will set a new standard internationally. There is close collaboration between the BMF and BMU here.

## National Hydrogen Strategy

The BMU and the Federal Government as a whole recognise the central importance of green hydrogen and the products derived from it (power-to-X) as a key building block for national and global climate protection and sustainability. Renewable energies and renewables-based PtX technologies offer opportunities for new value chains. The BMU presented the PtX Action Programme in summer 2019 and is currently working intensively with other government departments on implementing the National Hydrogen Strategy, which was adopted by the Federal Cabinet on 10 June 2020. In implementing the Strategy, the BMU attaches importance to the following: only green hydrogen that has been produced using renewable energy can make a sustainable contribution to climate action. For the sake of the climate, renewable hydrogen should initially be deployed solely in sectors in which there are no alternative decarbonisation technologies available, primarily steel and chemicals, aviation and shipping. Furthermore, it is essential that the market ramp-up of hydrogen is accompanied by the further expansion of renewable energies. The domestic generation of green hydrogen will not be sufficient to cover demand, so it is essential to identify suitable partner countries and support their efforts to build appropriate sustainable production capacity.

## Outlook

The BMU will contribute to the action plan to implement the Bioeconomy Strategy. In addition, as part of the exit from coal, it will carry out a range of activities based on the recommendations made by the government-appointed Commission on Growth, Structural Change and Employment. The pathway towards climate neutrality opens up very significant opportuni-

19 [www.klima-selbstverpflichtung-finanzen.de](http://www.klima-selbstverpflichtung-finanzen.de)

ties for Germany as a location for industry and investment. The demand for environmental technologies and green digital business models will predominate in future. Climate-neutral, sustainably produced industrial goods from Germany will offer competitive advantages for German companies; the BMU is monitoring the relevant processes very closely.

The European Green Deal is also intended to contribute to climate neutrality, resource efficiency and the protection and conservation of natural capital. It makes reference, for example, to strategic value chains. It is essential that supply and value chains also take account of the social and environmental dimensions: they are indispensable to safeguard the sustainable future of our economy and its competitiveness. Many businesses, too, are now quite rightly engaging for sustainable supply chains and the introduction of corporate due diligence standards. The BMU will work to ensure that these fundamental requirements are regulated in law, preferably at the European level. This does not preclude the adoption of sector-specific diligence requirements, also in the form of industry initiatives.



## SDG 9

### Industry, Innovation and Infrastructure

*Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation*

#### Which topics does the Goal address?

This Sustainable Development Goal calls for sustainable and resilient infrastructure. It also focuses on industry, which should adopt environmentally sound processes and resource efficiency in closed loops, and supports greater use and domestic development of clean technologies. To that end, SDG 9 aims to enhance scientific research and encourages innovation.

#### How is this Goal relevant?

Without innovation, there can be no expectation of adequate progress towards a sustainable future. An extended understanding of innovation is therefore appropriate; as a tool for finding creative answers to pressing questions, it includes society as a key stakeholder and upholds the precautionary principle and existing protection standards. Modern environmental and efficiency technologies, new infrastructures and system solutions, and innovative organisational forms and behaviours can avoid future adverse impacts on the environment, people and the climate while also mitigating or remediating damage that has already occurred. They thus open the way for an economy based on reduced resource use, lower emissions, improved energy efficiency and more nature and species conservation.

The environmental, climate, economic, employment and industrial policy significance of innovation in the environmental and efficiency technologies sector will continue to increase in Germany, Europe and worldwide. The global market volume for environmental technology and resource efficiency is still growing and predicted to reach EUR 5,900 billion by 2025.<sup>20</sup> Germa-

<sup>20</sup> Source: BMU (2018): GreenTech made in Germany 2018: Environmental Technology Atlas for Germany, page 7ff.: [www.bmu.de/fileadmin/Daten\\_BMU/Pool/Broschueren/greentech\\_2018\\_bf.pdf](http://www.bmu.de/fileadmin/Daten_BMU/Pool/Broschueren/greentech_2018_bf.pdf)

ny produces approximately 5 per cent of the world's economic output but accounts for a 14 per cent share of the global green tech market (correct as at 2017). This clearly demonstrates the disproportionately high economic significance of environmental and resource efficiency technologies for Germany. However, Germany faces increasing pressure from competitors such as China, Japan and the US, and overall, Germany's international competitiveness has declined noticeably over the past decade. In 2007, Germany's share of international trade in environmental protection goods stood at 16.8 per cent. Germany currently ranks second in international trade after China.<sup>21</sup>

### What is the role of environmental policy in reaching this Goal?

Environmental policy stipulations and rules, market-compliant steering mechanisms, funding strategies and competitions that focus on the environmental dimension all help to incentivise innovation by all branches of the economy. Regulatory policy measures, such as stricter limit values for substance inputs into the environment or direct funding for the green tech industry, can stimulate research, development and rollout of innovative and more sustainable products, system solutions and services in other economic sectors as well. The task of environmental policy is always to consider, and to prevent wherever possible, potential rebound effects in the system as a whole; these effects can also arise in relation to environmental improvements (such as energy efficiency gains in IT devices). A rebound effect is said to have occurred if, for example, increased use of a more efficient or upgraded appliance results in higher electricity consumption.

### How does the BMU contribute to Goal achievement?

At the national level, industrial and innovation policy is the responsibility of the Federal Ministry for Economic Affairs and Energy (BMWi). However, environmental innovation and the green economy in particular are highly relevant to economic, innovation and infrastructure policy. The Federal Ministry for the

Environment, Nature Conservation and Nuclear Safety (BMU) therefore implements a range of measures, mainly through the provision of funding, to strengthen industry's innovation capacities and build sustainable infrastructures.

### Environmental Innovation Programme

Via the Environmental Innovation Programme (UIP), which has existed for more than 40 years, the BMU provides support on a cross-sectoral basis for investment projects aimed at preventing or mitigating harmful environmental impacts. The UIP provides funding for industrial-scale pilot projects that show how innovative technologies or products can be used to improve environmental and climate protection and increase resource efficiency. The funding is intended to smooth the way for prospective investors to commercialise innovative and replicable model concepts. The projects enable the BMU to gain valuable insights as to which environmental improvements are technically feasible; it can then use this information in developing environmental law. Via the innovation transfer to other investors, the pilot projects are intended to have a multiplier effect and support the rollout of technological innovations.

#### Social innovations (SDG 12)

Alongside technological innovations, civil society engagement is highly relevant in the sustainability context. Civil society initiatives – such as new forms of social self-organisation in sustainability projects – experiment with alternative consumption patterns and ways of living, and devise a range of options to build society's resilience, enabling it to respond more flexibly to unforeseen developments.<sup>22</sup>

21 Source: UBA (2020): Die Umweltwirtschaft in Deutschland 2019, page 9ff.: [www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-01-23\\_umweltwirtschaft\\_in\\_deutschland2019\\_final\\_online.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2020-01-23_umweltwirtschaft_in_deutschland2019_final_online.pdf)

22 Source: UBA (2016): [www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/texte\\_40\\_2016\\_nachhaltiger\\_konsum\\_durch\\_soziale\\_innovation.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/texte_40_2016_nachhaltiger_konsum_durch_soziale_innovation.pdf)

## GreenTech Atlas

In collaboration with the green tech industry, which is experiencing strong growth, the BMU produces the GreenTech Atlas at regular intervals, most recently in 2018. The Atlas analyses current trends, opportunities and risks associated with “GreenTech made in Germany” and also provides data on environmental and efficiency technologies, green innovations and environmentally friendly solutions. In parallel, joint research projects conducted with the German Environment Agency (UBA) look at how innovations can be developed into marketable commodities (diffusion) and how partnerships between start-ups and major industrial companies can be encouraged for this purpose.

## Funding programme: Decarbonisation in Industry

The BMU is currently preparing a funding programme on decarbonisation in industry. The funding programme will support research and development of innovative climate technologies that reduce process-related emissions from energy-intensive industries, as well as investment in the use and application of these technologies on an industrial scale. Support is thus provided for energy-intensive sectors’ adoption of technologically ambitious springboard innovations that work towards a climate-neutral industry. A total of EUR 1.025 billion is allocated to the programme to 2023 in Germany’s Energy and Climate Fund. The funding programme will launch this year and be managed by the Competence Centre on Climate Change Mitigation in Energy-Intensive Industries (KEI). The funds can already be accessed via the “Decarbonisation” funding window of the Environmental Innovation Programme.

## Competence Centre on Climate Change Mitigation in Energy-Intensive Industries (KEI)

The funding programme will be managed by the Competence Centre on Climate Change Mitigation in Energy-Intensive Industries (KEI), which was established under the BMU’s auspices and is based in Cottbus. The Competence Centre was officially opened in November 2019. With the KEI, the BMU has set up an international, interdisciplinary, cross-industry

knowledge platform on all issues relating to industrial decarbonisation. Due to their process-related emissions, sectors such as steel, chemicals, non-ferrous metals, cement and lime face major challenges in carrying out climate-related decarbonisation. The KEI will act as a think tank, providing them with advice and support.

By locating the KEI in Cottbus, a further aim is to provide support for regional economic development and structural change in the Lausitz region resulting from the planned exit from coal. The local community is involved through the Cottbus Talks (*Cottbuser Gespräche*), a series of events co-hosted by the KEI and Brandenburg University of Technology Cottbus-Senftenberg, and has opportunities for dialogue with business and policy makers on climate change mitigation in industry and the associated opportunities for the Lausitz region. The BMU thus makes a contribution, inter alia, to SDGs 10, 11 and 16.

## Environmental Technologies Export Initiative

Through the Environmental Technologies Export Initiative<sup>23</sup> (EXI), the BMU provides support – including during crisis periods – for German businesses (primarily SMEs) that export green and sustainable climate technologies and services (green tech). The programme has provided funding (currently amounting to EUR 15 million annually) for environmental technologies and green infrastructure under the “Made in Germany” label since 2016. It thus assists other countries to establish sustainable infrastructures and supports the achievement of the Goals set out in the 2030 Agenda, particularly SDG 9 and SDG 17.

23 [www.exportinitiative-umweltschutz.de](http://www.exportinitiative-umweltschutz.de)

## Outlook

In recent years, the national support system for business start-ups in the green economy in Germany has been studied and further developed on a targeted basis through various projects funded by the BMU via the National Climate Initiative. In a new project, existing or planned funding schemes within the German start-up support system will be studied to determine to what extent they have already integrated climate and sustainability targets, and how the economic, environmental or social dimensions of sustainability can be embedded more fully and beneficially in these funding schemes.



## SDG 10

### Reduced Inequalities

*Reduce inequality within and among countries*

### Which topics does the Goal address?

SDG 10 focuses on more equitable sharing of prosperity and more equality in income distribution. It aims to ensure equal opportunity and empowerment, and promotes the social and political inclusion of all, irrespective of age, sex, disability, ethnicity, origin, religion or other status.

## How is this Goal relevant?

Justice is the guiding principle of sustainable development. If resources, power and inclusion are distributed unequally, people cannot participate in society and shape their own futures in freedom from hardship and need. A fair balance of interests that reduces inequalities is prerequisite for, and a key element of, international sustainability policy.

### **i** Financing sustainable development (SDGs 13 and 17)

The impacts of climate change vary considerably from country to country. Countries of the Global South are particularly likely to face more severe impacts due to their geographical location and capacity to adapt to changing climatic conditions. Climate change already poses a threat to societies and is generating significant costs. The drivers of climate change are also distributed unequally: the developed nations are responsible for a higher proportion of global greenhouse gas emissions. The BMU therefore attaches importance to providing financial support to countries of the Global South in reducing their greenhouse gas emissions and responding to climate change-induced investment needs. International climate finance is an integral element of climate policy, linking the strengthening of international partnerships with the elimination of inequality and the protection of the climate.

## What is the role of environmental policy in reaching this Goal?

Environmental policy aims to lessen environmental pressures that are harmful to health or well-being, such as noise and pollution in socially disadvantaged neighbourhoods. Although their residents contribute less to environmental pollution, these living spaces often experience adverse environmental impacts to a particularly high degree compared with more affluent districts. A further aim of environmental policy is to improve access to environmental resources such as green or open space. The economic and social impacts of environmental policy decisions and regulations must also be assessed and managed in an equitable manner. As low-income households spend a larger proportion of their income on electricity and heating costs, pricing and steering mechanisms must be deployed to safeguard a reliable energy supply for all

population groups. Likewise, food pricing must ensure that all groups within the population are able to share in sustainable consumption. Environmental policy thus makes a contribution to more equitable distribution of prosperity overall (environmental justice).

## How does the BMU contribute to Goal achievement?

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) does not have lead responsibility for achieving SDG 10 and the corresponding targets set out in the German Sustainable Development Strategy. It does, however, implement specific measures to reduce inequalities.

## A new administrative division in the BMU

Environmental policies that are effective and aim to gain long-term acceptance face a challenge: to give more consideration than before to the socio-political and socio-economic impacts of measures and instruments. In 2018, the BMU responded by setting up a new administrative division with responsibility for Social Aspects of Environmental Policy and Social Equity. By avoiding adverse impacts on vulnerable, such as environmentally or socially disadvantaged groups, environmental policy can be a transformative instrument in the sustainable reorganisation of infrastructures and social relations. However, precisely because they aim to make existing distributional relationships more equitable, environmental policy measures are often viewed critically, depending on the interests and perhaps the privileges at stake.

## Promoting disadvantaged groups

The BMU continuously funds projects that specifically target disadvantaged groups, such as the provision of signage along hiking routes for the visually impaired and environmental education projects for refugees.

### Federal Programme for Biological Diversity

In the BMU-funded project “Developing and testing didactic approaches to mobilise people from socially disadvantaged groups for biological diversity”, groups from disadvantaged socio-economic backgrounds are involved in practical nature conservation measures. The target groups learn about global and national

developments in the field of biological diversity and are sensitised to nature conservation challenges using selected information and their own observations. On this basis, participants develop their ideas on ways of enhancing biodiversity in their own surroundings, which they then implement in cooperation with local stakeholders. This four-year project (2019 to 2023) receives approximately EUR 900,000 in funding from the BMU under the Federal Programme for Biological Diversity.

### Social Nature – Nature for All

The competition Social Nature – Nature for All, launched by the BMU in 2017, forms part of Germany’s activities to mark the United Nations Decade on Biodiversity. This special competition recognises outstanding projects at the interface between nature and social issues. The competition will run until the end of the UN Decade in 2020. The projects draw attention to the opportunities that nature and biodiversity offer for social cohesion and for overcoming social and cultural boundaries. Projects that have received awards to date have enabled children from disadvantaged social groups, migrants and people with disabilities to gain a shared experience of nature and have contributed to integration and reduced social exclusion, for example. Accompanying the competition, a conference on “Social Nature – Nature for All – the key to social cohesion – play areas for happy children” was hosted in Berlin in November 2019 by the Office of the UN Decade on Biodiversity in Germany on behalf of, and in collaboration with, the BMU and the German Federal Agency for Nature Conservation (BfN).

## Gender mainstreaming

As part of its support for environmental and climate projects, the BMU attaches great importance to assessing the potentially divergent impacts of policies on the life realities of men and women, tailoring project design accordingly (gender mainstreaming). The environmental justice dimension is regularly considered in a variety of contexts (for example, a renewables-based electricity supply).

## Side event at the HLPF 2019

In collaboration with the Federal Ministry for Economic Cooperation and Development (BMZ), the BMU organised and delivered the Federal Government’s

official side event at the High-Level Political Forum on Sustainable Development (HLPF)<sup>24</sup> at UN Headquarters in 2019. Priority themes addressed at the HLPF included inequality and equitable transformation. The discussion looked at how climate, economic and distribution policies can be combined to make sustainable development fair and equitable.

## Outlook

The path towards a post-fossil fuel age will entail radical changes to our lifestyles, work and economic model in the coming decades. To ensure society's acceptance of this comprehensive restructuring, environmental policy measures must be designed with social equity in mind. Safeguarding social inclusion and equitable distribution of environmental pressures are key issues here. Environmental justice touches on many policy fields and thus links in with a diverse range of strategies and programmes – from sustainable and socially oriented urban development to social situation-based health promotion and prevention. In the Federal Government and through its cooperation with the federal states (*Länder*), the BMU will continue to develop environmental justice as a key principle of German policy making in the field of sustainability.



24 The annual HLPF brings UN members together to report on the status of SDG implementation in their countries and to discuss progress and challenges. The HLPF is the central platform for follow-up and review of the 2030 Agenda.

## SDG 11

### Sustainable Cities and Communities

*Make cities and human settlements inclusive, safe, resilient and sustainable*

#### Which topics does the Goal address?

By implementing this Goal, the aim is to achieve more sustainable urbanisation, human settlement planning and transport systems. A further aim is to reduce the adverse environmental impact of cities and provide universal access to green and public spaces and sustainable transport systems. It is important, therefore, to increase the number of cities with integrated programmes to promote resource efficiency, mitigate climate change and boost resilience to disasters. The links between urban and rural areas should also be supported. In this context, integrated national and regional development planning can support positive economic, social and environmental links between urban, peri-urban and rural areas. The research project Urban and Rural: Equal Living Conditions in Designing Sustainable Spatial Relationships (*Stadt und Land: Gleichwertige Lebensverhältnisse unter Ausgestaltung nachhaltiger Raumbeziehungen*), for example, investigates how effective regional development can contribute to strengthening sustainable spatial relations between cities, the urban hinterland and rural areas.

#### How is this Goal relevant?

Although cities occupy only 2 per cent of global land area, around 50 per cent of the world's population now lives in urban centres, and by 2050, it is likely that 6.5 billion people will be urban. Urban spaces are therefore a focal point for environmental, climate, economic and social change. In cities, the major challenges of our time, such as climate change, the energy transition, resource availability and social inclusion, are particularly visible. The situation of cities is ambivalent in several respects. They are characterised by competing user interests with conflicting objectives. They are centres for innovation and growth (SDG 9) and social dialogue, and are often the starting point for change. At the same time, social disparities are intensifying in cities in particular (SDG 10). Cities are most affected by the risks arising from global developments and are particularly vulnerable to the effects of climate change. However,

they also offer their own specific potential for resource and energy efficiency, and for achieving improvements in relation to surface sealing and noise, air, soil and water quality (SDG 13, SDG 3). SDG 11 is closely connected to many other SDGs; almost all the SDGs relate in some way to cities and municipalities.

## What is the role of environmental policy in reaching this Goal?

In efforts to protect the urban environment, the challenge is to develop integrated and sustainable cities and municipalities, with a particular focus on reducing consumption of land and resources. This helps to conserve biodiversity and safeguard quality of life and clean air. The concept of “dual inward development” (*doppelte Innenentwicklung*) in urban planning is the guiding principle here. Higher-density development should be accompanied by targeted measures to upgrade existing inner-city green spaces. Quality living is enhanced by the availability of attractive and functional green and open spaces in the immediate vicinity. Adaptation to the impacts of climate change can also increase environmental quality and quality of life in urban areas: green roofs and façades, expanses of water and shaded areas all help to lessen the effects of heat and improve rainwater retention. Other requirements that urban environmental protection should meet include the expansion and conversion of infrastructure as part of the energy transition, mobility options that promote health and the environment, and measures to reduce excessively high noise levels and improve the often poor air quality. There are also numerous functional interactions between urban and rural areas, which can affect the environment, nature and climate. Examples to be mentioned here are food production, water supply and disposal, energy, waste management, mobility (particularly commuter traffic), culture and recreation, and the flow of goods.

## Environmental indicators to measure Goal achievement

In the German Sustainable Development Strategy, additional land development is used as an indicator to measure progress in implementing SDG 11. The indicator reflects the competing land use interests mentioned above, and shows the expansion of built-up area and transport infrastructure (land consumption). A second indicator focuses on the corresponding loss

of open spaces and on settlement density. The Federal Government has set itself the target of limiting land consumption to fewer than 30 hectares per day by 2030, thus reducing loss of open space per capita. Settlement density should be maintained at a stable level as far as possible. The land consumption and open space indicators show a positive trend. With regard to settlement density, however, the situation varies: while the target is close to being achieved in urban areas, settlement density continues to decline in rural regions. It remains to be seen how the opportunity, newly created in the Federal Spatial Planning Act (*Raumordnungsgesetz*), for quantified targets to reduce land consumption will be utilised in order to reverse this trend.

## How does the BMU contribute to Goal achievement?

Other, overarching political processes such as the New Urban Agenda adopted by the United Nations (2016), the Urban Agenda for the EU (2016) and the Leipzig Charter (2007) provide an important political framework for implementing SDG 11. Improved and more effective cooperation between the national and subnational levels lies at the heart of these processes.



### Green infrastructure (SDG 9)

The term “green infrastructure” is rooted in the idea that intact ecosystems and their services are just as indispensable to a country’s development as technological infrastructure. They deliver direct or indirect benefits for society and, in this way, contribute to human well-being, for instance through the production of drinking water, flood retention and climate regulation, or even by offering opportunities for recreation and aesthetic experiences (Natural Capital Germany 2016). Green infrastructure in urban areas provides support for the urban biological diversity typical of settlements, adaptation to climate change and resilience, human health and well-being, social cohesion and participation, engagement with nature, sustainable economic development and resource-efficient urban development. Urban green infrastructure improves towns’ and cities’ appearance, strengthens their quality as places to do business and their identities – and therefore enhances their quality of life and attractiveness (Federal Green Infrastructure Concept 2017).

Supporting, engaging and involving cities, municipalities and rural districts as key stakeholders is therefore a central issue for the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU). Dialogue processes should explore the scope available in regional and spatial planning to introduce quotas for additional land development as a more effective means of reducing land consumption.

### Research Agenda: urban environmental protection

In collaboration with the German Environment Agency (UBA), the BMU has made fewer urban environmental protection a priority for departmental research at the interface between urban development and conservation of the environment, with a view to developing sustainable solutions and identifying gaps in existing knowledge about environmentally oriented, socially responsible, health-promoting, resource-efficient and integrated urban development. An interdisciplinary approach enables new linkages to be identified and addressed in a focused manner. The research priority is intended to improve the use of synergies between urban development and environmental protection. The research project *Urban and Rural: Equal Living Conditions in Designing Sustainable Spatial Relationships (Stadt und Land: Gleichwertige Lebensverhältnisse unter Ausgestaltung nachhaltiger Raumbeziehungen)*, for example, investigates how effective regional development can help to strengthen sustainable spatial relations between cities, the urban hinterland and rural areas.

### National Climate Initiative

Through the National Climate Initiative, whose slogan is “Climate action needs your initiative”, the BMU promotes numerous projects that make a contribution to reducing greenhouse gas emissions. Municipalities, consumers, companies and educational institutions all benefit from the initiative, which was launched by the BMU a decade ago. Between 2008 and 2018, more than 28,750 projects were carried out, with total funding of around EUR 905 million. These projects generated total investment in excess of EUR 2.9 billion. Under the Local Authorities Guideline (*Kommunalrichtlinie*) in particular, funding is provided inter alia for municipal climate strategies, making a major contribution to increasing the number of cities and neighbourhoods with integrated climate change mitigation programmes.

### Investment programme for municipal pilot projects in the coal-mining regions

With its new “KoMoNa” funding programme (Municipal Pilot Projects to Implement the Environmental SDGs in Regions of Structural Change), the BMU assists municipalities, among others, in coal-mining regions to achieve the environmental SDGs and pursue an eco-friendly development pathway for the long term. The programme supports policy-based contributions to the implementation of the German Sustainable Development Strategy, as well as participatory networking and identity-building measures with a regional focus. Examples are non-school education and cultural projects aimed at youth empowerment, sustainability competitions and campaigns, and recruitment of sustainable development managers. A further objective is to invest in measures such as near-natural development of land and water bodies. During the KoMoNa pilot phase, financial support has been provided for municipal projects under the Federal Government’s Immediate Action Programme on Structural Development in Coal-Mining Regions (*Sofortprogramm “Strukturentwicklung Kohleregionen”*) since 2019.

### German strategy for adaptation to climate change

With the BMU as lead ministry, the Federal Government has adopted the German Adaptation Strategy (DAS) to support climate change adaptation. The Adaptation Action Plan underpins the strategy with practical measures by the Federal Government in 15 fields of action, including the building sector and spatial, regional and physical development planning. Furthermore, through its Funding Programme for Climate Change Adaptation Measures, launched in 2011, the BMU provides financial support for local and regional stakeholders’ adaptation projects in three funding priorities. These local lighthouse projects range from improving municipal structures to developing planning tools and implementing adaptation strategies, and thus make innovative contributions to sustainable urban development.

In densely populated areas in particular, smart forward planning is required. It must take account of the diverse challenges posed by climate change and contribute to urban development that promotes the environmental dimension of sustainability. At the same time, it must enhance quality of life and develop solutions to

conflicts of interest. The impacts of climate change are particularly severe in the water sector. Via the National Climate Initiative, the BMU has therefore supported investment in climate-friendly wastewater treatment and energy efficiency in the drinking water supply since 2019 (on the DAS, see also the section on SDG 13).

## Departmental research on extreme weather events

The increasingly frequent and prolonged periods of drought and heavy rainfall require a response from the municipalities. In light of these extreme weather events, climate change adaptation has become a priority topic for many cities and municipalities, with more focus on this issue in forward planning. In this way, a contribution is made to the implementation of SDG 11 and also SDG 13. Climate change adaptation in urban areas is a good example of how smart forward planning can work by linking several areas of action – development of green spaces and rainfall management, for example – while also improving quality of life. Urban planners, the water sector, agencies responsible for green spaces, architects and road-builders must give more consideration to potential linkages and synergies in future.

## Master Plan on Urban Nature

In June 2019, the Federal Cabinet approved the Master Plan on Urban Nature, a programme of measures by the Federal Government to create cities that are filled with life. The aim of this Master Plan, which was presented by the BMU, is to create natural habitats for the conservation of biodiversity and enhance people's experience of nature in their own neighbourhoods. The 26 actions defined in the Master Plan all fall within the Federal Government's sphere of responsibility and will support the activities undertaken by the municipalities and urban society as a whole to enhance nature in the urban space. For example, urban nature is a new funding priority within the BMU's Biodiversity Funding Programme, and the existing federal programmes that provide financial support for urban development and upgrading of buildings are being aligned more closely to nature conservation objectives. The Federal Nature Conservation Act (*Bundesnaturschutzgesetz*) strengthens local landscape planning. Other measures relate to urban water and rainfall

management, professional training and development, the Federal Government's function as a role model, and PR activities.

## Outlook

The relevance of urban spaces to climate protection, nature conservation and resource efficiency is steadily increasing due to towns' and cities' major role as consumers of resources and producers of emissions. Towns and cities in Germany (and around the world) face growing environmental challenges. At the same time, they offer great potential in identifying innovative solutions for the transformation of transport and energy systems, for sustainable construction and living, for climate change adaptation, urban nature and land use, and improved air and water quality, along with a willingness to test and refine these solutions in everyday life. Achieving key environmental and climate policy goals crucially depends on whether, and to what extent, it is possible to drive the ecological transformation in towns and cities in particular.



## SDG 12

### Responsible Consumption and Production

*Ensure sustainable consumption and production patterns*

#### Which topics does the Goal address?

SDG 12 aims to achieve the necessary changes to our way of life and economic model. Consumption and production must take place within the planet's ecological boundaries. To that end, consumption and production activities must be largely decoupled from resource use and greenhouse gas emissions. SDG 12 not only relates to individual consumption; it also entails the restructuring of the value-added patterns that underlie our system of production. It covers aspects such as the circular economy, sustainable supply chains and the prevention and responsible disposal of waste, including the aim of halving global food waste by 2030.

#### How is this Goal relevant?

The production and use of consumer goods are directly or indirectly responsible for a major share of emissions of CO<sub>2</sub> and other climate-damaging or ecologically harmful substances into the environment. Cotton production, for example, accounts for 10 to 20 per cent of global pesticide use and, through the use and incorrect disposal of chemicals, causes contamination of global water resources. In addition, cotton is often transported over long distances: only 10 per cent of clothing purchased in Germany, for example, is made in Europe. As this shows, more sustainable production and consumption patterns would have positive impacts on nature, the climate and human health. In a functioning market economy, conscious consumption is one of the most important means of influencing production processes. Production and consumption are thus interlinked, and taken together, offer numerous opportunities to bring influence to bear at individual and government level.

#### What is the role of environmental policy in reaching this Goal?

The task of future-focused environmental policy is to promote the sustainable management of resources and minimise the negative impacts of production and consumption on the environment as far as possible. Environmental policy formulates product standards, promotes the environmental efficiency of industrial plants, encourages recycling and the circular economy and establishes limit values for substance inputs into the environment. At the same time, it provides information for consumers with quality assurance and labelling schemes and thus enables them to switch to more sustainable consumption. Environmental policy also continuously initiates debates that explore sustainable, less growth-oriented economic paradigms and consumption patterns.

#### Environmental indicators to measure Goal achievement

In the German Sustainable Development Strategy, the indicator "energy consumption/CO<sub>2</sub> emissions from private household consumption" plays a key role. It provides information about a factor of significance in global environmental degradation, namely consumption in Germany, which must be reduced. The value of the indicator in 2015 fell by a total of 5.7 per cent compared with 2005; however, there are currently no signs of a continuous reduction. In 2015, CO<sub>2</sub> emissions from private households, including the emission content of consumer goods and emissions from the combustion of biomass, amounted to 638 million tonnes.

A further indicator for sustainable consumption defined in the German Sustainable Development Strategy is the market share of goods certified by independently verified sustainability labelling schemes. The target is to increase this share to at least 34 per cent by 2030; between 2012 and 2016, however, it increased to just 8.6 per cent. More intensive efforts are therefore required, focusing particularly on public procurement. When it comes to introducing sustainable consumption and production patterns, the public sector should lead by example. The federal administration therefore aims to ensure that paper certified under the Blue

Angel<sup>25</sup> scheme accounts for 95 per cent of its paper consumption by the end of 2020; a second sustainable procurement target is to reduce the CO<sub>2</sub> emissions from vehicles belonging to the public sector fleet. Key mechanisms for achieving these targets are the Climate Action Programme 2030 and the Federal Climate Change Act (*Bundes-Klimaschutzgesetz*), adopted in 2019. The responsibility of the Federal Government in relation to public procurement is enshrined in law in Section 13 of the Federal Climate Change Act; the Act also requires preference to be given to options that reduce greenhouse gas emissions.

Complementing these consumption-oriented indicators, the EMAS (Eco-Management and Audit Scheme) indicator focuses on the producer side. Here, the target is to identify a total of 5,000 organisational locations certified under the EMAS system by 2030; the current figure is around 2,200. In recent years, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) has introduced various legal privileges under environmental law for EMAS-registered organisations. The aim is to incentivise the use of the eco-management scheme, for example by fulfilling the obligation to conduct an energy audit via EMAS. However, this trend needs to be reinforced. Among other things, in its Climate Action Programme 2030, the Federal Government has therefore made a commitment that all the highest federal authorities and other federal authorities at an additional 300 locations will introduce an environmental management system. The BMU offers support via the convoy procedure for all supreme federal authorities interested in introducing EMAS; the procedure clusters information, co-learning and exchange. Furthermore, with the Local Authorities Guideline (*Kommunalrichtlinie*), the BMU has offered EMAS-related financial support to municipal entities since January 2019.

## How does the BMU contribute to Goal achievement?

Together with a wide range of partners from government and civil society, the BMU makes a significant contribution to the achievement of the above targets for sustainable production and consumption. Selected

actions relating specifically to SDG 12 implementation are described below.

## National Programme on Sustainable Consumption

The National Programme on Sustainable Consumption was developed under the joint auspices of the BMU, the Federal Ministry of Justice and Consumer Protection (BMJV) and the Federal Ministry of Food and Agriculture (BMEL) and was adopted by the Federal Government in 2016. The Programme sets out practical measures in six key fields of consumption: (1) mobility; (2) food; (3) home, (4) workplace and office; (5) clothing, and (6) leisure and tourism. It also identifies nine areas for cross-cutting approaches, such as education, consumer information and research.



### Sustainable land use for housing and transport infrastructure (SDG 11)

In its Roadmap to a Resource Efficient Europe, published back in 2011, the EU called for a state of “no net land take” by 2050, such as land use as part of a circular economy. The fact is that Earth’s surface is a limited and non-renewable resource. In Germany, the land used for settlement and transport infrastructure is continuously expanding, encroaching on areas without buildings, settlements or land fragmentation. This expansion is associated with the loss of natural soil functions due to surface sealing and the loss of fertile farmland and species-rich, near-natural spaces. In Germany, the settlement and transport area is still growing at a rate of 56 hectares per day, despite a target set in 2001 to reduce this expansion to fewer than 30 hectares per day by 2020. The EU target mentioned above – land use as part of the circular economy – was adopted by the Federal Government in its Climate Action Plan 2050. Urban development that is both compact and offers a high environmental and recreational quality in neighbourhoods is a key element. Compact, mixed-use structures are also defined in the BMU’s Integrated Environmental Programme 2030 as a lead objective for urban development in Germany.

The emphasis is on “taking sustainable consumption out of the niche into the mainstream” and strengthening consumer competence while ensuring that all sections of the population can participate in sustainable consumption. An interministerial working group

25 The Blue Angel has been the ecolabel of the Federal Government of Germany since 1978. The Blue Angel sets high standards for environmentally friendly product design and serves as a reliable guide for a more sustainable consumption.

was set up to support and implement the programme, a Competence Centre for Sustainable Consumption was established with an office at the UBA and a National Network on Sustainable Consumption was launched as a stakeholder platform. In addition, partners work together in lighthouse projects on topics of particular relevance to boosting sustainable consumption. A good example is Pathways and Components of a Digital Agenda for Sustainable Consumption, a lighthouse project initiated by the BMU. It aims to leverage the potential of digitalisation for sustainable consumption and mitigate negative impacts through the development of appropriate policy measures.

## Resource efficiency and a circular economy

Sustainable production and consumption encompass responsible resource use, waste prevention, efficient recycling and, finally, safe removal of harmful substances, enabling a closed loop to be established as far as possible. The Circular Economy Act (*Kreislaufwirtschaftsgesetz*), amended in 2019 with the BMU as lead ministry, the Electrical and Electronic Equipment Act (*Elektro- und Elektronikgerätegesetz*), revised in 2015, and other laws and ordinances provide the legal framework here. The Waste Prevention Programme adopted by the Federal Government and the federal states (*Länder*) also provides guidance on more conscious management of products that may ultimately go to waste and has initiated a dialogue on various aspects of waste prevention. A milestone was reached with the German Resource Efficiency Programme (ProgRess), first adopted by the Federal Government in 2012. The programme promotes innovation in resource efficiency, global responsibility for the use of scarce resources, and policy coherence in relation to the circular economy. It is updated every four years, with the BMU acting as lead ministry, in order to incorporate current environmental policy challenges. The second update report (ProgRess III) was adopted by the Federal Cabinet in June 2020. As some of the new elements compared with ProgRess II, the report:

- stresses the importance of resource efficiency for achieving Germany's climate targets,
- analyses the potential and risks of digital transformation in the field of resource efficiency,
- considers mobility from a resource-efficiency perspective, and
- identifies priority actions.

## Less plastic

In November 2018, the BMU launched a Five-Point Plan for less plastic and more recycling. A key pillar of the Plan is the German Packaging Act (*Verpackungsgesetz*), which entered into force on 1 January 2019. The Packaging Act aims to reduce the environmental impacts of packaging waste, inter alia by minimising the volume and mass of packaging, and increasing recycling rates. The Round Table for Less Plastic Waste (*Runder Tisch für weniger Plastikmüll*), which was established by the BMU and brings together representatives of retail, industry and environmental organisations, is a further element of the Five-Point Plan. These measures were accompanied by a BMU public awareness campaign, No to the Throwaway Society.

## Consumer information and awareness-raising

The Blue Angel has been the ecolabel of the Federal Government of Germany for over 40 years. In recent years, the BMU has intensified its publicity work in order to raise awareness of the Blue Angel, with a particular focus on younger target groups. A roadshow was organised and PR activities carried out at music festivals and sustainability fairs.

In addition, the BMU is actively engaged at the international level in raising awareness of sustainable consumption through the provision of consumer information. Together with the Government of Indonesia and Consumers International, the BMU leads the United Nations One Planet Network Consumer Information Programme for Sustainable Consumption and Production. The Programme mainly develops guidelines on the provision of credible consumer information and disseminates examples of best practice internationally.

The BMU's consumer information activities also aim to enable every individual "to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future", thus linking in with SDG 4: Quality Education. In addition, all the measures described above contribute to the implementation of SDG 8: Decent Work and Economic Growth.

## Outlook

The aim must be to ensure that the only goods and services produced, consumed or for which there is demand are those that are sustainable. To facilitate sustainable consumption, there needs to be a high level of consumer awareness, information, knowledge and a willingness to change consumption patterns and lifestyles. Credible information that signposts eco-friendly products in a transparent manner, such as the Blue Angel label, is particularly relevant here.

However, the responsibility should not be shifted to consumers: policy makers must set the necessary frameworks and create viable conditions in order to give the private sector a point of orientation for the long term. Producers already have the requisite knowledge and often the technical solutions at their disposal. What is often lacking, however, are clear policy frameworks for collective action. These frameworks would be beneficial in defining new values and guidelines; as one example, company balance sheets could be expanded to include environmental and social aspects.

The capital and financial markets also need to adjust accordingly, as around 45 per cent of the existing risks now have environmental relevance. Risk assessments should therefore focus to a much greater extent on criteria such as climate change in order to promote future-fit business models and drive innovation and investment, but also in order to realistically depict negative external costs. The BMU and the BMF (Federal Ministry of Finance) have taken the initiative here by setting up the Sustainable Finance Committee (see also SDG 8).

Appropriate benchmarking is a prerequisite for assessing the opportunities and risks for companies, business models and markets. In addition to eco-audits by indi-

vidual companies, transparent corporate supply chains are essential here. Sustainable production should not take place solely in Germany but must be guaranteed by all suppliers. Seen in this light, sustainable production is the key to fulfilling our responsibility to other countries and implementing the Sustainable Development Goals worldwide.



## SDG 13

### Climate Action

*Take urgent action to combat climate change and its impacts*

#### Which topics does the Goal address?

SDG 13 deals with climate action and defines specific targets relating to adaptation to the impacts of climate change. In addition to greenhouse gas emissions reductions, this includes education, awareness-raising and development of capacity for adaptation. Climate change mitigation and adaptation measures are to be integrated into national policies, strategies and planning. A goal for the Federal Government is to double its international climate finance by 2020 compared to 2014 levels, mainly to support countries of the Global South.

#### How is this Goal relevant?

Stable climatic conditions, which have maintained the ecosystem services available to people and nature in a relatively constant state for thousands of years, are the prerequisite for a decent life and the basis of our economic activity. However, we have already crossed the planetary boundary for maintaining the stable climate system with which we are familiar. We are now leaving the “safe operating space” and entering a hitherto unknown area of societal and planetary risks. This is described in the Special Report on Climate Change and Land and the Special Report on the Ocean and Cryosphere in a Changing Climate published by the Intergovernmental Panel on Climate Change (IPCC) in 2019. Swift and ambitious action to reduce climate-damaging greenhouse gas emissions are therefore essential to preserve our natural bases of life.

According to calculations by the IPCC, a global rise in temperature by an average of 4°C or more within this century is likely unless rapid and consistent climate protection measures are taken. A temperature rise of more than 2°C would increase the risk of abrupt irreversible climatic changes and reduce the possibilities for people and ecosystems to adapt. The IPCC also emphasises that the current adaptation measures are insufficient in view of the expected climate change. The consequences of climate change – including an

increase in the average temperature on the surface of the Earth, sea level rise, extreme weather events, ocean acidification and the extinction of species, limited availability of water in some regions and an increasing risk of erosion – can worsen social and economic inequality, social conflicts, migration, poverty and hunger, thus posing major obstacles to sustainable development.

#### What is the role of environmental policy in reaching this Goal?

Climate policy is environmental policy. The hot summers of 2018 and 2019 demonstrated the kind of impacts that climate change is already causing, including in Germany. Faced with the visible consequences for agriculture and forestry, infrastructures and human health, the public has convincingly demanded resolute political action. The associated challenges are complex because climate action is closely connected to all the other 16 SDGs. Above all, protecting the global climate is the basis for ending poverty and hunger (SDGs 1 and 2), promoting peace and justice in the world based on strong institutions and partnerships (SDGs 10, 16, 17) and is a prerequisite for healthy aquatic and terrestrial ecosystems (SDGs 14 and 15). Furthermore, many individual climate actions have very close and direct correlations with individual SDGs and their targets.

#### Environmental indicators to measure Goal achievement

In the German Sustainable Development Strategy, the national climate targets are used as the indicator for greenhouse gas emissions reductions. The indicator is based on the scientific finding that there is a direct connection between the increase in global warming and the concentration of greenhouse gas emissions in the atmosphere. The reduction of greenhouse gas emissions is therefore crucial for combating climate change.

For the Federal Government, the benchmark for the German national climate targets is the goal set in the 2015 Paris Agreement, namely to keep global warming well below 2°C and to pursue efforts to limit it to a maximum of 1.5°C. Germany therefore aims to achieve climate neutrality by 2050. The indicator is an important criterion for measuring the success of the Federal Government’s climate policy. However, Germany is likely to miss its 2020 target, which calls for a minimum

40 per cent reduction in emissions compared with 1990; additional measures are therefore required to ensure that the target is achieved as swiftly as possible. The unique impacts of the coronavirus pandemic on emissions in 2020 can only be finally estimated and evaluated retrospectively. The target for 2030 is enshrined in law in the Federal Climate Change Act (*Bundes-Klimaschutzgesetz*), which requires Germany's greenhouse gas emissions to be reduced by at least 55 per cent compared with the 1990 level. To that end, the Federal Government has stepped up its efforts and, with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as lead ministry, passed the Federal Climate Change Act, the Climate Action Programme 2030, which defines measures in all relevant sectors, the German Fuel Emissions Trading Act (*Brennstoffemissionshandelsgesetz*) on CO<sub>2</sub> pricing in the heating and transport sectors, and the Coal Phase-out Act (*Kohleausstiegsgesetz*), which regulates the exit from coal by 2038.

Climate change adaptation targets cannot be depicted in a single quantitative indicator. However, the Monitoring Report on the German Strategy for Adaptation to Climate Change (see below) uses various response indicators to show whether measures for adaptation to global warming are effective and the objectives of the German Strategy for Adaptation to Climate Change are being met.

## How does the BMU contribute to Goal achievement?

The BMU is the lead ministry for SDG 13 and, in light of the 2015 Paris Agreement, has initiated various measures to achieve the targets set for this Goal.

## National climate action

With the Climate Action Plan 2050, the BMU submitted the long-term national strategy, required under the Paris Agreement, towards the goal of achieving global climate neutrality in the second half of the century. The Climate Action Plan 2050 maps out a clear path towards a greenhouse gas-neutral economy and society in Germany by 2050. The Plan was developed in a broad dialogue process with citizens and stakeholders from business, civil society and academia. It thus contributes to achieving SDG 16: Peace, Justice and Strong Institutions as well.

The Climate Action Plan 2050 sets the required emission reduction targets for 2030 for individual sectors – energy, buildings, transport, industry and agriculture – and identifies specific milestones and strategic measures. It is underpinned by the Climate Action Programme 2030, presented by the BMU and approved by the Federal Cabinet in September 2019, which sets out specific measures whose purpose is to ensure that the 2030 reduction targets are achieved. The Climate Action Programme will be implemented and reviewed as part of a social dialogue with broad participation. The Climate Action Alliance (*Aktionsbündnis Klimaschutz*), established by the Federal Government in 2015 and comprising representatives of all sectors of society and the municipalities, will therefore continue. The Alliance is tasked with supporting implementation of the measures, with making it easier to activate potential by networking participants' own initiatives and with identifying further options for action. In order to provide scientific support for the implementation of the Climate Action Plan 2050, the Climate Action Programme 2030 and future programmes of measures, the BMU and the Federal Ministry of Education and Research (BMBF) set up the Scientific Platform on Climate Protection, which advises the federal ministries on implementation, goal attainment and the impact of climate measures. The work of the Climate Cabinet Committee<sup>26</sup>, established in March 2019, will also continue.

Mandatory climate targets and a statutory commitment to climate neutrality by 2050 are set forth in the Federal Climate Change Act. The medium-term target is to reduce Germany's greenhouse gas emissions by 55 per cent compared with the 1990 level no later than 2030. In keeping with the Climate Action Plan 2050, the Act includes, for the first time, mandatory limits on the quantities of CO<sub>2</sub> that the individual sectors may emit annually and thus defines binding annual reduction targets for the sectors to 2030. Based on a monitoring and adjustment mechanism, the responsible federal government ministry must present an immediate action programme if the permissible annual emission budget for a sector has been exceeded, in order to put the sector back on track.

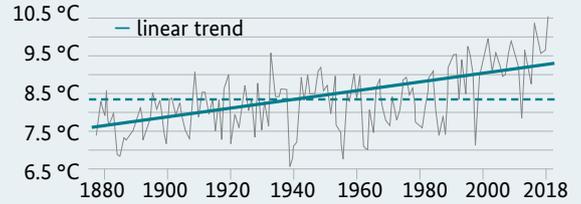
26 The Climate Cabinet consists of Federal Chancellor Angela Merkel and the six Federal Ministers responsible for Environment, Finance, Economic Affairs, Transport, Agriculture and Interior and Building. The Head of the Federal Chancellery and the Government Spokesperson are also members of the Climate Cabinet.

Figure 4: Impacts of global warming in Germany<sup>27</sup>

The impacts of climate change can already be felt and measured in Germany.



**AVERAGE AIR TEMPERATURE HAS RISEN BY 1.5°C IN GERMANY**

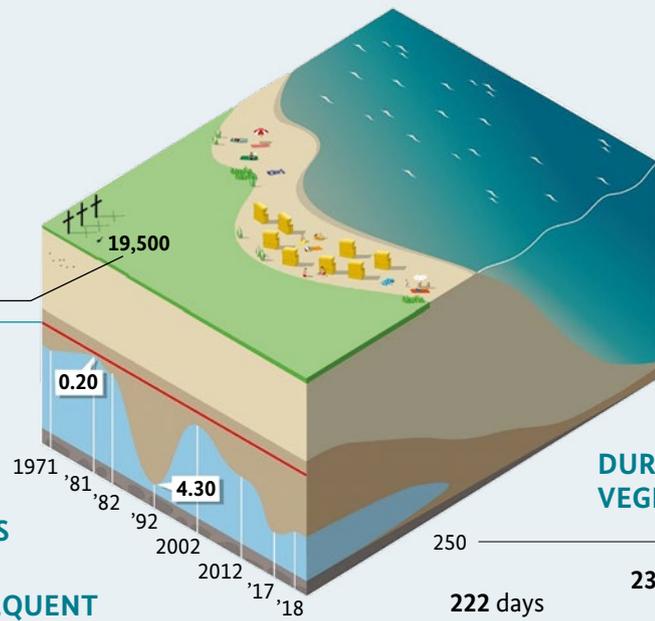


**HEAT-RELATED DEATHS**

Heat-related deaths during the very hot summers in 2003, 2006 and 2015

Number of months the reference values were not reached (average values 1971 to 2000)

**LOW WATER LEVELS ARE BECOMING INCREASINGLY FREQUENT**



**SEA LEVELS ARE RISING (Cuxhaven as example)**

- 2016 516.84 cm
  - 2011 515.88 cm
  - 2001 513.61 cm
  - 1991 510.66 cm
  - 1981 507.97 cm
- +8.9 cm**

**DURATION OF THE VEGETATION PERIOD**



Source: Monitoring Report 2019, UBA 2019

**Measures for adaptation to climate change**

Concerted efforts and coordinated action at all government levels are required in order to create the conditions for adaptation to climate change impacts in Germany. With the BMU as lead ministry, the Federal Government therefore presented the German Strategy for Adaptation to Climate Change (DAS) back in 2008. The Strategy has been developed continuously since then and is now established as an ongoing task. It provides the strategic framework at federal level for policy making on adaptation to climate change. The objective is to reduce the vulnerability of Germany's society, economy and environment, and to increase national adaptive capacities. The key actions required are listed for 15 sectors, and the steps and measures to be taken at the federal level in the various spheres of competence are described. Within the DAS framework,

28 lower-tier authorities collaborate productively in an inter-agency network. The work is closely coordinated with the federal states (*Länder*) and municipalities.

A key pillar of the German Strategy for Adaptation to Climate Change (DAS) is the Monitoring Report 2019. It includes empirical data on the consequences of climate change and provides information about observed climate change impacts on the basis of statistically well-founded time series.

Since 2015, a comprehensive nationwide study has been available on Germany's vulnerability to climate change. This vulnerability analysis serves as the basis

<sup>27</sup> Source: UBA: [www.umweltbundesamt.de/presse/pressemitteilungen/klimawandel-in-deutschland-neuer-monitoringbericht](http://www.umweltbundesamt.de/presse/pressemitteilungen/klimawandel-in-deutschland-neuer-monitoringbericht)

for preparedness measures by the Federal Government and for the further development of the German Strategy for Adaptation to Climate Change. The vulnerability analysis is currently being updated by the network of 28 federal authorities. The aim is to publish the analysis in 2021.

Following an initial review of the German Strategy for Adaptation to Climate Change in 2015, the Inter-ministerial Working Group on Adaptation is currently working on the 2020 progress report on the Strategy, with the BMU as lead ministry. A cabinet decision is expected in autumn 2020. The progress report will provide an overview of the strategic goals and principles of the DAS and a review of current knowledge and the outcomes of the DAS process. It will also include an Adaptation Action Plan (APA III), setting out specific measures to be adopted by the Federal Government, and will identify future priorities for the DAS process.

## Climate finance

Climate finance is of key importance in assisting countries of the Global South to reduce their greenhouse gas emissions and adapt to climate change. At the Copenhagen Climate Change Conference, the industrialised countries pledged to provide USD 100 billion per year by 2020, from public and private sources, for climate action in countries of the Global South. At the Climate Change Conference in Paris in 2015, this financing commitment was confirmed to 2025, and it was agreed that countries will set a new goal for climate finance for at least USD 100 billion per year from 2025.

The Federal Government aims to double its budget funds for international climate finance to EUR 4 billion annually by 2020, compared to EUR 2 billion in 2014. To that end, the BMU has significantly increased its contributions to climate finance in recent years as part of an incremental plan. The BMU provides climate finance through a range of mechanisms and channels, both bilateral and multilateral. For example, the BMU makes a substantial contribution to the Adaptation Fund established by the United Nations, thus helping to establish a balance between mitigation and adaptation funding. It supports direct access to climate finance in particular. The Green Climate Fund (GCF), also established by the United Nations, is another key instrument for multilateral climate finance. The Federal Ministry for Economic Cooperation and Development (BMZ)

and the BMU are both represented on the Board of the Green Climate Fund. With its early announcement of its intention to double its contribution for the first replenishment of the GCF, Germany contributed significantly to the successful outcome of the first replenishment.



### Air pollution control (SDGs 3 and 15)

Air pollution control and climate change mitigation are interlinked in a multitude of ways. Firstly, air pollutants such as ozone, particulate matter and black carbon affect the climate, while climate change substantially influences air pollution (for example, emissions levels, chemical reactions in the atmosphere). Air pollutants and climate change are also known to have synergistic effects on ecosystems. Secondly, air pollution control and climate action offer major potential for synergies. A notable example is the exit from coal-fired power generation, which will substantially reduce emissions of CO<sub>2</sub> and air pollutants. However, the increasing use of solid biomass for power generation will drive up emissions of particulate matter unless other mitigation measures are adopted. In the context of air pollution control, there is thus intensive interaction between SDG 13 (climate), SDG 3 (health) and SDG 15 (terrestrial ecosystems).

Measures that contribute to the mobilisation of private investment in climate change mitigation and adaptation are another important component of the BMU's climate finance programme. Public funds should be deployed in such a way that they leverage private capital for climate change mitigation and adaptation, with maximum transformative impact for sustainable development. Among other things, the International Climate Initiative (IKI) supports measures that help to mitigate financial risks and thus incentivise private investment. The BMU also focuses on planning investment projects that mobilise international climate finance from public sources and can be operationalised with the private sector. A key element of climate finance is to harmonise global financial flows with climate-friendly development. Against this background, the BMU funds projects that, in cooperation with its partners, help to channel capital into climate-friendly investment and mainstream climate-relevant factors in investment decisions.

## Outlook

Emissions data for the various sectors are compiled by the German Environment Agency (*Umweltbundesamt*) on an annual basis. Under the Federal Climate Change Act (*Bundes-Klimaschutzgesetz*), an Independent Council of Experts on Climate Change is tasked with examining the emissions data for the preceding calendar year; it then presents its findings to the Federal Government and the Bundestag. If a sector does not meet its statutory targets, the Federal Government must take immediate remedial action: the responsible federal government ministry is required to present an immediate action programme for the relevant sector within three months. Furthermore, the price of carbon will be progressively increased based on the price path described above. Coal-fired power generation will be phased out no later than 2038. The progress report for the German Strategy for Adaptation to Climate Change will set out the Federal Government's future adaptation policy priorities.



## SDG 14

### Life Below Water

*Conserve and sustainably use the oceans, seas and marine resources for sustainable development*

### Which topics does the Goal address?

This Sustainable Development Goal calls for a significant reduction in marine pollution, particularly from nutrients and marine debris. This includes a reduction in ocean acidification, sustainable management of coastal ecosystems and fish stocks, and designation of marine protected areas. Scientific knowledge is to be increased and the United Nations Convention on the Law of the Sea (UNCLOS) implemented as the legal framework for the conservation and sustainable use of oceans and their resources.

### How is this Goal relevant?

The oceans play a key role in supporting all life on Earth. They cover 70 per cent of the surface of our planet, regulate the climate, provide vital resources and ecosystem services and contain diverse habitats that support an abundance of life. They thus have an intrinsic value of their own. The seas and oceans are also the essential basis for numerous economic activities; as a major economic space, they sustain the livelihoods of millions of people and provide sea routes for transportation, but they also have significant value as recreational areas. For all these reasons, protecting the ocean is a key goal for sustainable development; without it, many of the other Goals set forth in the 2030 Agenda cannot be achieved.

There is a close correlation, for example, between SDG 14 and SDG 2 (Zero Hunger): marine pollution creates the risk of fish and shellfish becoming unfit for human consumption, while overfishing or intensive and non-sustainable food production on- or offshore (aquaculture) can increase the pressure on the marine and coastal environment. There is also a close correlation with SDG 6: the release of inadequately treated wastewater and substance inputs via inflows cause severe degradation of marine water quality. Conversely,

measures aimed inter alia at reducing nutrient inputs into rivers onshore can indirectly improve marine water quality.

## What is the role of environmental policy in reaching this Goal?

The vast array of ecosystem services that the ocean provides are the foundation of the Earth's ecological balance. The seas and oceans play an important role, for example, in absorbing and redistributing natural and anthropogenic carbon dioxide (CO<sub>2</sub>) and heat. They are connected to other climate system components through global water, energy and carbon exchange. Only a healthy sea can perform its climate-regulating function. Heavily polluted and overexploited marine ecosystems lose their vital resilience. As part of the global water cycle, however, they are particularly vulnerable to external human-induced environmental impacts, such as plastic pollution, substance inputs from agriculture, industry and transport, over-extraction of resources, and overfishing. It is the task of environmental policy, therefore, to maintain the healthy status and functionality of marine ecosystems by establishing rules on marine resource use and addressing the problem of marine pollution.

## Environmental indicators to measure Goal achievement

The German Sustainable Development Strategy focuses on the topics of marine pollution and fishing. As high concentrations of nitrogen in the seas can lead to eutrophication effects such as oxygen depletion, the loss of biodiversity and the destruction of fish spawning grounds, the Strategy focuses on annual averages for total nitrogen in rivers flowing into the North Sea and Baltic Sea in Germany. These rivers are responsible for a substantial share of nutrient inputs in the seas.<sup>28</sup>

Although targets have been reached for some individual rivers, sustainable and comprehensive compliance with management targets for the Baltic and the North Sea has not yet been achieved. In consequence, implementation of the key items of legislation, such as the

EU Water Framework Directive, EU Nitrates Directive and EU Marine Strategy Framework Directive, is still inadequate. Excessive nutrient inputs from agriculture in particular are an ongoing problem; inputs from municipal water treatment plants also continue to be problematic. In that sense, much will depend on the river basin management plans and the programmes of measures implemented by the German federal states (*Bundesländer*) in compliance with the Water Framework Directive (WFD) in the period 2021 to 2027. Further reduction of nitrogen inputs from agriculture, in line with the more stringent provisions of the revised Fertiliser Application Ordinance (*Düngeverordnung*) and the common agricultural policy (CAP), and the Federal Government's planned Arable Farming Strategy also have a role to play here. The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) will make a fully committed and intensive contribution in this context (see section on SDG 2).

## How does the BMU contribute to Goal achievement?

The BMU is the national ministry with lead responsibility for marine conservation and therefore plays an active role at the regional, European and global levels. The national measures to implement the Marine Strategy Framework Directive and various activities to implement the EU's Nature Directives and Water Directives should be mentioned in particular in this context. The marine conservation measures negotiated at the regional level in the context of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) and the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention – HELCOM) also make major contributions to achieving SDG 14.

## Reducing marine litter

The BMU has recently been actively engaged in efforts to reduce inputs of litter, particularly plastic waste, into the marine environment. With the BMU taking the lead, Germany made marine litter one of the topics of its G7 and G20 Presidencies in 2015 and 2017, respectively, resulting in the adoption of Action Plans on Marine Litter with associated policy commitments. This was followed by further activities in the Organisation for Economic Co-operation and Development (OECD) and the UN Environment Assembly (UNEA).

<sup>28</sup> The input of nitrogen should stay below 2.8 milligrams nitrogen per litre discharge for the rivers flowing into the North Sea and below 2.6 milligrams nitrogen per litre for the rivers flowing into the Baltic Sea.



### Plastic litter (SDG 12)

Plastic litter poses a major threat to marine ecosystems. The input of plastic waste must therefore be reduced and, in the long term, avoided as far as possible. Packaging accounts for a large percentage of the plastic litter found in the marine environment; as stated in the BMU's Five-Point Plan, it is essential to change course on how we manage packaging and other short-lived consumer goods, and reverse the trend in the use of plastics towards more sustainability. In keeping with the principle No to the Throwaway Society, we have a shared responsibility to make consumption more sustainable, avoid unnecessary products and packaging, and strive for closed-loop recycling. Consumers, producers and retail all have a role to play here. In response to the problem of marine litter, the 14th meeting of the Conference of the Parties to the Basel Convention (BC COP-14) in May 2019 adopted amendments to the Convention with the objectives of enhancing the control of transboundary movements of plastic waste, along with other measures aimed at reducing plastic waste inputs in the marine environment.

Together with other countries striving for a high level of ambition, Germany is working towards an international Convention on Plastic Pollution, such as a global agreement to protect the ocean from plastic litter. A key interim goal is to secure the support of the UN Environment Assembly, at its fifth session (UNEA 5), for the commencement of negotiations on the development of a legally binding convention. Germany is a founding member of the Group of Friends to Combat Marine Plastic Pollution launched at the United Nations in June 2020. The issue of marine litter is also addressed in the programme of measures that Germany delivered to the European Commission in March 2016 in accordance with the provisions of the Marine Strategy Framework Directive, for which the BMU is lead ministry. The programme includes legal, political, producer- and consumer-related measures.

In the context of the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention – HELCOM) and the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention), for which the BMU is the lead ministry, Germany is working actively to implement the regional action plans on marine litter for these two seas, adopted in 2014 and 2015. In addition, the Round Table Against Marine Litter established

by the BMU, the Lower Saxony State Ministry for the Environment and the German Environment Agency (UBA) contributes to operationalising all the action plans and measures mentioned above.

### Effective marine protected areas

Effective marine protected areas are a key instrument in the conservation and restoration of biological diversity. They also help to increase nature's resilience to climate change. In addition to SDG 14, this is reflected in the Convention on Biological Diversity (CBD), an international agreement stating that by 2020, at least 10 per cent of coastal and marine areas should be conserved through effectively and equitably managed and well-connected systems of protected areas and other effective area-based conservation measures. This applies especially to areas of particular importance for biodiversity and ecosystem services. Germany is working towards this target in the framework of the CBD and regional agreements such as the Helsinki and OSPAR Conventions and the Antarctic Treaty System. In this context, Germany prepared an EU proposal for the Weddell Sea in the Antarctic, which was submitted to the responsible Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) at its annual meeting in 2019. Although the proposal failed to secure majority support, largely for political reasons, the BMU plans to refine the proposal for future resubmission.

Furthermore, the BMU's International Climate Initiative (IKI) supports partner countries in establishing, expanding, consolidating and effectively managing protected areas and restoring degraded habitats. In Germany itself, 45 per cent of marine waters in the North Sea and the Baltic Sea have protected status, far exceeding the SDG 14 target to conserve at least 10 per cent of coastal and marine areas.

### Knowledge building and sharing

The BMU represents Germany, a founding member, in the Global Ocean Biodiversity Initiative and provides funding for a five-year research portfolio (EUR 5.2 million), thus making an active contribution to scientific research on ocean regions of ecological and biological significance. Furthermore, through the Blue Solutions initiative, the BMU supports global capacity development and knowledge sharing for applied solu-

tions in the sustainable management of marine and coastal ecosystems. Blue Solutions is implemented in partnership by the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (German Corporation for International Cooperation GmbH – GIZ), the United Nations Environment Programme (UNEP) and other organisations.

## Sustainable management of fishery stocks

In the context of the EU common fisheries policy, the BMU and the Federal Ministry of Food and Agriculture (BMEL) developed proposals for the regulation of fisheries management measures in the Natura 2000 sites in the German exclusive economic zone (EEZ) in the North Sea. The proposals were submitted to the European Commission as a Joint Recommendation. They include recommended measures to protect endangered species and habitats in these sites, which are outside national jurisdiction. The recommendations are intended to contribute to the restoration of the favourable conservation status of the marine environment. The Commission noted a need for improvements, currently being discussed with the relevant EU member states. The Joint Recommendation on regulation of fisheries management measures in the Natura 2000 sites in the German EEZ in the Baltic Sea was presented at a hearing of relevant organisations in February 2019 and subsequently agreed with the EU member states concerned. Current population trends in the North Sea and the Baltic Sea show, however, that major efforts aimed at more integrated and longer-term fisheries management are still required. As well as the pressure from commercial fishing, the ongoing changes in marine habitat conditions – induced by global warming, landside pollutant and nutrient inputs, for example – must be factored into fisheries management to a greater extent.

## Outlook

In general, improved alignment and a balance of interests in the conservation and sustainable use of the oceans, seas and marine resources must be achieved. Verifiable, sustainable and integrated marine resource management should be the overarching goal. This requires, inter alia, cross-sectoral strategies at the international level and more intergovernmental cooperation. To that end, a new legally binding implementing agreement is currently being developed at UN level un-

der the United Nations Convention on the Law of the Sea (UNCLOS) on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. This will establish new global mechanisms and strengthen existing regional and national mechanisms relating to the protection of marine ecosystems, the aim being to create synergies and add value in marine conservation at the international level.

The formulation of area-specific conservation targets for the marine environment in an international context for the post-2020 period is currently the subject of intensive discussions in a wide variety of forums, involving governmental and non-governmental organisations alike. In light of the requirement that at least 10 per cent of marine and coastal areas be placed under protection by 2020 in compliance with national and international law and based on the best available scientific knowledge, the BMU has been working towards an more ambitious target since autumn 2019. It is therefore calling for a target of placing 30 per cent of the world's seas and oceans under marine protection measures by 2030. In addition, the quantitative targets should be underpinned by quality goals in order to ensure effective protection. From the BMU's perspective, plastic – and especially microplastic – pollution of marine ecosystems is likely to increase further in future, as will the resulting need for appropriate counter-measures.



## SDG 15

### Life on Land

*Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss*

#### Which topics does the Goal address?

SDG 15 aims for the comprehensive conservation, restoration and sustainable use of ecosystems at national and international level, including terrestrial and inland freshwater ecosystems, forests, land and soil. It also aims to halt the loss of biodiversity and protect threatened species.

#### How is this Goal relevant?

Intact ecosystems and their services are the indispensable basis for human existence; in that sense, SDG 15 has extensive overlaps with other Sustainable Development Goals. For example, intact soils and soil ecosystems are the basis for securing a varied diet (SDG 2), ensure that drinking water is clean (SDG 6) and, as carbon sinks, can contribute to climate protection (SDG 13). Ecosystems with a natural diversity of species can adapt more easily to climate change and provide key raw materials for many economic sectors. Furthermore, with its almost inexhaustible potential, much of it untapped, nature has its own intrinsic value. A society that is conscious of its responsibilities therefore preserves and protects the diversity of ecosystems, each with its unique aesthetic quality.

#### What is the role of environmental policy in reaching this Goal?

Soils, land, forests, bogs and inland waters – which, nowadays, are publicly or privately owned – perform a diverse range of functions for people, the economy, society and culture, both as individual ecosystems and through their interactions. Sustainable conservation of terrestrial ecosystems and natural spaces serves the public interest and is therefore primarily a task for government and its environmental policy. For that

reason, SDG 15 falls within the direct purview of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU).

In Germany, alongside the conventional types of protected area, whose designation is a matter for the relevant federal state (*Bundesland*), the National Natural Heritage sites make a significant contribution to the conservation and development of biodiversity. These are areas that were previously in federal ownership, were excluded from privatisation and instead transferred free of charge to the *Länder*, nature conservation organisations or foundations, and placed under permanent protection for nature conservation purposes. On a proportion of the National Natural Heritage area, the Federal Government performs nature conservation tasks itself. Nationwide, approximately 156,000 hectares have been placed under protection as National Natural Heritage since 2008, including former military sites, areas along the former inner-German border (German Green Belt), disused lignite mining landscapes in East Germany and areas that were once part of the GDR's national state property. Much of the Natural Heritage area provides vital refuge zones for many rare or endangered species of flora and fauna.

Under the coalition agreement for the current electoral term, a further 30,000 hectares of federally owned land are to be transferred as National Natural Heritage. Preparatory work on this fourth tranche has now commenced.

#### Environmental indicators to measure Goal achievement

The German Sustainable Development Strategy defines three indicators for measuring progress towards SDG 15 targets, namely: Species diversity and landscape quality, Eutrophication of ecosystems, which depicts exceedance of critical ecological loads for eutrophication due to atmospheric nitrogen inputs, and Reducing Emissions from Deforestation and Forest Degradation (REDD+) on Germany's payments to countries of the Global South for the verified preservation or restoration of forests under the REDD+ rulebook.

Achieving the targets originally set for 2015 for the indicator Species diversity and landscape quality and its sub-indicators continues to pose a major challenge. This will require, in some instances, even more substantial additional efforts at federal, state and

municipal level in all relevant policy areas as far as possible, for example by updating the National Strategy on Biological Diversity, setting a higher level of environmental ambition in EU agricultural policy in order to improve biodiversity on farmland, and expanding green infrastructure in Germany. A further aim is to create, by the end of 2025, a nationwide network of interlinked biotopes covering at least 10 per cent of the area of each German state.

There are still considerable and wide-ranging problems with regard to the pollution of ecosystems from nitrogen inputs and ozone. In order to achieve the 2030 target of a 35 per cent reduction in the area on which critical loads for nitrogen were exceeded in the period 2005 to 2030, further measures are still required. Germany's National Air Pollution Control Programme describes, in quantitative terms, the reduction paths for major atmospheric pollutants to the target year 2030, along with the measures and instruments envisaged in all emitting sectors.

Alongside the Federal Ministry for Economic Cooperation and Development (BMZ), the BMU also supports REDD+ implementation by providing results-based payments via existing bilateral and multilateral programmes, including the global REDD Early Movers Programme in Brazil, Ecuador and Colombia.

## How does the BMU contribute to Goal achievement?

The BMU is actively engaged in fulfilling its lead responsibility for SDG 15 and makes a major contribution to implementing this Goal through a wide range of actions and programmes. The BMU advocates the conservation of biodiversity, not only in Germany but also in Europe and within the framework of international cooperation. Since 2013, Germany has provided more than EUR 500 million per year for the conservation of forests and other ecosystems worldwide, and has thus increased its commitment more than fourfold since 2007.

## National Strategy on Biological Diversity

The National Strategy on Biological Diversity, put forward by the BMU and adopted by the Federal Government in 2007, is of particular significance for national biodiversity target achievement in Germany. This is

an ambitious programme to implement the international Convention on Biological Diversity (CBD). The Strategy aims to halt the decline in biological diversity in Germany and put it on a positive trajectory. Since the start of 2011, the Federal Programme for Biological Diversity – in the form of a BMU funding programme – has supported the implementation of Germany's National Strategy on Biological Diversity. The original funding allocation of EUR 20 million in 2017 was increased to EUR 25 million in 2018 and to approximately EUR 32 million in 2019. Around EUR 45 million in funding is available via the programme for 2020.

### Organic farming (SDG 2)

More than half of the area of Germany – 51.1 per cent – is agricultural land. The conservation of species, biotopes and ecosystems is therefore directly dependent on the type of agricultural use. Improvements in the conservation of species and habitats in the agricultural landscape can only be achieved if farming practices become more compatible with nature and the environment. Organic farming is a particularly resource-conserving and environmentally friendly type of agriculture geared towards the sustainability principle.<sup>29</sup> Under the Federal Scheme for Organic Farming and Other Forms of Sustainable Agriculture, the BMU and the BMEL provide funding for projects such as the development of particularly insect-friendly cultivation methods in organic farming. The scheme also aims to improve the general conditions for the organic agri-food sector.

## Action Programme for Insect Protection

The Red Lists and numerous scientific studies confirm that both the total number of insects and the diversity of insect species have fallen sharply in recent decades. The observed insect decline is alarming as insects play an important role in our ecosystems. Many insect species provide vital ecosystem services that are also essential for people, such as plant pollination, biological control of harmful organisms, soil fertility conservation and water purification. The BMU therefore devised a comprehensive Action Programme for Insect Protection, which was adopted by the Federal Government on 4 September 2019. The programme

<sup>29</sup> Source: UBA (2020) [www.umweltbundesamt.de/themen/boden-landwirtschaft/landwirtschaft-umweltfreundlich-gestalten/oekolandbau#Umweltleistungen](http://www.umweltbundesamt.de/themen/boden-landwirtschaft/landwirtschaft-umweltfreundlich-gestalten/oekolandbau#Umweltleistungen)

sets out measures in nine areas of action to address all the key drivers of insect decline, including clear guidance on environmentally and ecologically compatible application of pesticides, a legally binding phase-out of glyphosate in 2023, measures for the protection and restoration of insect habitats in all areas of the landscape and in urban spaces, and mitigation of the effects of light pollution (vacuum cleaner effect) on insects. An additional EUR 100 million per year in federal funding will be made available to promote insect protection within and outside the agricultural landscape and for insect research.

## Protection and sustainable management of forests

In recent years in particular, it has become apparent in Germany that significant damage to forests has been caused by extreme weather conditions and prolonged periods of drought induced by climate change, as well as by pest infestation and excess nutrient inputs in soil. This negative trend must be halted. The primary objective must be to safeguard, for the long term, structurally rich, climatically stable forest ecosystems of high ecological quality. This applies equally to the restoration of forests damaged by extreme weather events and to the restructuring of existing forested areas towards climate stability. A composition of tree species reflecting the natural state is the basis for natural biodiversity, resistance and resilience of forests. Globally, too, species diversity in forest ecosystems and the total forest area are in steady decline; this has both natural and anthropogenic causes. In light of these visible developments, it is especially important to protect the ecological diversity and functionality of forest ecosystems and boost their self-regulating capacities.<sup>30</sup> The European Green Deal, an integral part of the European Commission's strategy to implement the United Nations 2030 Agenda and the Sustainable Development Goals, therefore aims to protect, conserve and enhance the EU's natural capital. With regard to forests, this means that the EU's forested area must be improved, both in quality and quantity.

Most of the National Natural Heritage area in Germany is forested. The National Strategy on Biological Diversity therefore states that by 2020, forests with natural

forest development should account for 5 per cent of the wooded area; it also aims to ensure natural development on 10 per cent of publicly owned forest land by the same year. As a further goal, 2 per cent of Germany's land area should be protected as wilderness where nature is once again able to develop undisturbed in accordance with its own laws. Furthermore, with the Forest Climate Fund, set up in 2013 under the joint auspices of the BMEL and the BMU, EUR 20 million in funding is available annually for measures aimed at maintaining and expanding the CO<sub>2</sub> reduction potential of forests and timber, and supporting forests' adaptation to climate change. This will increase to EUR 25 million per year from 2020.

Since 2008, the Federal Government has provided more than one billion euros to reduce emissions from deforestation and forest degradation. Preserving forests as natural carbon sinks is also a priority for the International Climate Initiative (IKI). Via the funding programme Conserving natural carbon sinks / REDD+, the Federal Government supports countries of the Global South in implementing strategies to reduce emissions from deforestation and forest degradation. From 2008 to 2017, the total level of financial support provided for projects in this funding area amounted to EUR 378 million. At the Climate Change Conference in Paris in 2015, Germany, Norway and the United Kingdom pledged to provide USD 5 billion to support REDD+ in the period 2015 to 2020. All three countries are on track to achieve this goal; together, all three fulfilled more than 80 per cent of the target between 2015 and 2019.

Within the framework of the Bonn Challenge, a global reforestation initiative, the BMU is working to bring 350 million hectares of degraded and deforested landscapes into restoration by 2030. In particular, through the financial, technical and political support for the regional initiatives triggered by the Bonn Challenge, it has done much to substantially increase global reforestation in the period to 2020.

## Wilderness Fund

Based on an initial estimate, approximately 0.6 per cent of Germany's territory is currently protected for large-scale wilderness development at National Natural Heritage sites, in the core areas of the national parks and in some large-scale conservation areas. In order to achieve a further increase in the share of wilderness, the Feder-

30 Source: BfN (2019): [www.bfn.de/fileadmin/BfN/landwirtschaft/Dokumente/BfN-Positionspapier\\_Waelder\\_im\\_Klimawandel\\_bf.pdf](http://www.bfn.de/fileadmin/BfN/landwirtschaft/Dokumente/BfN-Positionspapier_Waelder_im_Klimawandel_bf.pdf)

al Government has established a Wilderness Fund as a new financing mechanism for the 19th electoral term. The new Fund is intended to support the federal states (*Länder*) in placing potential wilderness areas under protection regimes or in adding to and/or consolidating existing wilderness areas. In total, EUR 20 million is available from the BMU's budget this year, compared with EUR 10 million in 2019.

## Poaching and the illegal wildlife trade

Poaching and the illegal wildlife trade pose a serious threat to countless species. Furthermore, scientists have shown that the illegal trade in live wild animals and products and, in particular, illegal and unregulated “wet markets” where wild animals are slaughtered and sold for human consumption can lead to the spread of zoonotic diseases (such as diseases that originate from wildlife and are transmitted to humans or vice versa).

Germany is therefore working at the international level to combat the illegal trade in wildlife and wildlife products and is one of the largest international donors in this area. Together, the BMU and the BMZ are currently providing approximately EUR 250 million in funding for relevant projects. In addition to project funding and its active participation in negotiations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Germany has co-founded and supported various initiatives against the illegal wildlife trade in high-level forums. For example, the High Level Principles on Combating Corruption related to Illegal Trade in Wildlife and Wildlife Products were adopted at the G20 summit in Hamburg during the German Presidency in July 2017.

At the United Nations, Germany, together with Gabon, has co-chaired the Group of Friends on Poaching and Illicit Wildlife Trafficking since 2013. The Group of Friends played a key role in developing the draft Resolution on Tackling Illicit Trafficking in Wildlife, which was adopted by the UN General Assembly in 2015. The resolution was updated in 2016, 2017 and 2019. In light of the COVID-19 pandemic and the link between the emergence and spread of zoonotic diseases and wildlife trafficking, this resolution is due to be amended in 2020 with the addition of statements recognising these linkages, along with commitments on improved control of the wildlife trade, particularly for human consumption, up to and including the closure of markets.

## The Federal Blue Belt Programme

On 1 February 2017, the Federal Government adopted the Federal Blue Belt Programme in fulfilment of a commitment made in the coalition agreement for the 18th electoral term. The aim of this programme, which was initiated and developed in cooperation between the Federal Ministry of Transport and Digital Infrastructure (BMVI) and the BMU, is to establish a biotope network – a “blue belt” – representing a system of interlinked biotopes of national importance along the federal waterways. Along the minor waterways in particular, rivers, banks and flood plains are to be reconnected and upgraded as ecosystems, for example through local renaturalisation measures. This will also boost natural retention capacities for flood control and create new opportunities for leisure and recreation. The related National Programme for Riparian Meadows (*Nationales Auenprogramm*) was launched by the BMU on 1 February 2019. Through this funding programme, support is provided for nature conservation and environmental organisations, rural districts and municipalities that are implementing measures in riparian meadows in line with the Blue Belt concept. EUR 6.8 million is available for this purpose in the BMU's 2020 budget.

## Outlook

The COVID-19 pandemic has demonstrated, once again, the fundamental importance of ecosystems and their biodiversity for our lives. The continuing destruction of the natural environment increases the risk of disease transmission from animals to humans. An active commitment to international nature and species conservation is therefore also an effective form of crisis prevention. At the 15th Conference of the Parties to the Convention on Biological Diversity, which was due to take place in Kunming, China, in October 2020, a transformative post-2020 global framework was to have been agreed for the protection and sustainable use of biodiversity. The Conference has now been postponed until 2021. It is vital, next year, to establish groundbreaking strategies aimed at halting or reversing the negative trend of environmental degradation.

In May 2020, the incoming European Commission adopted the new EU Biodiversity Strategy for 2030. The main elements are the protection and restoration of degraded ecosystems across the EU, stronger imple-

mentation and enforcement of Natura 2000<sup>31</sup> rules, measures to improve the required frameworks (for example in other sectors), funding, research and elements of the new post-2020 global framework for biological diversity under the CBD. Against the backdrop of the COVID-19 crisis, the Strategy also highlights the links between biodiversity and pandemics. As regards Germany's National Strategy on Biological Diversity, the challenge is to align its targets to the new EU goals and to global objectives for the conservation of biodiversity. The key points of a new National Strategy on Biological Diversity should be available for public consultation before the end of the current electoral term.

With the bog protection strategy, announced in the coalition agreement for the current legislative term, the BMU will make a further key contribution to the preservation of terrestrial ecosystems. As a key element of this strategy, an agreement on objectives will be reached between the Federal Government and the federal states (*Bundesländer*) on the conservation of bog soils, and pilot projects aimed at an ambitious level of bog soil protection will be implemented. To provide a baseline for achieving a situation in which the total number of healthy and productive terrestrial resources remains stable or increases, a soil indicator is being developed and will cover all forms of land use. Furthermore, as stated in the current coalition agreement, the BMU will develop an action plan for protected areas in collaboration with the federal states; one of the action plan's priorities will be to help improve the quality of protected areas in Germany.



31 Natura 2000 is a network of nature protection areas of the EU. It is made up of Special Areas of Conservation and Special Protection Areas designated under the Habitats Directive and the Birds Directive, respectively. The network includes both terrestrial and marine protected areas.

## SDG 16

### Peace, Justice and Strong Institutions

*Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels*

#### Which topics does the Goal address?

This Sustainable Development Goal deals with promoting, developing and restoring peaceful and inclusive societies based on the rule of law. It therefore aims to develop effective, accountable and transparent institutions and ensure responsive, inclusive, participatory and representative decision-making, as well as public access to information.

#### How is this Goal relevant?

Without peace and justice, also defined as equal access to a corruption-free judicial system based on the rule of law, there can be no sustainable development. Corruption leads to benefits for the few at the expense of the many. Arbitrary governance and opaque decision-making by the state or its administrative bodies lead to unstable societies and jeopardise social cohesion and economic prosperity. Only if SDG 16 is implemented successfully can people engage in safe political spaces based on democratic structures and respect for human and fundamental rights, and thus contribute to sustainable development. For that reason, peace is one of the five core pillars of the 2030 Agenda.

#### What is the role of environmental policy in reaching this Goal?

Due to the loss of vital natural capital and growing resource scarcity, social conflicts are worsening and the drivers of displacement are increasing. In that sense, environmental policy, which helps to preserve the natural resource base for countless people at the local level and aims to prevent climate and resource conflicts both regionally and globally, is part of a peace policy agenda. Alongside environmental policy measures in Germany itself, this is supported by cooperation with

partner countries facing particularly adverse (global) environmental impacts. The close correlations with SDG 3 (Health), 6 and 14 (Water), 13 (Climate) and 15 (Life on Land) are self-evident here. Good governance of environmental policy institutions, transparent decision-making and public participation also play an important role in achieving SDG 16.

#### How does the BMU contribute to Goal achievement?

As part of the federal administration and as a supreme federal authority with its own portfolio, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) as an institution contributes to good governance in a broad sense, for example by engaging with the public on a wide range of issues and through specific policy initiatives, particularly those aimed at strengthening civil society.



#### Embracing change (SDG 4)

Environmental policy often reaches its limits. Safety thresholds, product regulations, labelling, environmental taxes and the like are important, but they often address the symptoms rather than effectively targeting the causes of emissions and overexploitation of resources. Full and lasting integration of environmental and sustainability targets into the various policy fields has not yet been achieved. If development is to be sustainable, however, far-reaching change – a transformation towards sustainability – is required. This would entail a restructuring of core sectors of society, such as food, mobility, production and consumption, energy management and digitalisation policy. Managing this comprehensive restructuring is extremely challenging and often beset with conflicts. In many areas, however, it is also becoming apparent that major changes are already under way, with a multitude of stakeholders from civil society, politics and business engaged in the process of developing a diverse range of solutions.

This is a potential starting point for transformative environmental policy: it can generate momentum and provide direction for this process of change; network and empower stakeholders; test new institutional approaches in order to increase the impact of innovations in the field of sustainability; and phase out unsustainable structures and practices. What does this mean for environmental policy making in practice? How much scope does this create? These and similar issues

are addressed in an experimental training programme, known as the Transformation Workshop (*Transformationswerkstatt*), provided for BMU staff in 2020. The Workshop uses innovative training strategies to build knowledge and methodological skills in transformative environmental policy. This includes considering complex challenges from a systems perspective and applying an interdisciplinary and experimental approach to current policy issues. The Workshop is designed in a way that enables participants to apply the lessons and experiments in their own field of work. The Transformation Workshop is a learning programme commissioned by the German Environment Agency (UBA) and developed within the framework of the BMU's Department Research Plan. Its content directly relates to the Integrated Environmental Programme 2030 (IUP) and its guiding principle of shaping ecological transformation.

## Protecting the environment through regulatory law

Environmental regulations and legally binding decisions by public authorities must be implemented and enforced. In Germany, the federal states (*Bundesländer*) are primarily responsible for administering and enforcing environmental law, and for uncovering and prosecuting infringements. Their general and specialised regulatory authorities monitor and scrutinise compliance with environmental law and with the government's authorisation decisions. Appropriate sanctions may be imposed for infringements, with a range of supervisory mechanisms and penalties available for this purpose in environmental, administrative and criminal law. Effective use of these instruments depends, however, on the competent authorities having adequate human and financial resources at their disposal. In addition, effective cooperation and relevant data-sharing are necessary in Germany itself and on a multilateral basis in the European judicial area and international arena.

The BMU works with the the Federal Ministry of Justice and Consumer Protection (BMJV), the lead ministry, on enhancing the provisions of criminal and regulatory law pertaining to the environment. It also supports the environmental and judicial authorities' exchange of experience at both national and European level (for example, in the European Union Network for the Implementation and Enforcement of Environmental Law). In cooperation with the UBA, it supports research

projects that aim to develop legislation pertaining to environmental crimes and sanctions, improve data availability and identify barriers to prosecution.

Within the EU, the BMU contributes to the implementation of the Action Plan to increase compliance with EU environmental law and improve environmental governance, which was presented by the European Commission in early 2018. It includes recommendations on preparing more effective strategies to combat environmental crimes and on the evaluation of the EU Directive on the protection of the environment through criminal law and its implementation in Member States.

## Transparent institutions

### Environmental Information Act

Freedom of information is a key element of a modern civil society. Its purpose is to increase transparency in governance and thus promote citizen participation in democratic decision-making. Germany's Environmental Information Act (*Umweltinformationsgesetz*) applies specifically to information relating to environmental matters and therefore also aims to improve the protection of the environment. Under the Act, citizens have access to environmental information held by federal bodies subject to a disclosure obligation. The Act transposed EU Directive 2003/4/EC on public access to environmental information into German law and entered into force in 2005. The provisions of the Aarhus Convention on access to environmental information were transposed at the same time. Implementing the Environmental Information Act is a core element of the BMU's work and directly supports the achievement of the SDG 16 governance targets. Through access to environmental information, citizens gain transparent insights into the actions of the federal administration. The Act is currently undergoing an academic review, commissioned by the UBA, the aim being to promote the application of environmental information law at federal government level and, indirectly, in Germany as a whole.

### Aarhus Convention

The Aarhus Convention (UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters), which has been ratified by the EU and Germany, regulates the right of access to information and participation in environmental matters, which are essential for active democracy and engagement by the

public and environmental organisations. For example, the Convention confers the right to participate in decision-making and have access to information about the state of the environment; it also guarantees judicial review procedures in respect of decisions by public authorities on environmental matters. By guaranteeing judicial review, the Aarhus Convention makes a significant contribution to the SDG 16 governance targets, namely to provide access to justice for all, and substantially reduce corruption and bribery. The Aarhus Convention also provides for a compliance mechanism, namely the Aarhus Convention Compliance Committee, whose task is to review Parties' compliance with the commitments under the Convention, thus ensuring its effective implementation. Complaints may be submitted by members of the public or by groups such as non-governmental organisations (NGOs). The mechanism thus helps to build effective, accountable institutions. Under a further provision of the Convention and the associated Almaty Guidelines, Parties are required to promote the application of the principles of the Convention in international environmental decision-making processes and within the framework of international organisations in matters relating to the environment (as stated in the German Sustainable Development Strategy as well).

The BMU reports regularly on the national implementation of the Convention's provisions; the next report is due in 2021. Consultation with the public is integral to the preparation of this report.

In parallel, the BMU is working at the EU level to ensure that the current compliance case relating to inadequate legal protection at EU level before the EU courts against decisions by EU institutions is resolved by means of an amendment to the Aarhus Regulation.

### **Open Government Partnership**

The Open Government Partnership (OGP) is a multilateral initiative that aims to promote (and expand) open government and empower citizens. Its country members – currently numbering 78 – undertake firm commitments to pursue these goals intensively. To that end, they create action plans setting out individual verifiable milestones that describe member countries' initiatives in detail. Germany's first Action Plan, adopted in August 2017, includes Commitment 8: Strengthening citizen participation in environmental policy and urban development, which falls within the purview of the BMU. Four of the five milestones relating to this Commitment have already been implemented.

Among other things, citizen participation on environmental topics has been achieved through processes such as youth participation in the UN Climate Change Conference (COP 23), the German Resource Efficiency Programme (ProgRess), implementation of the National Programme on Sustainable Consumption and the update of the Climate Action Plan 2050.

The Guidelines for Good Citizen Participation, whose in-house application is mandatory under the BMU's procedural rules, are also reflected in the milestones. The Guidelines are a working aid from the BMU on the planning and implementation of good citizen participation procedures, thus ensuring that participation procedures are of uniformly high quality, both within and beyond the BMU.

### **Financial support for associations**

In the Federal Republic of Germany, there are several thousand environmental and nature conservation organisations, as well as other associations that campaign for the protection of nature and the environment. These organisations are an important and very active part of civil society. The German Nature and Biodiversity Conservation Union (NABU) and BUND – Friends of the Earth Germany are the largest environmental and nature conservation organisations in Germany, with more than half a million members and sponsors each, and covering a broad range of issues. Due to their democratic structures, they contribute not only to nature and environmental conservation but also, in a very practical sense, to developing and sustaining German civil society.

In mounting an effective response to major challenges such as climate change, natural resource scarcity and loss of species diversity, environmental and nature conservation organisations have a key role to play as partners in environmental policy. Environmental and nature conservation organisations inform and raise awareness and give a political voice to the public's environmental and nature conservation concerns. Through their work, they do much to increase acceptance of successful environmental and nature conservation policy. The BMU provides financial support for associations in various ways: direct funding for individual organisations and their work; grants, amounting to EUR 4.54 million annually, for projects and measures by other environmental and nature conservation organisations; and, alongside direct funding, various oth-

er financial support schemes (for example, for nature conservation or climate protection), which associations can access for individual projects.

## Diversity Charter

The BMU has been a signatory to the Diversity Charter (*Charta der Vielfalt*) since 2014. The Diversity Charter is a corporate initiative to promote diversity in companies and institutions. It was initiated in December 2006 by four companies and is supported by the Federal Government Commissioner for Migration, Refugees and Integration, Minister of State Annette Widmann-Mauz. The initiative aims to promote the recognition, appreciation and integration of diversity in Germany's business culture. Organisations should create a working environment free of prejudice. All employees should be valued – regardless of gender, nationality, ethnic origin, religion or world view, disability, age, sexual orientation and identity. The centrepiece of the initiative is a certificate or charter. This is the Diversity Charter in the literal sense, and a voluntary commitment on the part of the signatories to promote diversity and respect in business culture. More than 3,500 companies and organisations with a total of 13.4 million employees have already signed the Diversity Charter.

## Rule of law, access to justice

### Right of associations to take legal action

Environmental regulations will be effective only if they are correctly applied and efficiently enforced. Alongside transparent governance and public participation in decision-making, compliance assurance instruments, which promote and enforce adherence to the law, have an important role to play.

In implementation of the Aarhus Convention and the corresponding rules at EU level, Germany's Environmental Appeals Act (*Umwelt-Rechtsbehelfsgesetz*) offers legal redress in environmental matters. The Act makes it possible for recognised environmental associations to appeal specific decisions or omissions in court. Otherwise, the German system of legal redress provides solely for a review of subjective legal positions (exclusion of public interest action). The Act has been amended and supplemented on various occasions over the years and the scope for legal action by environmental associations expanded. However, even after the latest revision in 2017, which brought the Act into line

with provisions of European and international law, legal redress in environmental matters continues to be a highly dynamic field in which the courts, academics, practitioners and, indeed, the Federal Government itself are intensively engaged.

The German Environment Agency (UBA) is currently conducting an evaluation of the 2017 reform of the Act. Its purpose is to implement a resolution by the German Bundestag calling for the Federal Government to report to the Bundestag on practical experience with implementation of the Act. Furthermore, as the ministry with lead responsibility for the Environmental Appeals Act, the BMU closely monitors developments in law and practice, and works to ensure that the interpretation and development of the rules on legal redress in environmental matters are in conformity with international and European law.

## Outlook

Ensuring the transparency of its work and involving citizens in developing environmental policy themes will continue to be priorities for the BMU in future. This process of consolidation, which will continue in the coming years, is ensured by the relevant administrative divisions in compliance with appropriate guidelines. It is already apparent that sharing information and knowledge with global and local partners leads to more efficient and more open governance. This exchange has been facilitated by the involvement in the Alliance for More Democracy and by specialised events hosted by the BMU, such as *Ausgezeichnet! – Wettbewerb für vorbildliche Bürgerbeteiligung*, a competition to promote model citizen participation.



## SDG 17

### Partnerships for the Goals

*Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development*

#### Which topics does the Goal address?

This Sustainable Development Goal focuses on international cooperation. Specifically, it requires the countries of the Global North to support capacity-building for sustainable development in the countries of the Global South, to mobilise additional financial resources for this purpose and to adopt and implement investment promotion regimes. It thus directly addresses one of the five areas of critical importance identified in the Preamble of the 2030 Agenda, namely partnership.

#### How is this Goal relevant?

Sustainable development can only be achieved to its fullest extent worldwide if governments, the private sector, civil society and every citizen contribute to making it a reality. This is not to ignore disparities of power and capacities: one of the core principles of the 2030 Agenda, alongside inclusion of all, is “leave no one behind”. Foundational Goals such as No Poverty (SDG 1) and Zero Hunger (SDG 2) can only be achieved if countries – whether wealthy or poor, powerful or less so – are able to play their part in shaping the trans-boundary exchange of resources, goods and services in a manner that globalises prosperity. Partnership and cohesion are preconditions for an inclusive world society that aspires to live in peace and prosperity.

#### What is the role of environmental policy in reaching this Goal?

Environmental policy contributes to international partnerships that offer scope for mutual understanding and the sharing of experience and knowledge, and where support is provided for practical projects and lasting structures for cooperation.

#### How does the BMU contribute to Goal achievement?

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) supports independent partnerships and collaborations with third countries at regional level and provides project funding in various countries. In so doing, it always operates within the framework of German policy on foreign and European affairs; although the BMU does not have lead responsibility for this portfolio, it contributes intensively to this policy area through a range of measures.

One theme of cooperation is sustainability policy itself. The Sustainable Development Solutions Network (SDSN) Germany, which receives financial support from the BMU, holds regular events on SDG implementation at the international level and brings together stakeholders from all sectors of society. The BMU also supports the European Sustainable Development Network (ESDN), an association of public administrators from the EU member states who deal with sustainable development strategies and policies. The Federal Chancellery has lead responsibility within the Federal Government. The ESDN actively promotes sustainable development, facilitates the exchange of best practice in Europe and advises policy makers at EU and national level. Every year, the ESDN organises the European Sustainable Development Week (ESDW), a Europe-wide initiative to stimulate and make visible activities, projects and events that promote sustainability and the Sustainable Development Goals (SDGs). The BMU organises a workshop on sustainability-related topics each year and will host the Network’s annual meeting in Berlin in October 2020 within the framework of Germany’s Presidency of the Council of the European Union.

#### Partners for Review

In cooperation with the Federal Ministry for Economic Cooperation and Development (BMZ), the BMU launched the Partners for Review initiative, which aims to promote regular transnational dialogue between various stakeholder groups (government representatives, the private sector, civil society and academia) involved in the national review and monitoring process towards achieving the 2030 Agenda. Promoting transparency, policy coherence and civil society participation in political processes and strengthening evidence-based policy making are key topics in this context.

## Partnership for Action on Green Economy

The BMU makes funding and policy support available to the Partnership for Action on Green Economy (PAGE), which provides country-specific advice to interested governments on reframing economic strategies and practices around the environmental and social dimensions of sustainability. PAGE brings together five UN agencies – the UN Development Programme (UNDP), the UN Environment Programme (UNEP), the UN Industrial Development Organization (UNIDO), the UN Institute for Training and Research (UNITAR) and the International Labour Organization (ILO) – and other partner organisations, including the Global Green Growth Institute, the Green Growth Knowledge Partnership and other associated initiatives. Thanks to these members' decades of experience, PAGE is able to advise countries in the Global South on transforming their economies towards greener and more inclusive growth trajectories, thus strengthening and accelerating the global transition towards sustainable development. PAGE is an example of how inter-agency cooperation within the United Nations can contribute to coherent implementation of the SDGs and create synergies.

## Nitric Acid Climate Action Group

Global emissions from nitric acid production for 2021 to 2030 are estimated at around billion tons of CO<sub>2</sub> equivalent – roughly double the annual emissions from global aviation. Nitric acid is a chemical compound containing nitrogen, used worldwide in the manufacture of synthetic fertilisers, among other things. The Nitric Acid Climate Action Group, which was launched at the Climate Change Conference in Paris in 2015 and is funded by the BMU, aims to put this industrial sector on a climate-compatible trajectory worldwide, based on the installation of appropriate abatement technologies and long-term regulation. To that end, the Nitric Acid Climate Action Group (NACAG) provides partner countries with technological and policy advice, and financial support. This has resulted in the formation of a global action group, which contributes to the sustainable transformation of an entire industrial sector worldwide. As the emissions reductions remain in the partner countries, this initiative also makes a direct contribution to raising the level of ambition and hence to achieving the Paris climate targets in these countries.

## Initiative for Resource Efficiency and Climate Action

As part of the International Climate Initiative (IKI), the BMU is funding the Initiative for Resource Efficiency and Climate Action. This global project focuses particularly on emerging economies that display strong industrial growth alongside increasing resource use and greenhouse gas emissions. It aims to strengthen key actors' capacities to develop and push forward targeted measures and strategies for increasing resource efficiency and improving climate action. In close coordination with the BMU, the Initiative fosters the inclusion of resource efficiency and climate protection in international dialogue processes, particularly in the G20 context. It promotes knowledge sharing and exchange of experience with and among emerging countries of the G20, advises on identifying potential for resource efficiency and climate change mitigation, and on tapping this potential through appropriate strategies and programmes, with particular reference to the Nationally Determined Contributions (NDCs). Project activities take place mainly in Argentina, Indonesia and Mexico.

## Funding areas for the International Climate Initiative (IKI)

The BMU directs its support mainly to countries and regions that are committed to the objectives of the Convention on Biological Diversity and host ecosystems of global importance. The BMU has funded projects in the field of climate change and biodiversity in numerous partner countries via the International Climate Initiative (IKI) since 2008. In the funding area "Conserving biological diversity", the IKI supports international projects aimed at achieving the targets set in the CBD Strategic Plan for Biodiversity 2011 to 2020. The total volume of commitments for projects in this funding area amounted to EUR 381 million between 2008 and 2018. In the funding area "Conserving natural carbon sinks/REDD+", the Federal Government assists countries in the Global South to develop strategies aimed at reducing emissions from deforestation and forest degradation. The total volume of commitments for projects in this funding area amounted to EUR 446 million between 2008 and 2018.

## Funding programme: IKI Medium Grants

In February 2020, the BMU launched a new funding mechanism – the IKI Medium Grants – within the framework of the International Climate Initiative. The IKI Medium Grants programme publishes calls for funding covering different priority areas at regular intervals. The first call for proposals in February 2020 focused on climate change mitigation and biodiversity conservation – currently the most significant challenges relating to implementation of the 2030 Agenda. The biodiversity funding area in particular links in with the United Nations Decade on Ecosystem Restoration (2021 to 2030), which will start in 2021, and the sustainable use of protected areas and ecosystems. The BMU will make a total of EUR 30 million in funding available via the programme over five years. The IKI Medium Grants programme is intended to support smaller organisations that reach regions and stakeholders in countries of the Global South that are not the focus of national measures, thus enhancing their potential to generate significant impetus for the protection of the climate and biodiversity. The aim of this new funding mechanism is to support innovative, locally adapted ideas on climate change mitigation via international partnerships.

## Outlook

From the BMU's perspective, it is essential, during the next few years of the Decade of Action on the Sustainable Development Goals, to ensure that the capacities built, the structures established and the strategies and plans developed within the framework of environmental and climate projects can make the best possible contribution to achieving the SDGs in the countries concerned. In the IKI framework, for example, this is reflected in the focus of newly selected projects with partner countries. Unlike capacity-building and strategic development, they focus on the direct implementation of climate and biodiversity measures and are intended to be scalable as far as possible. Although funding for official development assistance (ODA) decreased worldwide by 2.7 per cent in 2018 compared with the previous year, the BMU will continue to work towards stabilising and progressively increasing its ODA contribution. More generally, the BMU will continue its engagement in/support for international and intergovernmental platforms and networks with the broad involvement of non-governmental actors in

line with SDG 17, thus underlining the essential nature of the 2030 Agenda for Sustainable Development as a whole-of-society responsibility.

### Info

For this Sustainable Development Goal, no correlation with another SDG is shown, as global partnership is one of the core principles of the 2030 Agenda and is therefore foundational to all the other 16 Sustainable Development Goals.



# Chapter 2

## Delivering sustainability in administrative practices

### 1. The BMU: on track to become a sustainable administration

The actions within the sphere of responsibility of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) described in Chapter 1 make a significant contribution to delivering the Sustainable Development Goals and particularly to achieving our climate targets. However, the administration, including the Ministry's internal operations, must also be reorganised. In relation to the climate targets, relevant provisions are enshrined in the Federal Climate Change Act (*Bundes-Klimaschutzgesetz*) of October 2019.

With premises at five locations (Robert-Schuman-Platz in Bonn and Stresemannstrasse, Köthener Strasse 2-3, Köthener Strasse 4 and Kraußenstrasse in Berlin) and 1,175 staff members, the BMU offers great potential for sustainability within its administration. The Central Contract Awarding Division alone spent around EUR 25.9 million on procurement of goods and services last year.

In light of its specific portfolio, the BMU has a particular responsibility here. Its actions are guided by the awareness that we can only motivate others to pro-

tect the natural resources on which life depends if we implement appropriate measures credibly and successfully ourselves.

### Environmental management

The BMU implements the Programme of Sustainability Measures (*Nachhaltigkeit konkret im Verwaltungshandeln umsetzen*), adopted by the Federal Government in 2010 and updated in 2015, with a focus on the environmental aspects, mainly through its participation in the Eco-Management and Audit Scheme (EMAS).<sup>32</sup> The scheme was first introduced by the BMU for its office in Bonn, which has held EMAS certification

<sup>32</sup> The programme of measures of 30 March 2015 addresses all agencies and institutions of the direct federal administration, and contains eleven areas for action: the Federal Government's function as a role model for sustainable construction, climate action as a step on the way to a climate-neutral federal administration, the use of renewable energies in the heating of federal buildings, an energy-efficient modernisation plan for federal properties, energy/environmental management systems, public procurement, sustainability criteria for cafeteria services, reduction and offsetting of CO<sub>2</sub> emissions caused by transport, event organisation, compatibility of work with family life/care, including equal participation in management positions, and cultural diversification within the administration.

since 2006. Two of its offices in Berlin – Stresemannstrasse and Köthener Strasse 2-3 – have been certified since 2012. The Krausenstrasse building, added during the reorganisation, was certified in 2015. The EMAS's systematic approach, continuous improvement process and clearly defined structures and work routines greatly facilitate sustainable administrative action.

At the BMU, EMAS covers the direct environmental impacts of the operation of the sites, emissions from business travel, including use of the vehicle fleet, and emissions from the use of paper. Resource efficiency in the in-house use of information technology is also improving, with ongoing success. By reducing direct environmental impacts, we contribute to SDGs 12, 13, 14 and 15. Indirect environmental impacts must also be considered in the EMAS framework, also requiring continuous improvements in environmental performance. This applies, for example, to eco-friendly contract award criteria and low-impact, sustainable events. For example, the entire Climate Change Conference in Bonn in 2017 was EMAS-certified. The lessons learned can be applied to all major events in future. In our EMAS environmental statement, we report transparently on our targets, progress and the challenges involved. Each year, as part of the validation of our premises, our organisational units are available to answer questions from the environmental verifier on the efforts they are making to act in a more environmentally responsible manner. The BMU's legal compliance is certified by the environmental verifier every year as part of the environmental legislation compliance assessment.

There is regular involvement of our staff members via information on the Intranet and the provision of an e-mail address for any questions or suggestions for the Environmental Management Officer. New BMU employees, including trainees, are alerted to EMAS certification at the BMU and their own environmental responsibilities in the workplace as part of the staff induction process. By providing quality training in this way, the BMU makes a contribution to SDG 4. Key impetus for the further development of the environmental programme was generated by a staff survey on suggestions for improving the BMU's environmental performance. In this way, through their administrative activities, their resource-conscious behaviour and their specialist role as multipliers in the BMU's external relations, the BMU's staff members are directly involved in EMAS and contribute to its ongoing development. As the lead ministry for EMAS, we saw to it that the EU's

EMAS Regulation was revised in 2018 and now allows EMAS to focus on sustainability. In addition, training for environmental verifiers was broadened from 1 January 2020 to include skills relating to sustainable corporate governance. This gives companies and administrations the option to integrate sustainability aspects into their EMAS environmental management system in future.

With the Climate Action Programme 2030, which the BMU developed as lead ministry, the BMU has worked successfully to ensure that all supreme federal authorities introduce an environmental management system, as this is a key basis for further steps towards achieving a climate-neutral federal administration by 2030, as stipulated in the Federal Climate Change Act (*Bundes-Klimaschutzgesetz*). Certified environmental management systems provide the systematic approach that is necessary here, including externally verified data collection and evaluation, thus ensuring maximum credibility, transparency and comparability. The BMU offers support via the convoy procedure for all supreme federal authorities as partners in introducing EMAS.

This engagement on the environmental dimension of sustainable development is complemented by a number of internal measures, outlined below, that address the social dimension of sustainability and thus make a further contribution to implementing the 2030 Agenda.

## Human resources development and diversity

Well-qualified and highly motivated staff are the most valuable resource for successful environmental and climate policies. In line with the guiding vision of sustainability, the BMU's human resources development, with its initial, advanced and continuing training provision, consistently promotes inclusive, equal and quality education and lifelong learning for employees in line with SDG 4.

### Initial training

The initial training provided by the BMU focuses on the acquisition of professional skills and the assumption of social and environmental responsibility. These objectives are continuously supported by appropriate measures, such as projects to promote social engagement.

### Advanced and continuing training

In the provision of advanced and continuing training, a systematic approach is adopted to developing and refining the skills required to fulfil the BMU's diverse and challenging agenda. The aim is to build the specialist, methodological, social and communication skills, including leadership abilities, that employees require in order to align their professional activities and the work of the administration to the guiding principle of sustainable development. At the same time, this contributes to implementing SDG 16: Strong Institutions. Furthermore, advanced training at the BMU is designed with maximum sustainability in mind, as it promotes a balance between work, family and caregiving responsibilities and avoids emissions from training-related business travel as far as possible. To that end, a systematic expansion of the in-house seminar programme, which still accounted for almost 50 per cent of advanced training in 2019, is under way. Advanced training is offered on a needs-oriented basis at one or both locations, such as Bonn and/or Berlin.

### Gender equality

The BMU works consistently within its own sphere of responsibility to achieve SDG 5: Gender Equality, and, associated with it, to reduce inequalities in line with SDG 10. The BMU's gender equality plan is the key mechanism here. It sets ambitious targets and defines numerous measures for achieving equal opportunities for women and men in the workplace and in career development, as well as for achieving gender equality in appointments to boards and committees within the purview of the BMU. During the period 2016 to 2019, notable successes were achieved in increasing the proportion of women in leadership positions, reaching an overall figure of 42.9 per cent at the end of 2019, including 45 per cent of heads of division, 31.6 per cent of heads of directorates and 37.5 per cent of directors-general. The proportion of women accessing advanced training for career progression also increased significantly.

In board and committee appointments, too, the BMU is on the right track. The Federal Government's target is to achieve gender parity in all its new appointments to supervisory bodies and "essential bodies" where the Federal Government is entitled to at least three seats. In addition to this legal requirement, the BMU's target is to achieve gender equality in appointments to all bodies falling within the Ministry's sphere of influence. In the bodies for which the BMU has lead responsibility, the average proportion of women as at 30 June 2019

was 43.9 per cent; the proportion of women among members appointed by the Federal Government was 54.2 per cent. Compared with the situation on 30 June 2015, the average proportion of women increased by 14.8 per cent. In order to mainstream the gender equality SDG into environmental policy and the BMU administration, an administrative division was established in the BMU in February 2019 to deal with gender aspects of environmental policy (see also the section on SDG 5 in Chapter 1). A comprehensive gender strategy is currently being developed, whose implementation is supported by various working aids and manuals, including guidelines on gender-appropriate language.

### Diversity

The BMU signed the Diversity Charter back in 2014, thus affirming its commitment to an organisational culture of diversity. Furthermore, diversity mainstreaming was introduced in the BMU and embedded in its organisational structures in 2019. This is expected to have further positive impacts for equal opportunities in line with SDG 10.

### Balance between work, family and caregiving

In line with SDGs 5 and 8, progress has been achieved with regard to the balance between work, family and caregiving within the BMU. A comprehensive staff survey in 2018 attested to employees' broad satisfaction with the BMU's family-friendly organisational culture, which takes account of the different phases of life; the survey also pointed to a noticeable improvement in the balance between work, family and caregiving. The BMU achieved certification as a family-friendly employer for the fourth time following a comprehensive review in 2019. The action programme for the coming years will focus particularly on offering more opportunities for flexible working, which among other things will enable staff to achieve a better balance between family and caregiving responsibilities and their professional commitments. It has also been decided that, in addition to supporting employees through family services and advice and the offer of childcare places at kindergartens in Bonn, the BMU will set up an in-house creche at its Berlin location from 2020.

### Inclusion of people with disabilities

The BMU implements a range of measures to promote the inclusion of people with disabilities in the workplace and actively supports their equality in line with SDGs 3, 5 and 8. In particular, the BMU (including its executive agencies) can point to an above-average rate of employment of persons with disabilities

during the period 2018-2019. To support barrier-free access to information technology, the BMU's website has been designed in accordance with the Ordinance on Accessible Information Technology (*Barrierefreie-Informationstechnik-Verordnung*). Newly published PDF documents are designed to be accessible, based on an international standard. Various other measures have been implemented, such as the provision of individual needs-based workstation equipment for employees with specific disabilities (for example Braille readers, dictation software). As part of the digitalisation process, particular attention is paid to accessibility in the introduction of the e-file and workflow management. The BMU is also progressively implementing measures to improve accessibility in its buildings. Its premises are generally accessible and modifications have been made in order to provide more disabled toilet facilities. An action plan scheduled for 2021 will look at the situation of people with disabilities and address issues such as accessibility, recruitment procedures, training and event management.

### Workplace health management

With regard to the social dimension of sustainable development, specifically SDG 3: Good Health and Well-Being, the BMU's system of workplace health management plays an important role. The long-term goal is the permanent improvement of employees' leadership and social skills, along with better health awareness and increased workplace satisfaction. The medium-term goal is to reduce the number of days of absence taken by employees due to illness. Every year, various preventive healthcare services of a general nature are made available, such as measures to maintain eye health and advice on immunisation. There is also a regular focus on promoting sustainable mobility and exercise: examples are the Cycle to work campaign and in-house fun runs in Bonn and Berlin. Thematic priorities in the field of health behaviour and prevention, such as quitting smoking, but also ergonomic workplace design all help to strengthen employees' health awareness and well-being. Various health and fitness initiatives, such as yoga and relaxation courses and mobile massages, complete this package of measures.

### Climate-neutral BMU

A climate-neutral administration is also addressed through the Programme of Sustainability Measures (*Nachhaltigkeit konkret im Verwaltungshandeln umsetzen*). It is elaborated in the Climate Action Programme

2030 and has now been enshrined in law with the adoption of the Federal Climate Change Act (*Bundes-Klimaschutzgesetz*) by the German Bundestag on 15 November 2019, with 2030 as the target year. The BMU aims to lead by example here and has set itself the goal of achieving climate neutrality in 2020, mainly by avoiding and reducing its greenhouse gas emissions, with offsetting as the final step.

Efforts to achieve a climate-neutral BMU in 2020 correlate closely with SDG 13. In this process, the BMU is moving forward in tandem with the Federal Ministry for Economic Cooperation and Development (BMZ) and is developing a pilot for a climate-neutral federal administration. The information gained is shared with other public authorities, not only at federal level. Furthermore, the BMU successfully campaigned for the establishment of a Coordination Office for a Climate-Neutral Federal Administration. This was agreed by the State Secretaries' Committee for Sustainable Development in early 2020 and was set up in the BMU. It will coordinate activities to achieve the goal of a climate-neutral federal administration and provide support and guidance to other federal authorities engaged in the process of achieving climate neutrality.

In order to support efforts to achieve climate neutrality for the BMU in 2020, an in-house project group, entitled Climate-Neutral BMU, was established and an external service provider commissioned to support the project. The BMU's Climate Protection Officer, who also acts as the Environmental Management Officer, leads the project group, creating valuable synergies. Alongside a representative of the German Environment Agency (UBA), staff from all specialised administrative divisions of relevance to the project are involved in the project group on an ongoing basis. Other staff members may be called upon as required. Based on the data-gathering that takes place in the EMAS context, work is under way on data collection for BMU climate neutrality. As part of the EMAS validation in May 2020, it is envisaged that the external environmental verifier will be requested to conduct an initial assessment of the climate neutrality strategy. In addition to describing the climate impacts of the BMU's offices and work-related mobility, including business travel, it will cover paper procurement and emissions from the canteens. For 2020, the emissions quantified and validated as part of the EMAS environmental audit in 2019 and 2020 will be rendered climate-neutral through offsetting. From 2021, the BMU's climate footprint will be assessed annually by an external verifier as part of the

environmental statement and an emissions reduction pathway will be mapped out towards the goal of climate neutrality in 2050. Any residual emissions that continue to be produced until 2050 despite avoidance or mitigation measures should be offset by the UBA on an ongoing basis through high-quality programmes and progressively reduced.

In order to achieve climate neutrality, the BMU's system boundaries and audit parameters must be determined within the project framework. To that end, it was decided that initially, only the Ministry would be considered, excluding the subordinate authorities and affiliated companies. The audit parameters for the BMU are being determined in conjunction with the BMZ and the UBA in order to approach the goal of climate neutrality for the federal administration in a manner that ensures maximum uniformity and hence comparability. The Institute for Federal Real Estate is also involved in this process.

In order to obtain information about the mobility behaviour of BMU employees to determine the relevant emissions and develop measures for achieving more eco-friendly mobility, a staff survey was conducted and is currently being evaluated. The survey was developed as a model for other federal authorities and will be made available to them as required.

The Federal Government's Climate Action Programme 2030 stipulates that all the highest federal authorities and other federal authorities at an additional 300 locations will introduce an environmental management system by 2025. The BMU therefore offers support via the EMAS convoy procedure within the framework of its Climate-Neutral BMU project. The convoy procedure enables clusters of five to seven public authorities to benefit from the support of the BMU's service provider and to create inter-authority synergies for certification readiness based on a streamlined and effective procedure.

## 2. Sustainable administrative practices in the subordinate authorities

### German Environment Agency (UBA)

The German Environment Agency successfully completed its 2017-2019 EMAS validation period at the end of 2019. Its main goal is to be greenhouse gas-neutral by 2030. The clear stipulation here is that avoidance comes first, before reduction and then offsetting. To achieve this ambitious target, core areas have been identified where greenhouse gas neutrality should be the goal. They include:

- Property management – supply and consumption of electricity, cooling and heating
- Mobility – official vehicles, official travel, employee commuting
- Procurement – climate-relevant products and services
- Events – central event management

As regards implementation, here, the UBA is guided by the stipulations of the Greenhouse Gas Protocol (Corporate Accounting and Reporting Standards) and ISO 14064. In property management, all premises, with one exception, are supplied with green electricity. The majority of UBA buildings are equipped with photovoltaic installations and an alternative heating system wherever this is permitted under nature conservation legislation and building regulations. Through the introduction of extensive mobile working and associated desk sharing, the UBA's strategy is to reduce demand for office space. In this way, the UBA aims to reduce building-related resource consumption and counteract further sealing of surfaces.

With regard to mobility, the UBA has reduced its fleet to 18 vehicles. When new purchases are made, the focus is on alternative drive systems and smaller vehicle classes. The UBA aims to further expand e-mobility. With regard to business travel, the UBA is discussing a revision of the guidelines relating to business trips in order to establish binding criteria governing the choice of transport and, in particular, reduce air travel. In order to support other authorities within the federal

administration in this process, the UBA published a practical guide to mobility management in the federal administration in June 2019.<sup>33</sup>

New internal guidelines aim to make procurement at the UBA more sustainable. Mandatory procedures and assessment criteria for products and services are intended to achieve further improvements in the procurement process. With regard to events, the UBA has revised its previous guidelines on sustainable event management in collaboration with the BMU. Internally, the main focus here is on central planning and management of events.

## Federal Agency for Nature Conservation

The Federal Agency for Nature Conservation (BfN) introduced the EMAS system in 2011. Since then, it has published an annual environmental statement, which reports on the figures from the previous year, presents current targets in the environmental programme and provides status updates. Examples of progress achieved at the BfN head office in Bonn are the continuous decreases in fuel consumption for official journeys in recent years and reduced electricity consumption. This indicates that the BfN's CO<sub>2</sub> emissions are decreasing overall as well.

The Agency's buildings are heated by a geothermal installation and a modern gas condensing boiler. Since 2004, the premises have been supplied exclusively with green electricity and therefore rely exclusively on energy from renewable sources in this area. In 2018, a significant reduction in paper consumption was achieved compared with the previous year. The aim is to utilise the opportunities afforded by digitalisation for further improvements, including a continued decrease in the quantity of paper used. The modernisation of media technology in the large conference space was an opportunity to convert all the lighting in this part of the building to a modern and highly efficient LED system. This is expected to achieve further reductions in electricity consumption in the coming years.

In relation to business mobility, further reductions in fuel consumption and emissions are expected in the coming years, although total mileage will remain largely unchanged. As the vehicles in the fleet are replaced every two years and environmental factors play an important role when new vehicles are purchased, the Federal Government's Electromobility Programme is considered wherever possible in procuring service vehicles with electric components (e-vehicles/hybrids). The employees' own mobility behaviour is also exemplary; many cycle to work all year round and participate in climate campaigns such as Cycle to work (*Mit dem Rad zur Arbeit*) and City Cycling (*Stadtradeln*), thus making a contribution to more sustainable mobility.

With regard to biological diversity, the BfN continues to work on creating near-natural spaces. Wherever possible, green roofs have been installed on buildings to offset paved areas. At the BfN site, various garden spaces have been planted with native flora, the intention being to inspire visitors to design their own gardens accordingly. One of these garden spaces, which has remained largely unmodified, is a forested area of approximately 4,000 square metres. This space is generally undisturbed and provides a valuable habitat for a diverse range of fauna.

The employees themselves make a major contribution to the BfN's good environmental performance by actively submitting their own suggestions and ideas on potential new measures. They also have a positive attitude to resource efficiency and therefore make sparing use of utilities and supplies such as water, gas and paper.

The potential for further relevant improvements is steadily decreasing. Comprehensive energy upgrading and the development of an integrated energy strategy for electricity, heating, cooling and ventilation are therefore the only options to achieve tangible improvements. Ahead of the next audit in 2021, attention will focus to an even greater extent on topics such as mobility, the integrated energy strategy, eco-friendly event management, product purchasing, the carbon footprint and digital administration.

33 Source: UBA (2019): *Mobilitätsmanagement in der Bundesverwaltung. Handlungsempfehlungen für die Praxis*: [www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/uba\\_fb\\_lf\\_mobilitaetsmanagement\\_final\\_bf.pdf](http://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/uba_fb_lf_mobilitaetsmanagement_final_bf.pdf)

## Federal Office for Radiation Protection

Following the completion of the restructuring of the Federal Office for Radiation Protection (BfS), work on the introduction and maintenance of an EMAS-based environmental management system was intensified from April 2019. The aim is to achieve EMAS certification for the BfS in early 2021. In summer 2019, an environmental team was established, comprising representatives of all departments. Further steps towards certification were successfully initiated in 2019. They included the drafting of a BfS environmental programme identifying and evaluating the environmental aspects of relevance to the BfS, the production of an environmental management handbook and the preparation of the first environmental audit.

During the necessary data collection, it was noted that measures previously introduced to take greater account of sustainability were having an effect: for example, CO<sub>2</sub> emissions from business travel have decreased by 38 per cent in the last four years. In part, this can be attributed to a reduction in the number of business trips, as well as to a shift to rail instead of air travel (only 8 per cent of business trips in 2019 involved air travel). In order to reinforce this positive trend, video conference capacities were increased by approximately 20 per cent in 2019. Property management also contributes to improved environmental performance at the BfS – for example, the switch from a fossil gas supply to sustainable distance heating at the Salzgitter offices saves around 300 tonnes of CO<sub>2</sub> per year. Furthermore, sustainable procurement has been introduced, for example for the green electricity supply, and active measures are being taken to reduce the use of consumables. Paper consumption thus decreased by 64 per cent between 2010 and 2019.

In addition to resource consumption, the BfS gives high priority to other aspects of the 2030 Agenda. As an office for citizen welfare, the full range of topics addressed by the BfS is focused on protection of human health, life on land and life below water (SDGs 3, 14, 15). By offering numerous flexible working options, the BfS aims to provide equal opportunities for career development for women and men alike (SDG 5). The establishment of the Competence Centre for Electromagnetic Fields is a direct contribution by the BfS to decent work and innovation (SDGs 8 and 9), and aims to optimise the impacts of climate-friendly energy technologies and infrastructures in the field of radiation protection (SDGs 7 and 13). By choosing Lebenshilfe Braunschweig

– an organisation offering services to the disabled – to run its canteen in Salzgitter, the BfS sent a clear signal in 2019 that people with disabilities should not only be offered employment but also encouraged to engage with the BfS's topic area of radiation protection for people and nature (SDGs 8 and 4).

## Federal Office for the Safety of Nuclear Waste Management

The Federal Office for the Safety of Nuclear Waste Management (BASE) is currently working intensively on establishing an environmental management system based on EMAS. The organisational structures required to work on this task have already been established. The introduction of the environmental management system is managed by the Quality and Audits Unit, which reports to the Vice-President. In all departments, management system officers have been designated in order to support the system's introduction. The lead unit has been allocated staff with experience in introducing and auditing management systems. Environmental guidelines have also been developed. The system documentation is currently being finalised and plans to identify the binding commitments under EMAS are progressing well. At the start of this year, BASE moved into its new premises in Berlin; preparations for its integration into the environmental management system have already begun.

## Examples of internal and external SDG activities at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)



### Goal 1: End poverty in all its forms everywhere

- Project support through the International Climate Initiative
- Public participation processes including vulnerable people and groups



### Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

- Action Programme for Insect Conservation
- National Nitrogen Strategy



### Goal 3: Ensure healthy lives and promote well-being for all at all ages

- Immediate Action Programme for Clean Air
- Occupational health management



### Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

- BMU education service together with participation formats for young people
- Advanced and continuing training measures in the field of sustainable development



### Goal 5: Achieve gender equality and empower all women and girls

- Establishment of a work unit for gender-related environmental policy
- Introduction and implementation of a gender equality plan



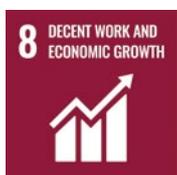
### Goal 6: Ensure availability and sustainable management of water and sanitation for all

- Implementation of the EU Water Framework Directive through the Federal Water Act
- Stakeholder dialogue on preventing trace substances in water



### Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

- Energy Transition Monitoring Report (cf. S. 26) for the early identification of environmental impacts
- European emissions trading



### Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

- Initiation of a trade union dialogue on environment and work
- Further strengthening of the work-family life balance



**Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation**

- Support programme for decarbonising industry
- Participation in the Eco-Management and Audit Scheme



**Goal 10: Reduce inequality within and among countries**

- Establishment of a Division for Social Aspects of Environmental Policy and Social Equity
- Integration of people with disabilities by adapting workplaces



**Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable**

- Strategic research agenda on urban environmental protection
- Investment programme for municipalities in lignite mining areas



**Goal 12: Ensure sustainable consumption and production patterns**

- National Programme on Sustainable Consumption drawn up in cooperation with the Federal Ministry of Justice and Consumer Protection and the Federal Ministry of Food and Agriculture
- Increased use of the Blue Angel eco-label as product information



**Goal 13: Take urgent action to combat climate change and its impacts**

- Climate Action Plan 2050 to comply with the Paris Agreement
- Climate-neutral Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and Federal Ministry for Economic Cooperation and Development by deploying specialist project



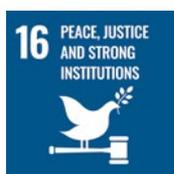
**Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development**

- Implementation of HELCOM and OSPAR and other agreements
- 45 per cent of German marine waters in the North and Baltic Seas have a protected status



**Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**

- National Strategy on Biological Diversity
- National Blue Belt Programme



**Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**

- Enforcement of the Environmental Information Act
- Consolidated public participation on the basis of the Aarhus Convention



**Goal 17: Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development**

- Support for the Partnership for Action on Green Economy
- Consolidated public participation on the basis of the Aarhus Convention

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## List of Abbreviations

<b>APA</b>	Adaptation Action Plan (Aktionsplan Anpassung an den Klimawandel)
<b>BASE</b>	Federal Office for the Safety of Nuclear Waste Management (Bundesamt für die Sicherheit der nuklearen Entsorgung)
<b>BAT</b>	Best available techniques
<b>BC Cop14</b>	14th meeting of the Conference of the Parties to the Basel Convention
<b>BfN</b>	Federal Agency for Nature Conservation (Bundesamt für Naturschutz)
<b>BfS</b>	Federal Office for Radiation Protection (Bundesamt für Strahlenschutz)
<b>BMEL</b>	Federal Ministry of Food and Agriculture (Bundesministerium für Ernährung und Landwirtschaft)
<b>BMF</b>	Federal Ministry of Finance (Bundesministerium der Finanzen)
<b>BMG</b>	Federal Ministry of Health (Bundesministerium für Gesundheit)
<b>BMJV</b>	Federal Ministry of Justice and Consumer Protection (Bundesministerium der Justiz und für Verbraucherschutz)
<b>BMU</b>	Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit)
<b>BMVI</b>	Federal Ministry of Transport and Digital Infrastructure (Bundesministerium für Verkehr und digitale Infrastruktur)
<b>BMWi</b>	Federal Ministry for Economic Affairs and Energy (Bundesministerium für Wirtschaft und Energie)
<b>BMZ</b>	Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung)
<b>CAP</b>	Common agricultural policy
<b>CBD</b>	Convention on Biological Diversity
<b>CCAMLR</b>	Commission for the Conservation of Antarctic Marine Living Resources
<b>CDU/CSU</b>	Christian Democratic Union of Germany / Christian Social Union in Bavaria
<b>CITES</b>	Convention on International Trade in Endangered Species of Wild Fauna and Flora
<b>CO<sub>2</sub></b>	carbon dioxide
<b>COP 23</b>	23rd Climate Change Conference
<b>COVID-19</b>	Coronavirus disease 2019
<b>DAS</b>	German Adaptation Strategy (Deutsche Anpassungsstrategie an den Klimawandel)
<b>DIHK</b>	Association of German Chambers of Commerce and Industry (Deutsche Industrie- und Handelskammer)
<b>EEZ</b>	German exclusive economic zone
<b>EMAS</b>	Eco-Management and Audit Scheme
<b>ESD</b>	Education for Sustainable Development
<b>ESDN</b>	European Sustainable Development Network
<b>ESDW</b>	European Sustainable Development Week
<b>EU</b>	European Union
<b>EU ETS</b>	EU Emissions Trading System
<b>EUR</b>	Euro
<b>EXI</b>	Export initiative for environmental technologies (Exportinitiative Umwelttechnologien)
<b>G7</b>	Group of Seven
<b>G20</b>	Group of Twenty
<b>GAK</b>	Joint Task for the Improvement of Agricultural Structures and Coastal Protection (Gemeinschaftsaufgabe zur Verbesserung der Agrarstruktur und des Küstenschutzes)
<b>GCF</b>	Green Climate Fund

<b>GDP</b>	Gross domestic product
<b>GIZ</b>	German Corporation for International Cooperation GmbH (Deutsche Gesellschaft für Internationale Zusammenarbeit)
<b>GUCCI</b>	Gender into Urban Climate Change Initiative
<b>HELCOM</b>	Helsinki Commission
<b>HLPF</b>	High-Level Political Forum on Sustainable Development
<b>ICCM5</b>	International Conference on Chemicals Management
<b>IKI</b>	International Climate Initiative (Internationale Klimaschutzinitiative)
<b>ILO</b>	International Labour Organization
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ISC3</b>	International Sustainable Chemistry Collaborative Centre
<b>ISO</b>	International Organization for Standardization
<b>IUCN</b>	International Union for Conservation of Nature and Natural Resources
<b>IUP</b>	Integrated Environmental Programme 2030 (Integriertes Umweltprogramm 2030)
<b>KEI</b>	Competence Centre on climate change mitigation in energy-intensive industries (Kompetenzzentrum Klimaschutz in energieintensiven Industrien)
<b>KoMoNa</b>	Municipal Pilot Projects to Implement the Environmental SDGs in Regions of Structural Change (Kommunale Modellvorhaben zur Umsetzung der ökologischen Nachhaltigkeitsziele in Strukturwandelregionen)
<b>LAWA</b>	German Working Group on water issues of the Federal States and the Federal Government (Bund/Länder-Arbeitsgemeinschaft Wasser)
<b>LED</b>	Light-emitting diode
<b>NABU</b>	Nature And Biodiversity Conservation Union (Naturschutzbund Deutschland e. V.)
<b>NACAG</b>	Nitric Acid Climate Action Group
<b>NAPE</b>	National Action Plan on Energy Efficiency (Nationaler Allokationsplan für Energieeffizienz)
<b>NBSAP</b>	National Biodiversity Strategies and Action Plans
<b>NDCs</b>	Nationally Determined Contributions
<b>NEC</b>	National Emission Ceilings Directive
<b>NGO</b>	Non-governmental organization
<b>NH<sub>3</sub></b>	Ammonia
<b>NO<sub>x</sub></b>	Nitrogen oxides
<b>ODA</b>	Official Development Assistance
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>OGP</b>	Open Government Partnership
<b>OSPAR</b>	Named after the original Oslo and Paris Conventions, mechanism by which 15 governments & the EU cooperate to protect the marine environment of the North-East Atlantic
<b>PAGE</b>	Partnership for Action on Green Economy
<b>PES</b>	Payment for Ecosystem Services
<b>PM<sub>10</sub></b>	Particulate matter
<b>PR</b>	Public relations
<b>ProgRes</b>	German Resource Efficiency Programme (Deutsches Ressourceneffizienzprogramm)
<b>PtX</b>	Renewable energies and renewables-based PtX technologies (Power-to-X)
<b>REDD+</b>	Reducing Emissions from Deforestation and Forest Degradation

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<b>SAICM</b>	Strategic Approach to International Chemicals Management
<b>SDG</b>	Sustainable Development Goal
<b>SDSN</b>	Sustainable Development Solutions Network
<b>SO<sub>2</sub></b>	Sulfur dioxide
<b>SPD</b>	Social Democratic Party of Germany
<b>TA Lärm</b>	Technical Instructions on Noise Abatement (Technische Anleitung zum Schutz gegen Lärm)
<b>UBA</b>	German Environment Agency (Umweltbundesamt)
<b>UIP</b>	Environmental Innovation Programme (Umweltinnovationsprogramm)
<b>UN</b>	United Nations
<b>UNCLOS</b>	United Nations Convention on the Law of the Sea
<b>UNDP</b>	United Nations Development Programme
<b>UNEA</b>	United Nations Environment Assembly
<b>UNECE</b>	United Nations Economic Commission for Europe
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>UNIDO</b>	United Nations Industrial Development Organization
<b>UNITAR</b>	United Nations Institute for Training and Research
<b>USD</b>	United States dollar
<b>UV</b>	Ultraviolet
<b>VOC</b>	Volatile organic compounds
<b>WFD</b>	Water Framework Directive
<b>WHO</b>	World Health Organization

