

SUSTAINABLE DEVELOPMENT IN GERMANY

Indicator Report 2021



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Dear reader,

Sustainable action, that is, the equal consideration of social, economic and ecological aspects in all decisions, is more important than ever. Opportunities for actively shaping processes and bringing about permanent change open up in particular in times of transition. The Federal Government can only design processes in such a way that they ensure future viability if it has valid information available on where we stand on the road to a sustainable society and in what direction we are moving.

The Federal Statistical Office has performed this task already for the 8th time by compiling the 2021 Indicator Report on the German Sustainability Strategy.

The German Sustainability Strategy was extensively refined this year. This is reflected by the additional and ambitious sustainability goals as well as the revised set of indicators. Many indicators are provided by other authorities and then are analysed by the Federal Statistical Office on behalf of the Federal Government. I am especially pleased that the material and CO₂ footprints from environmental-economic accounting provide important additional information. These new indicators illustrate the worldwide effects of private household consumption and take into account that the impacts of our actions do not stop at the borders.

Even the most recent data, however, cannot yet reflect all the developments in 2020 or allow clear assessments to be made for the future. The most up-to-date information on the development of the sustainability indicators can be found at www.dns-indikatoren.de.

Special thanks to all contributors and institutions for making the report possible and ensuring its usual quality. I hope it will give its readers insightful and inspiring information as well as sustainable impulses.



Dr. Georg Thiel
President of the Federal Statistical Office



Refinement of the indicators

The refinement made in the German Sustainability Strategy 2021 has been the most extensive one since the strategy was realigned after the United Nations adopted the Agenda 2030. A number of new indicators were incorporated, some indicators were enhanced and additional targets were formulated. The COVID-19 pandemic presented particular challenges to the refinement, which included organisational aspects such as the timetable as well as content-related issues concerning the interpretation of the indicators. Some effects are not yet reflected in the data or will have a delayed impact on their development. As a result, information on the indicators' future development and the achievement of targets is subject to major uncertainties.

The German Sustainability Strategy is the national implementation of the Agenda 2030. The target values to be achieved, the relevant indicators, their data basis, calculations and graphic representation have been determined by the Federal Government. For each of the 17 global goals for sustainable development (SDGs) laid down in the Agenda 2030, the German Sustainability Strategy contains thematically aligned national goals together with the relevant indicators. These national goals and indicators differ from those of the global action plan so as to take better account of national circumstances.

Presentation of the indicators

Each indicator is presented individually or together with a closely related indicator in a consistent format on a double page. The double page provides the most important information on the indicator and its development over time in a well-structured and easily understandable manner. As in the previous indicator reports, a weather symbol – from sunshine to thunderstorm – illustrates in a simple and easy-to-understand way how far the indicator has moved on the politically desired path towards its target. The development of the indicator to date is visualised in a chart, which also shows the target set, if possible. Then, the indicator is described in a three-part text. The first section provides a brief definition of the indicator. The second section sets out the political intention behind both the selection of the indicator and the setting of the respective target value. Where necessary, the politically determined target value is translated in this section into a statistically assessable target value. The third section explains the content and development of the indicator. In addition to the indicator's development over time, this section describes what the indicator actually represents and what statements can be made on the basis of its values and their change. Where necessary, these statements are put into a statistical context.

Indicator status summary

A quick overview of the indicator status is available from the Indicator status summary. It offers a first evaluation of the indicators' development. Furthermore, the weather symbols shown for the previous years also allow an assessment of how stable the “weather condition” of an indicator has been so far. Nevertheless, the weather symbols give just a first idea of the indicator development. They do not replace the explanatory texts and their background information.

Data status of the indicators

The indicator data shown in the texts and charts were last updated on 31 December 2020. The most up-to-date information on the development of the sustainability indicators is available from our online platform (www.dns-indikatoren.de).

Data annex

The complete time series of all indicator data presented in the charts and texts in this indicator report can be found in the annex to the report. A supplementary data compendium is available on the website of the Federal Statistical Office (www.destatis.de/SDGDE), which contains further time series relating to the respective sustainability indicators as well as references to additional data.

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1 NO POVERTY

Poverty – Limiting poverty

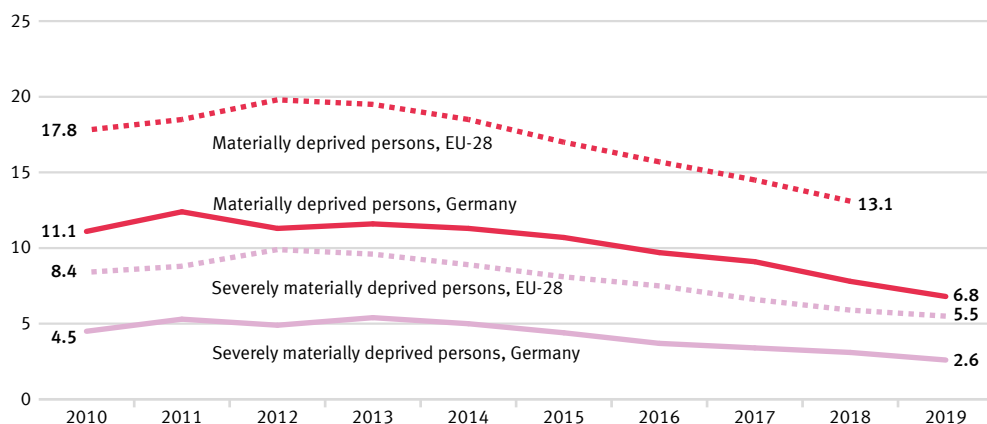
1.1.a, b Material deprivation and severe material deprivation

a) Material deprivation 

b) Severe material deprivation 

Materially deprived and severely materially deprived persons

In %



Sources: Federal Statistical Office, Eurostat

Definition of indicators

Material deprivation refers to the lack of specific consumer goods and the involuntary foregoing of discretionary consumption for financial reasons. The two indicators indicate the proportion of people out of the total population who are deemed to suffer material deprivation (1.1.a) or severe material deprivation (1.1.b). Material deprivation describes the situation of all people whose household meets at least three (four in the case of severe material deprivation) out of nine defined criteria reflecting the financial restrictions on the household.

Targets and intention of the German Government

The material deprivation indicator is also part of the extensive poverty and wealth reporting conducted by the German Government. By identifying individual deficiencies, it is intended to map the types of personal circumstances in which a risk of poverty exists. The aim of the fight against material deprivation is to ensure that the percentages of persons in Germany who are materially deprived and who are severely materially deprived should both be below the average for the European Union.



Content and development of indicators

The data are drawn from the EU-wide harmonised annual Statistics on Income and Living Conditions (EU-SILC), the results of a survey conducted in Germany by the Federal Statistical Office in cooperation with the statistical offices of the various Länder under the title “Living in Europe”. This involves some 14,000 private households in Germany, which voluntarily provide information about their income and living conditions annually.

Both indicators show the percentage of the population who, in their own estimation, involuntarily forego consumption or experience shortages in several areas for financial reasons. Purchases of selected lifestyle items considered in Europe to be appropriate, desirable or even essential were used as evaluation criteria. These nine criteria used to define material deprivation are standardised for all countries in which the EU-SILC survey is conducted, which makes EU-wide comparisons possible.

Specifically, the nine attributes are as follows: the lack of a car, a washing machine, a colour TV or a telephone in the household (in each case because the household is unable to afford one), a financial problem paying rent, mortgage or utility bills on time, being unable to provide for adequate heating in the home, being unable to eat meat, fish or an equivalent vegetarian meal every second day, not being able to spend a one-week holiday away from home each year or being unable to meet unexpected expenditure of a specific amount (EUR 1,050 in 2018) from the household budget.

Material deprivation is associated with the problem of social exclusion, because participation in social life is jeopardised by a lack of funds. This measure of severe material deprivation is also part of the “poverty or social exclusion” indicator, which is used to measure progress towards one of the five headline targets of the Europe 2020 strategy (combating poverty and social exclusion).

In 2018, 7.8% of the population in Germany were classed as materially deprived, while 3.1% were subject to severe material deprivation. The corresponding values in 2010 were 11.1% and 4.5% respectively, and they were even slightly higher in some cases in the years immediately following. The level has thus shown a slight fall over time, similar to that in the EU as a whole. The average values for people in the EU, however, are considerably higher on both counts than the corresponding values for Germany. In 2018, for instance, the materially deprived proportion of the EU population, as estimated by the Statistical Office of the European Union (Eurostat), was 13.1%, which is more than half the German figure. A total of 5.9% were classed as severely materially deprived. This quota is 90% higher than the corresponding value in Germany.

2 ZERO HUNGER

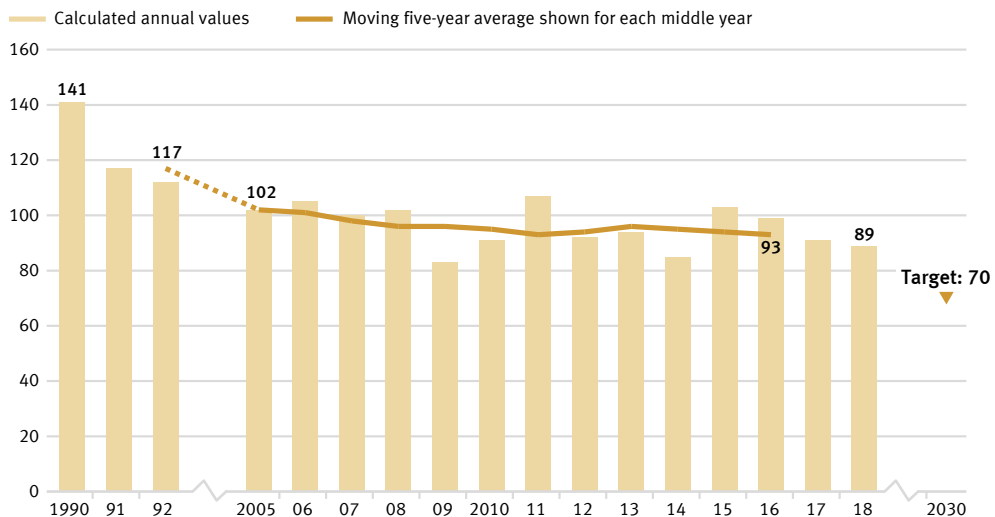
Farming – *Environmentally sound production in our cultivated landscapes*

2.1.a Nitrogen surplus in agriculture



Nitrogen surplus in agriculture

In kilograms per hectare



Provisional data for 2018.

Sources: Institute for Crop and Soil Science, Julius Kühn Institute,
Institute of Landscape Ecology and Resources Management, University of Giessen

Definition of the indicator

The indicator represents the annual nitrogen surplus for the agriculture sector, calculated as nitrogen input minus removal of nitrogen and expressed in kilograms per hectare of utilised agricultural area.

Targets and intention of the German Government

Excess nitrogen input into the environment causes pollution of groundwater and surface water, the oversupply of nutrients (eutrophication) in inland waters, seas and terrestrial ecosystems, and the formation of greenhouse gases and acidifying air pollutants with adverse consequences for the climate, biodiversity and landscape quality. 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.



Content and development of the indicator

The calculation of the indicator takes account of nitrogen input resulting from fertilisers, from biological fixation, from atmospheric deposition, from seeds and plants and from animal feed. Nitrogen removal takes place through plant and animal market products. The surplus nitrogen may escape in gaseous form into the atmosphere, be enriched in the soil or leach into groundwater. In this way it can ultimately find its way into rivers or other ecosystems too. Here, the nitrogen surplus in agriculture has a direct effect on the trend in indicators 6.1.b (Nitrate in groundwater), 14.1.a (Nitrogen input via the inflows into the North and Baltic Seas) and 15.2 (Eutrophication of ecosystems) In the case of indicator 3.2.a (Emissions of air pollutants), nitrogen is released into the atmosphere as a result of agriculture impacts on the formation of nitrogen dioxides and ammonia.

The indicator is calculated by the Institute for Crop and Soil Science at the Julius Kühn Institute and the Institute of Landscape Ecology and Resources Management at the University of Giessen. For 2018, fertilisers were found to be the main source of nitrogen input, accounting for 54.5% (94 kg nitrogen per hectare) in the overall nitrogen balance. Other important sources of nitrogen input were animal feed, with 34.1% (59 kg/ha), biological fixation, with 7.6% (13 kg/ha) and non-agricultural emissions, with 1.8% (3 kg/ha).

The calculation of the indicator is based on a five-year moving average, the mean value being obtained from five reference years. The five-year rolling average provides the value for the middle year of the five reference years. The figure thus takes account of year-to-year fluctuations caused by meteorological and market conditions which are beyond the control of farms. The indicator gives no information on the regional distribution of nitrogen surpluses. For the years 2016 and 2017 various input data were retrospectively updated. The calculation method was also revised, and some coefficients were updated. This has given rise to divergences from the indicator values shown in the previous publication.

In the period from 1992 to 2016, the moving five-year average nitrogen surplus fell by 19.9% from 116.6 to 93.3 kilograms per hectare/year. The reductions in the nitrogen surplus, however, are largely due to developments from the start of the time series until 2011. Since then the nitrogen surplus has stagnated, and it now remains at the 2011 level of 93 kg/ha. If the current trend continues, the aim of a reduction to an annual average of 70 kilograms per hectare of utilised agricultural area by the reference period 2028-2032 will not be achievable. The significant reduction of the nitrogen surplus at the start of the 1990s resulted from reduced use of fertilisers and falling livestock numbers in the new Länder. The comparatively meagre decline over the remainder of the time series stemmed from a slight decline in the use of mineral fertilisers and higher crop yields resulting from technical progress in plant production and cultivation, reflected in more efficient nitrogen usage and in the range of crop varieties. The same period has seen increases in the area given over to high-yield crops, such as maize and wheat, and improvements in feed conversion efficiency in livestock farming.

2 ZERO HUNGER

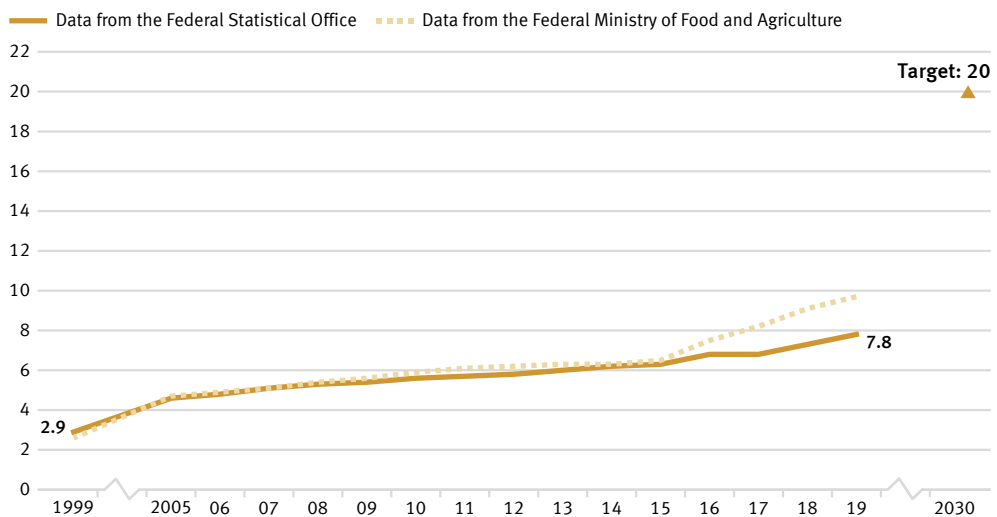
Farming – *Environmentally sound production in our cultivated landscapes*

2.1.b Organic farming



Organically farmed agricultural land

Percentage of total utilised agricultural land



Sources: Federal Statistical Office, Federal Ministry of Food and Agriculture

Definition of the indicator

The indicator shows the share of total utilised agricultural land in Germany that is cultivated by organically managed farms subject to the inspection system prescribed by the EU legislation on organic farming (Regulation (EC) No. 834/2007 and the implementing rules). It includes land that has been fully converted to organic management as well as areas still undergoing conversion.

Targets and intention of the German Government

Organic farming preserves and protects natural resources to a particularly high degree. It has a wide range of beneficial effects on nature, the climate and the environment and fosters the production of high-quality food. For this reason, an increase in the proportion of organically farmed agricultural land to 20% is targeted for 2030.



Content and development of the indicator

Data on organic farming is collected by the Federal Office for Agriculture and Food (BLE) on behalf of the Federal Ministry of Food and Agriculture (BMEL) and by the Federal Statistical Office.

The Federal Statistical Office uses various surveys to determine the area of organically farmed land. The reference value in the percentage computation is the total utilised agricultural area determined in the annual land survey. The agriculturally utilised area comprises all surfaces used for agricultural or horticultural purposes. Accordingly, building and farmyard areas of agricultural holdings are not included in the reference value.

The data collected by the BMEL includes details of the amount of organically farmed land reported annually by the organic regulatory authorities of the Länder. The reporting date is 31 December of each year. All reports for a current year are accumulated no later than this reporting date. The values shown in the data held by the Federal Ministry of Food and Agriculture are somewhat higher. One of the reasons for this is that areas not subject to cut-off thresholds are measured against areas to which cut-off thresholds apply. This means that, in the calculation of the percentage, the numerator includes very small plots, whereas only areas of a certain minimum size count towards the denominator.

According to the data held by the Federal Statistical Office, the share of organically farmed land increased from 2.9% to 7.8% of the utilised agricultural area between 1999 and 2019. The figure for 2019 corresponds to an organically farmed area of 1.29 million hectares. The data from the Federal Ministry of Food and Agriculture indicate a higher percentage of organically farmed agricultural land. According to those data the value for 2019 was 9.7% or 1.61 million hectares.

Although the last few years have seen a further increase in the area of organically farmed land, the annual percentage increase from year to year has fluctuated widely. Percentage growth stagnated, for example, between 2016 and 2017 but rose sharply again in the period from 2017 to 2019. On the basis of the figures from the Federal Statistical Office, if the trend of the last five reference years were to continue, the target of 20% of utilised agricultural area being farmed organically by 2030 would not be achieved.

Germany's organically farmed land was used as follows in 2019: 57.2% as permanent pasture, 46.7% as arable land and 1.8% for other uses. By contrast, the main use in agriculture as a whole was as arable land, with 70.4%, while the share of permanent pasture was 28.5% and other uses accounted for 1.2% of total utilised agricultural area. According to the results of the 2016 agricultural structure survey, Bavaria held the largest share of organically farmed land among all the Länder with around 23%, followed by Brandenburg with 12% and Baden-Württemberg with just under 12%. The conversion to organic farming is promoted to varying degrees by the individual Länder.

According to Eurostat data, a total area of 13.4 million hectares was organically farmed in the EU-28 states in 2018. This represented 7.5% of the entire utilised agricultural area. The highest ratios of organically farmed land within EU countries were registered for Austria, with 24.1%, followed by Estonia with 20.6%, Sweden with 20.3%, Italy with 15.2% and the Czech Republic with 14.8%.

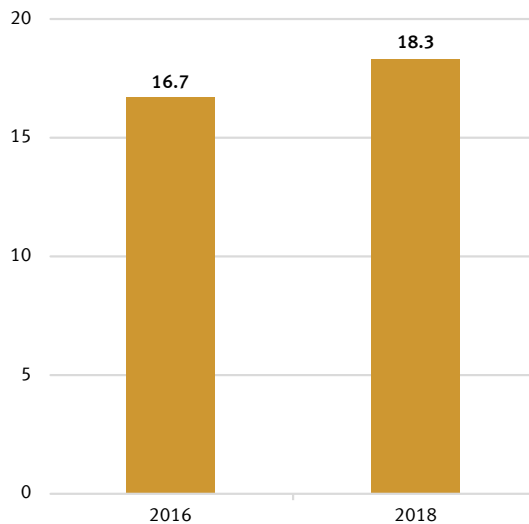
2 ZERO HUNGER

Food security – *Realising the right to food worldwide*

2.2 Support for good governance in attaining appropriate nutrition worldwide

Disbursement made primarily to developing and emerging countries to support good governance in the context of efforts to promote food security

Percentage of total spending on food security devoted to good governance



Sources: Federal Ministry for Economic Cooperation and Development, Federal Ministry of Food and Agriculture

Definition of the indicator

The indicator measures the funds disbursed for the application of the relevant international standards and recommendations on the realisation of the right to food (defined according to the Global Strategic Framework of the UN Committee on World Food Security (CFS)) as a percentage of total spending on food security.

Targets and intention of the German Government

The indicator is based on the assumption that the promotion of the application of international guidelines and recommendations on food security can improve the food situation and thus make an important contribution to the fulfilment of SDG 2 and the realisation of the right to food.

The indicator measures the German contribution to enhancing good governance in the context of efforts to promote food security. The proportion of funds disbursed for food security that is used for governance is to increase accordingly by 2030.



Content and development of the indicator

The collection of data for the indicator is undertaken by the Federal Ministry of Food and Agriculture (BMEL) and the Federal Ministry for Economic Cooperation and Development (BMZ). To this end, all project and programme documents relating to food security projects are examined. The initial survey for 2016 was reviewed externally. That validation revealed that the data collection criteria and the definition of good governance needed to be specified in order to ensure comparability of the results. The methodology was subsequently revised.

A project is now counted if the objective, the effect matrix or the project description (a) specifically names a guideline or recommendation of the Global Strategic Framework for Food Security and Nutrition, or (b) a core element of the content of a guideline/recommendation is a substantial part of the project, and the project simultaneously aims to improve legal, institutional or political conditions. There must be congruity with the recording of the related spending as official development assistance (ODA).

In 2016, EUR 148 million of ODA for food security fell under the subheading of governance. On the basis of the revised methodology, this amount corresponds to 16.7% of the total expenditure of EUR 887 million. Both the total expenditure and the expenditure under the subheading of governance are thus considerably lower than the values calculated before the methodology was revised, which put governance expenditure for 2016 at 32% of a total of EUR 1,472 million. This is primarily due to a redefinition of the concept of governance and the use of an additional criterion in the form of the OECD governance indicator or, alternatively, of the governance criteria used in German development cooperation.


In 2018, a total of EUR 223 million, or 18.3% of the total expenditure of EUR 1,215 million on ODA for food security, fell under the subheading of governance. Compared with the total amount of official development assistance, however, the proportions allocated to both governance and food security are small. In 2018, for example, total spending on ODA amounted to EUR 25 billion. Of that amount, 4.9% went to food security and 0.9% to good governance within the realm of food security.

The indicator represents one facet of Germany's contribution to the achievement of SDG 2. In recent years the overall situation in the countries with which Germany engages in development cooperation initially showed a considerable improvement. According to figures from the United Nations Food and Agriculture Organization (FAO), the percentage of people suffering from undernourishment in these partner countries fell from 19% in the year 2000 to 14% in 2015. Current FAO estimates, however, indicate that the undernourishment rate has been rising worldwide since 2015 and that 280 million people were undernourished in 2018. That corresponds to 11% of the world's population.

3 GOOD HEALTH AND WELL-BEING

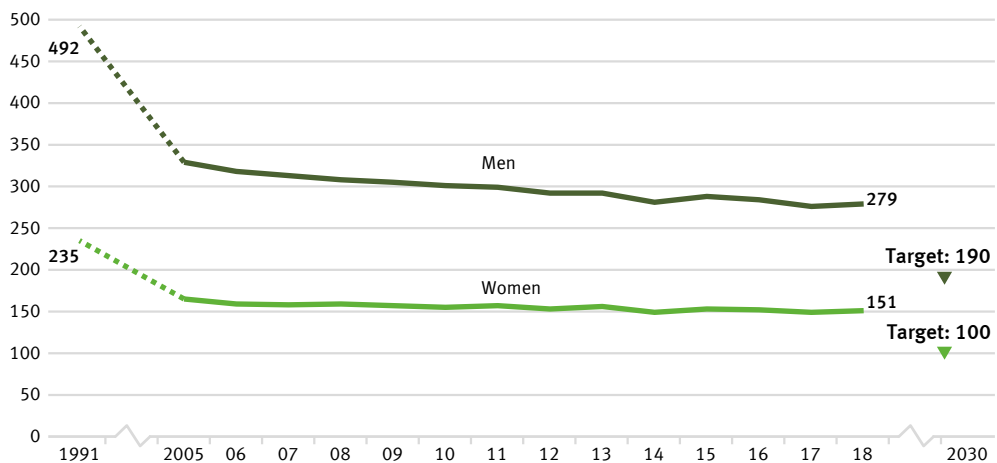
Health and nutrition – *Living healthy longer*

3.1.a, b Premature mortality

a) Women  b) Men 

Premature mortality

Deaths per 100,000 population below the age of 70 (excluding those less than one year old)



Age-standardised figures based on the old European standard population

Source: Federal Statistical Office

Definition of indicators

The indicator comprises the number of fatalities among females (3.1.a) and males (3.1.b) in the population below 70 years of age per 100,000 of the old European standard population aged under 70 (excluding those less than one year old).

Targets and intention of the German Government

By 2030, premature mortality among women should not exceed 100, and for men it should not exceed 190 fatalities per 100,000 inhabitants.



Content and development of the indicator

The data sources are the cause of death statistics and the population statistics of the Federal Statistical Office. For the cause of death statistics, all official death certificates are recorded and evaluated. The population statistics shows the current population data based on the results of the most recent census. The data relate to the old European standard population. A standard population is a modelled population that makes it possible to compare change rates over time. The cohort under one year of age, and hence infant mortality, is disregarded. The indicator is also part of the health reporting conducted by the Federal Government.

Premature mortality decreased steadily between 1991 and 2018 for both women (-36%) and men (-43%). The larger decline among men has also reduced the gender-specific difference in premature mortality. In 2018, for example, 151 women and 279 men per 100,000 inhabitants died before the age of 70. If the trend of past years remains unchanged, however, the gender-specific targets for 2030 will be missed.

Reflecting the steady decrease in premature mortality, life expectancy in Germany has continued to follow an upward curve. Today's 70-year-old women can, statistically, expect to live another 17.0 years and 60-year-old men another 14.3.

In the period from 2016 to 2018, the average life expectancy for newborn girls was 83.3 years and for boys 78.5 years, which was 4.3 years more for girls and 6.0 years more for boys than in the years 1991 to 1993. Differences in life expectancy between the old Länder and the new Länder (each excluding Berlin) are to be seen only among newborn boys. This difference amounts to 1.4 years.

The main cause of premature mortality in 2018 was malignant tumours, accounting for 37.0% of premature deaths, followed by cardiovascular diseases at 20.1%. At 8.9%, fatalities due to external causes, such as accidents, poisoning and suicide, were also a significant factor. Diseases of the digestive and respiratory systems contributed with figures of 7.0% and 5.9% respectively. Since 1991, the share of malignant tumours and diseases of the respiratory system among all causes of death have increased by 11.2% and 47.1% respectively. In contrast, there have been decreases in the shares of cardiovascular diseases (-35.4%), external causes (-19.0%) and diseases of the digestive system (-8.3%).

Besides factors such as health related behaviour (see, for instance, indicators 3.1.c and 3.1.d on adolescent and adult smoking rates or 3.1.e and 3.1.f on child/adolescent and adult obesity rates), medical care also has a important influence on mortality rates. Health expenditure rose to EUR 391 billion in 2018. This was EUR 15 billion or 4.0% higher than in 2017. This expenditure corresponds to 11.7% of Germany's gross domestic product. It is equivalent to an annual amount of EUR 4,712 per head of population, compared with EUR 4,545 in 2017.

3 GOOD HEALTH AND WELL-BEING

Health and nutrition – *Living healthy longer*

3.1.c, d Smoking rate among young people and adults

c) Adolescents

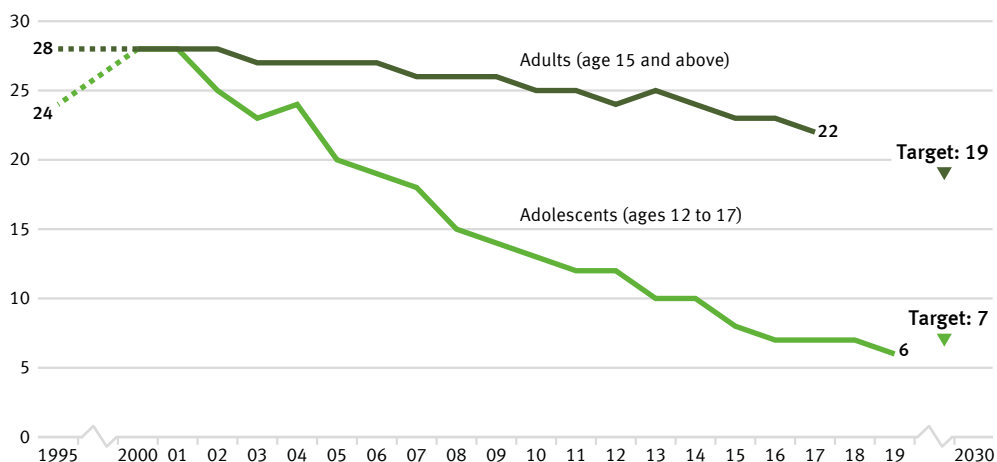


d) Adults



Adolescent and adult smokers

As a % of all persons in each age group



The data for adults were collected in 1995, 1999, 2003, 2005, 2009, 2013 and 2017. The data for the intervening years have been extrapolated. The data for adolescents have been collected every year since 2003 except for 2006, 2009, 2013 and 2017. Interpolated data have been used for those years.

Sources: Federal Statistical Office, Federal Centre for Health Education

Definition of indicators

The smoking rate among adolescents (3.1.c) represents the percentage of 12- to 17-year-olds who indicate that they smoke regularly or occasionally. The smoking rate among adults (3.1.d) indicates the percentage of those surveyed aged 15 and above who answered the questions on smoking behaviour in the microcensus and who smoke regularly or occasionally.

Targets and intention of the German Government

Smoking poses a risk of serious damage to health and can cause premature death. This risk is not confined to smokers themselves. Non-smokers exposed to tobacco smoke are not just irritated by the smoke but can also fall ill from it. The Federal Government is pursuing the goal of reducing the percentage of adolescent smokers to 7% and that of all persons aged 15 years and older to 19% by 2030.



Content and development of the indicator

The data for adolescents are collected in surveys on substance consumption among adolescents and young adults which are conducted by means of telephone interviews by the Federal Centre for Health Education. The surveys initially took place at intervals of three to four years, but since 2001 they have been conducted almost every year. In order to ensure that the data are comparable over time, they are weighted on the basis of gender, region and age. The data for years without surveys have been interpolated for inclusion in the time series. The random sample used in 2019 comprised 7,000 adolescents and young adults.

The data for adults is surveyed every four years as part of the microcensus conducted by the Federal Statistical Office. The data for years without surveys have been interpolated for inclusion in the time series for the indicator. The microcensus, which is a sample survey, covers 1% of the whole population and is the largest household survey in Germany and Europe. The responses to the questions regarding smoking habits are voluntary and were provided by 79% of respondents in 2017.

In the group of adolescents between 12 and 17 years of age, the proportion of smokers initially increased from 23.9% (1995) to 28.1% (1997 and 2001), but then declined steadily to 5.6% (5.2% for adolescent girls, 6.0% of adolescent boys) by 2019. Provided that the trend of recent years is maintained, the target value set for 2030 is already achieved.

In 2017, a total of 22.4% of the sample population above the age of 15 indicated that they smoked occasionally or regularly. This compares with a figure of 28.3 % for 1995 and 1999. The smoking rate for adults, in other words, has shown only a slight decrease. If the average trend over the last five years is maintained, the target for this sub-indicator can also be achieved.

In 2017, 18.8% of all adult respondents aged 15 years or older considered themselves regular smokers, while 3.7% smoked occasionally. The rate among women (18.6%) was significantly lower than for men (26.4%). While the proportion of women smokers has fallen by 2.9 percentage points since 1995, the proportion of men who smoke has dropped by 9.2 percentage points.

In 2017, 96.2% of the respondent smokers preferred cigarettes. The frequency of tobacco consumption is important when considering the threat to the health of individuals. A total of 10.8% of regular smokers, compared with 17.4% in 1995, fell into the category of heavy smokers with more than 20 cigarettes a day, while 81.4% smoked 5 to 20 a day. Within these figures there were also differences between the sexes. Almost one in seven of the male regular cigarette smokers was a heavy smoker, but only one in thirteen of the female smokers.

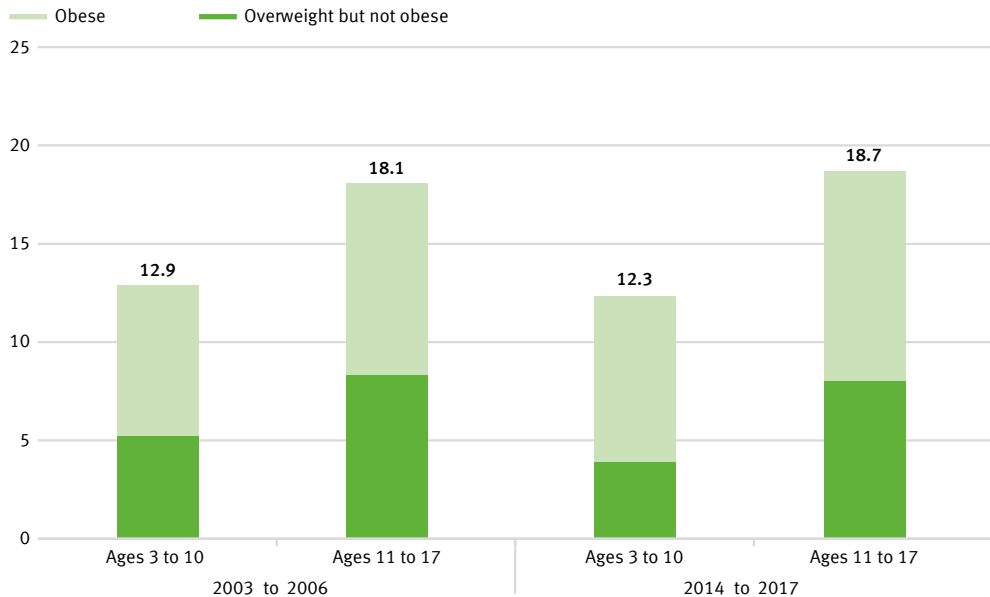
Smoking poses a high but avoidable risk to health. In 2018, 4.8% of all deaths (3.4% among women, 6.3% among men) could be attributed to symptomatic diseases for smokers (lung, bronchial, laryngeal and tracheal cancers). In 2018, the average age of those who died of lung, bronchial, and tracheal cancers was 71.1 years, which is more than seven years below the average age at death (78.4 years). Lower smoking rates would therefore help reduce premature mortality.

3 GOOD HEALTH AND WELL-BEING

Health and nutrition – *Living healthy longer*

3.1.e Obesity rates among children and adolescents

Overweight and obese 3 to 10-year olds and 11 to 17-year olds
in %



Age-standardised figures based on population estimate for 31 December 2015

Source: Robert Koch Institute

Definition of the indicator

The indicator shows the proportion of 3 to 10-year-olds and of 11 to 17-year-olds affected by obesity.

Targets and intention of the German Government

Obesity among children and adolescents hampers age-appropriate development in those age groups. Exclusion and social withdrawal are the consequences, leading in turn to additional health as well as social problems. A high percentage of the children and adolescents who are already obese will continue to suffer from obesity as adults. For this reason, the proportion of obese children and adolescents in Germany should not increase any further.



Content and development of the indicator

The body mass index (BMI) is a benchmark that is used to identify excess weight and especially obesity. It is calculated by dividing the body weight in kilograms by the square of an individual's height in metres (kg/m^2). This calculation does not take account of age- and gender-specific differences or of an individual's body mass composition. Since the ratio of height to weight constantly changes in children and adolescents, there is no single threshold value for all age groups for the classification of excess weight and obesity. Excess weight and obesity among children and adolescents are defined by using an individual's age and gender to compare his or her BMI with those of a predefined reference population. The percentile reference values proposed by Katrin Kromeyer-Hauschild are used as a comparison, as recommended by the Childhood Obesity Federation (AGA). In this method, children and adolescents are said to be overweight if their BMI is above the 90th age and gender-specific percentile of the reference population ($> \text{P90}$), that is to say if they fall within the range of those 10% of the reference group with the highest BMIs. A BMI above the 97th percentile of the reference population (i.e. as high as the 3% of children and adolescents with the highest BMIs) is classified as obesity ($> \text{P97}$). For example, girls and boys aged three with a BMI of $18.8 \text{ kg}/\text{m}^2$ are considered to be obese. These reference values are based on details of body size and weight that were recorded between 1985 and 1998 in various regions of Germany, using different methods.

The data for the indicator was collected by the Robert Koch Institute. The German Health Interview and Examination Survey for Children and Adolescents (KiGGS) for the period 2003 to 2006 delivered the first nationwide representative findings. Comparable measurement data are available for the period from 2014 to 2017 from the second follow-up of the KiGGS study (KiGGS Wave 2). To allow proper data comparison, the findings were standardised on the basis of extrapolated population data for 31 December 2015.

For the 2014-2017 period, 3.9% of the 3 to 10-year-olds and 8.0% of the 11 to 17-year-olds were classed as obese. While there were no differences between the sexes in the 3-10 age group, the rates for the 11 to 17-year-olds were 7.2% for girls and 8.7% for boys. In the period from 2003 to 2006, the proportion of 3 to 10-year-olds with obesity was about 5.2%; among the 11 to 17-year-olds, it was about 8.3%. In that period too, girls and boys in the 3-10 age group were equally affected. The figure for the 11-17 age group broke down into 8.2% of the girls and 8.4% of the boys. The obesity rate has therefore fallen more sharply among 3 to 10-year-olds than in the 11-17 age group. While it fell by 1.0 percentage points among girls aged 11 to 17, it showed a slight increase of 0.3 of a percentage point among boys in that age group.

The percentage of overweight 11-17-year-olds ($> \text{P90}$) had not changed substantially since the 2003-2006 period, showing a decline of 0.6 of a percentage point to 12.3% in the 3-10 age group and an increase of 0.6 of a percentage point to 18.7% among 11 to 17-year-olds.

Key factors in becoming overweight are nutrition and exercise habits, which vary considerably when the findings are examined in the light of socio-economic status (SES). The findings of KiGGS Wave 2 confirm that 3 to 17-year-olds with a low socio-economic status more often have an unhealthy diet and more rarely take part in sport than their contemporaries with a higher socio-economic status. The risk of excess weight and obesity among 3 to 17-year-olds with a low socio-economic status are about three to four times greater than in the high status group; each group comprises about 20% of the sample population.

3 GOOD HEALTH AND WELL-BEING

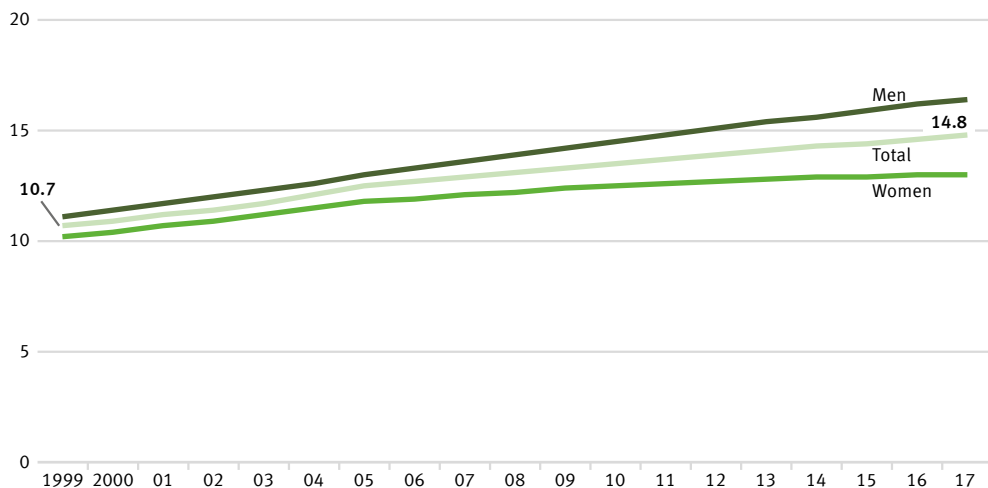
Health and nutrition – *Living healthy longer*

3.1.f Obesity rates among adults



Share of adults suffering from obesity

As a % of all adults



The data were collected in 1999, 2003, 2005, 2009, 2013 and 2017. The data for the intervening years have been extrapolated. Age-standardised figures based on the new European standard population.

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the proportion of the total adult population (aged 18 and over) who are affected by obesity.

Targets and intention of the German Government

Obesity plays a crucial role in the onset of lifestyle diseases, such as cardiovascular diseases, diabetes and joint disorders. Besides its health implications, excess weight also has onerous economic and social consequences. The target must therefore be to ensure that the proportion of the population with obesity in Germany does not increase any further.



Content and development of the indicator

The body mass index (BMI) is a benchmark that is used to identify excess weight and especially obesity. It is calculated by dividing the body weight in kilograms by the square of an individual's height in metres (kg/m^2). This calculation does not take account of age- and gender-specific differences or of an individual's body mass composition. People with a BMI of 25 and above are regarded as overweight, according to the World Health Organization (WHO) classification, and those with a BMI of 30 as obese.

The data basis for the indicator is the microcensus conducted by the Federal Statistical Office. That sample survey covers 1% of the total population. The questions on health are asked every four years as a rule, and responses to them are voluntary. The indicator is thus based on the proportion of the population with a BMI of 30 and higher who answered the questions concerning body weight and height in the microcensus.

The corresponding data were standardised relative to the European population of 1990 to allow comparisons of data from different years and regions without distortions resulting from diverse age structures. Since the questions on health in the microcensus are not asked annually, the chart data for the intervening years have been interpolated. Where people provide information about themselves, as in the microcensus, body weight is often understated compared with measured values, whereas height is more likely to be overstated. As a result, the BMI calculated on the basis of respondents' own information is lower than a BMI based on measured data.

In 2017, 14.8% of the population in Germany over the age of 18 were classified as obese. The obesity rate for men in this population, at 16.4%, was higher than that for women (13.0%). In 1999, 10.7% of the population were obese. At that time too, the proportion of women affected by obesity (10.2%) was slightly lower than that of men (11.1%). The obesity rate among adults, in other words, has increased and so is moving away from the goal of the German Sustainable Development Strategy. A further 34.0% of the population aged 18 and above had a BMI of at least 25 but below 30 in 2017. This means that 48.8% have a BMI of 25 or more and are therefore considered overweight. Again, the proportion of women (39.0%) was lower than that of men (58.0%).

The proportion of adults suffering from obesity increases with age and does not decrease until an advanced age is reached. In 2017, 3.4% of 18- to 19-year-old women were obese. For the 30-34 age group, the figure had already risen to 10.1%. The obesity rate for women peaked in the 65-69 age group at 21.7%. In each of the age groups below 75, the obesity rate for men was higher than for women of the same age, the highest rates being recorded in the 60-64 age group, at 24.5%, and the 65-69 age group, at 25.3%.

3 GOOD HEALTH AND WELL-BEING

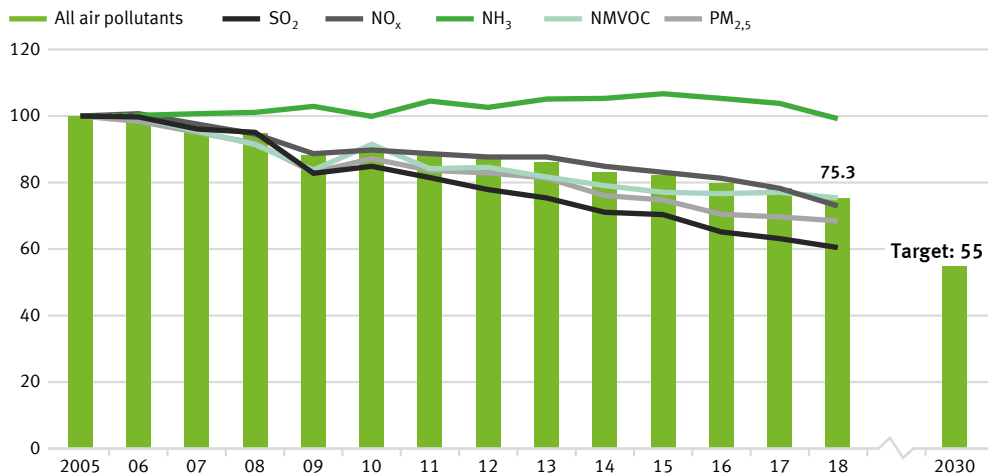
Air pollution – *Keeping the environment healthy*

3.2.a Emissions of air pollutants



Emissions of air pollutants

2005 = 100



Sulphur dioxide (SO₂), nitrogen oxides (NO_x), ammonia (NH₃), non-methane volatile organic compounds (NMVOC) and particulate matter (PM_{2.5}), average index of measured values.

Source: German Environment Agency

Definition of the indicator

The indicator constitutes the mean value of the indices of national emissions of the five air pollutants sulphur dioxide (SO₂), nitrogen oxides (NO_x), ammonia (NH₃), non-methane volatile organic compounds (NMVOCs) and particulate matter (PM_{2.5}).

Targets and intention of the German Government

Air pollutants impair not only human health but also ecosystems and biodiversity. The aim for 2030 is therefore to reduce the volume of air pollutants by 45% of their 2005 level. To make it possible to portray the development of pressure on both health and the ecosystem, German emissions of SO₂, NO_x, NH₃, NMVOCs and PM_{2.5} have been combined into a single indicator.



Content and development of the indicator

Germany has made a commitment to the European Union to reduce emissions of air pollutants by 2030 as follows: Sulphur dioxide by 58%, nitrogen oxides by 65%, ammonia by 29%, volatile organic compounds by 28% and particulate matter by 43%. On this basis, the German Environment Agency calculated a non-weighted, arithmetic mean of the individual reductions in the specified air pollutants as a target. The rates of change in the individual air pollutants are offset equally against one another. Notwithstanding the separate reduction targets, this means that increasing emissions of individual pollutants covered by this indicator may be offset by higher reductions in the emissions of other pollutants.

The data are computed annually by the German Environment Agency from various sources. They serve as a basis for the reporting obligation under the Geneva Convention on Long-Range Transboundary Air Pollution (CLRTAP) and the National Emission Ceilings (NEC) Directive. The data undergo further analysis as part of the environmental economic accounting performed by the Federal Statistical Office. The emissions, for instance, are broken down by origin into various branches of economic activity and private households.

Overall emissions of air pollutants fell by 24.7% from 2005 to 2018. The indicator has thus moved in the desired direction, and the target for 2030 will be achieved if the trend is maintained. Emissions of individual pollutants changed to varying degrees, however, in the period from 2005 to 2018.

Emissions of non-methane volatile organic compounds (NMVOC)s, which are primarily due to the industrial use of solvents, were reduced by a significant 24.6% during that period. This means that the targeted reduction of 28% by 2030 is achievable.

Emissions of particulate matter (PM_{2.5}) fell by 31.5% in the aforesaid period. If the annual average trend were maintained, the set reduction target would be achieved for these emissions too. The largest source of particulate emissions in 2018 was industry, which accounted for 29.3% of the total. Households and small-scale consumers discharged 24.1%, chiefly from heating systems. Transport accounted for 25.5% of particulate emissions, which was 10.6 percentage points down on 2005.

Emissions of nitrogen oxides (NO_x) fell by 27.0% from 2005 to 2018 and so are heading in the desired direction. The average reduction of the past few years, however, would not suffice to meet the target. The majority of nitrogen oxides emitted in 2018 came from transport and the energy industry.

Emissions of sulphur dioxide (SO₂), which are mainly discharged by the energy industry, fell by 39.5% in the reference period. This trend has moved in the right direction. The average reduction of the past few years would be sufficient to meet the target.

Emissions of ammonia (NH₃) declined by 0.8% from 2005 to 2018 and remain persistently high. This stagnation is mainly due to the spreading of fermentation residues from fuel crops. According to calculations by the German Environment Agency, 95.3% of all national ammonia emissions in 2018 originated from agricultural production, particularly livestock farming.

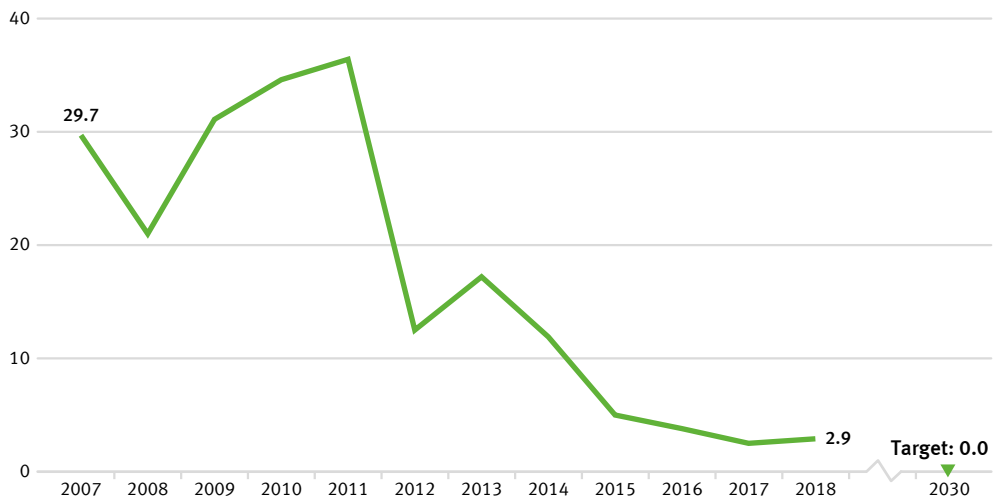
3 GOOD HEALTH AND WELL-BEING

Air pollution – Keeping the environment healthy

3.2.b Share of the population with excessive exposure to PM₁₀



Exposure to particulate matter (PM₁₀) exceeding the WHO benchmark of 20 µg per m³ of air as an annual average
Population in million



Source: German Environment Agency, World Health Organization

Definition of the indicator

The indicator shows the number of persons who are exposed at their place of residence to an annual average or more than 20 micrograms (µg) of PM₁₀ particulate matter (dust particles with a diameter not exceeding 10 micrometres (µm)) per cubic metre (m³) of air.

Targets and intention of the German Government

Long-term exposure of humans to particulate matter is especially liable to lead to health problems such as respiratory and cardiovascular disorders as well as increasing the risk of type-2 diabetes and neurodegenerative diseases. Accordingly, to achieve better health protection, the aim is to ensure by 2030 that no one in Germany is exposed at their place of residence to a concentration of particles (PM₁₀) exceeding 20 µg per cubic metre (m³) of air, averaged over one year. The guideline value of 20 µg/m³ corresponds to the level recommended by the World Health Organization and is far more stringent than the 40 µg annual mean ceiling that applies in the EU.



Content and development of the indicator

Direct sources of particulate matter are the industrial generation of energy and heat, agriculture, road traffic and heating, particularly with solid fuels and more especially with wood in household fireplaces or stoves. Particulate matter, however, can also occur through the formation of secondary particles as a result of chemical reactions with precursors such as sulphur oxide, nitrogen oxides, ammonia and organic carbon.

The particulate matter (PM₁₀) contained in the air is measured at a total of more than 370 air monitoring sites in both metropolitan and rural areas of Germany. For methodological reasons, the indicator is based only on the readings from the monitoring sites that are not exposed to direct particulate emissions from traffic or to any other significant local sources, because these measure only high localised concentrations (hot spots) and not area-wide particulate air pollution. From a combination of model results with the measured monitoring data on background concentrations, the particulate concentrations for the whole area of Germany are obtained. These concentrations are combined with information on population distribution to determine the number of persons who are exposed to annual mean particulate pollution of more than 20 micrograms per cubic metre of air at their place of residence. Since the model includes only those monitoring sites which are not exposed to direct particulate emissions from local sources, it may be assumed that the indicator underestimates the actual number of persons whose exposure to particulate matter exceeds the guideline value of the World Health Organization.

Rather than reflecting nationwide adherence to the guideline value, the indicator therefore depicts the level of adherence for the population who live in places remote from sources of high particulate emissions. It says nothing about the exposure level of the population as a whole or about variations in the course of the year. This indicator, moreover, does not take separate account of emissions of finer particulates (PM_{2.5} and PM_{0.1}).

Exposure to PM₁₀ fell considerably from 2007 to 2018. The average exposure, weighted by population, was around 18.9 micrograms per cubic metre of air in 2007, it was down to about 15.4 µg/m³ by 2018. Over the same period there was also a sharp fall in the number of people who were exposed at their place of residence to annual mean concentrations of more than 20 µg of PM₁₀ per m³. In 2007, there were 29.7 million such persons, but in 2018 there were only about 2.9 million.

Weather also influences the measurements of airborne particulate matter. Part of the reason for the sharp drop in 2011 and subsequent years is presumably that there were relatively few instances of temperature inversion in the winter months, although that curve has flattened out since 2015. Depending on wind speed, direction and air temperature, particulate matter may be transported into other regions and countries or else, during inversions, may become more concentrated at its place of origin.

If the average trend of recent years continues, the target of ensuring that the population nationwide is exposed to an annual mean concentration of less than 20 µg of airborne PM₁₀ per cubic metre is likely to be achieved.

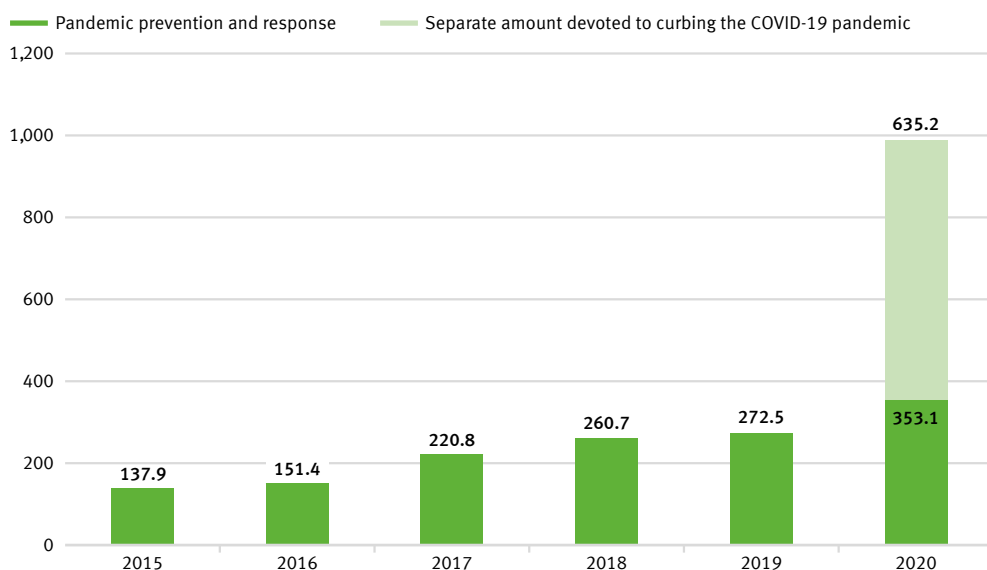
3 GOOD HEALTH AND WELL-BEING

Global health – *Strengthening the global health architecture*

3.3 Germany's contribution to global pandemic prevention and response



Expenditure and commitments for global pandemic prevention and response In EUR million



All data are provisional.

Sources: Federal Foreign Office, Federal Ministry of Education and Research, Federal Ministry of Health, Federal Ministry for Economic Cooperation and Development

Definition of the indicator

The indicator covers expenditure and pledges made by Germany for global pandemic prevention and response programmes. It excludes programmes designed to contain the COVID-19 pandemic. To make the indicator more informative, its impact will be assessed by the time of the next edition of the German National Sustainability Strategy with a view to developing it into an output indicator.

Targets and intention of the German Government

The COVID-19 pandemic has shown what far-reaching effects cross-border health hazards have on people and economies throughout the world. Accordingly, supporting pandemic prevention and response programmes is a major contribution to global health, particularly in countries of the Global South. The aim is therefore to increase Germany's contribution to global pandemic prevention and response substantially from its 2019 level in the period up to 2030.



Content and development of the indicator

The data for the indicator come from special analyses of the relevant budget headings and commitment appropriations from the Federal Foreign Office, the Federal Ministry of Education and Research, the Federal Ministry of Health and the Federal Ministry for Economic Cooperation and Development. Programmes are taken into account in the analyses if, by dint of their objectives, they fall directly under the heading of pandemic prevention and response or if they are primarily intended to enhance relevant capabilities in the field of health care. The programmes cover matters such as the pandemic prevention and response functions of the World Health Organization (WHO), sanitation, One Health (a holistic approach that recognises the interconnection between human, animal and environmental health), vaccination infrastructure and research and development, both at home and abroad, in so far as the R&D findings and innovations also benefit the countries of the Global South. Additionally, programmes launched in response to the COVID-19 pandemic have also been taken into account. The latter include WHO programmes and activities, humanitarian aid, vaccine development, crisis response and emergency assistance and loans to help health services in countries of the Global South to respond to the crisis. By definition, expenditure and pledges made in response to the COVID-19 pandemic are excluded from the indicator and shown separately.

As regards the figures, it should be noted that it is not possible to draw hard and fast lines between the content of programmes, since the indicator field is closely interlinked with numerous other areas of the health system. The indicator therefore takes account of a range of programmes, such as Germany's contribution to the WHO to support its emergency programme and to provide flexible initial funding for crisis response measures through the Contingency Fund for Emergencies, support for a vaccination programme for the reduction of child mortality in the East African Community, improvement of drinking water supply and sanitation in Burkina Faso and a biosecurity cooperation programme. Besides the thematic prioritisation, it should also be noted that some of the programmes are focused on general reinforcement of global coordination and organisational capacity and therefore do not exclusively benefit countries of the Global South.

Nor can a precise line be drawn between preventive and reactive measures. Developing preventive capacity may, for example, enhance responsiveness to a pandemic situation, while reactive measures may contribute to capacity-building in the long term. To avoid a statistical outlier resulting from the response to the COVID-19 pandemic, these expenditure items and pledges are not part of the indicators but are shown separately in the chart.

The amounts of expenditure and pledges that are displayed, moreover, say nothing about the success of the programmes. The indicator represents Germany's monetary contribution to pandemic prevention and response. A more extensive assessment would be needed to gauge the impact of that contribution. In view of the foregoing provisos, therefore, the recorded figures are not by any means a full reflection of the German expenditure and pledges that directly or indirectly influence the pandemic prevention and response effort.

3 GOOD HEALTH AND WELL-BEING

Between the years 2015 and 2020, expenditure and pledges for pandemic prevention and response rose from EUR 137.9 million to EUR 353.1 million (provisional figure). This represents an average annual increase of EUR 43.1 million over those last five years. If this trend continued, the objective of increasing Germany's contribution substantially from 2019 to 2030 would be achieved. The chart also clearly shows the upsurge of EUR 635.2 million in expenditure and pledges in 2020 to contain the COVID-19 pandemic.



4 QUALITY EDUCATION

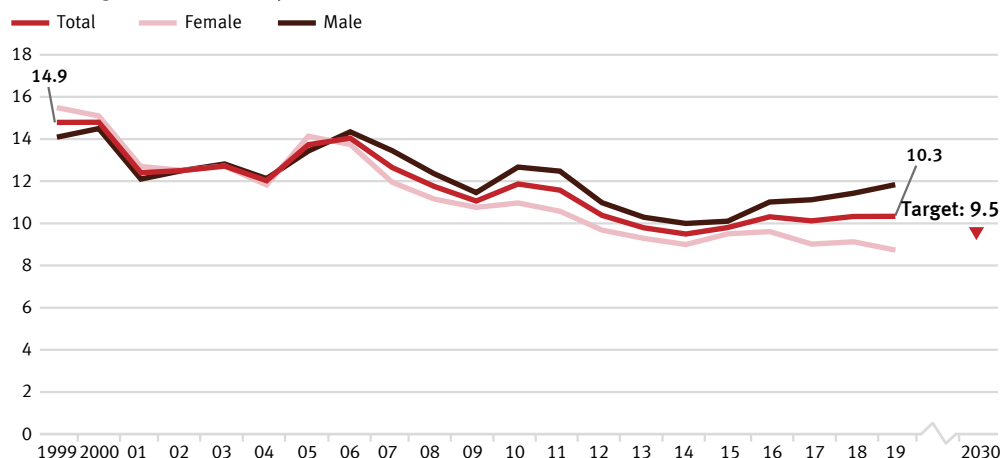
Education – *Continuously improving education and vocational training*

4.1.a Early school leavers



Early school leavers (ages 18 to 24)

Percentage of all 18 to 24-year-olds



Source: Federal Statistical Office

Definition of the indicator

The indicator shows the percentage of all people in the 18 to 24 age group who neither possess a university entrance qualification, such as an Abitur or Fachhochschulreife (entrance qualification for universities of applied sciences), nor have completed a course of vocational training and who are not currently undergoing training or continuing education.

Targets and intention of the German Government

The state education system and the dual system of vocational training are the cornerstones of a forward-looking qualifications regime for young people in Germany. The absence of educational and vocational training certificates implies an increased risk of poverty and hence a greater strain on social welfare systems. The target for 2030 is to lower the percentage of early school leavers to 9.5%.

Content and development of the indicator

The term “early school leavers” does not refer to young “high-flyers” who achieve a school leaving certificate before the end of the normal period of schooling. Nor should the term be confused with school drop-outs. On the contrary, it refers to people between 18 and 24 years of age who neither possess a university entrance qualification, such as an Abitur or Fachhochschulreife, nor have completed a course of vocational training and who are not currently undergoing training or continuing education. This means that even those young people who, for example, have successfully completed lower secondary education at a Hauptschule or intermediate secondary education at a Realschule but are no longer in the education process are counted as early school leavers.

The data for this indicator originate from the microcensus, which is based on an annual sample survey covering 1% of the population. It cannot be elicited from the indicator when respondents last attended an educational establishment or what type of establishment it was. Additional information is provided by the annual school statistic, coordinated by the Länder that are published by the Federal Statistical Office.

In 2019, the indicator value was 10.3%. This corresponds to a total of 625,000 young people who had not successfully completed upper secondary school and who were not, or were no longer, undergoing education or training. The indicator value had risen slightly since 2014, when it was 9.5%, and so the trend had moved in the wrong direction. If the current trend were to continue, the target of 9.5% for 2030 would not be met.

As for gender-specific indicator rates, there were no systematic differences between men and women for the period between 1999 and 2005. Since 2006, the rate for women has been lower than that for men. The values in 2019, for instance, were 8.7% for women and 11.8% for men.

According to the school statistics, a total of some 53,000 young people, or 7% of the resident population in the relevant age group, left school in 2019 without a certificate of lower secondary education. Compared with 1999, this equates to a reduction by more than a third. By this measure too, the proportion remains markedly lower among young women (5.0%) than among young men (9.0%).

By contrast, 17.4% (132,429) of the resident population of the same age obtained a certificate of lower secondary education from a Hauptschule in 2019, 44.5% (337,578) obtained a certificate of intermediate secondary education, 32.1% (227,308) obtained a general university entrance qualification, and 0.1% (624) obtained a certificate qualifying them to enter a university of applied sciences. The period from 1999 to 2019 saw particularly significant changes for two types of certificate. One was the Hauptschule certificate of lower secondary education, the share of which fell by 8.7 percentage points, while the proportion of school leavers obtaining the general university entrance qualification rose by 7.4 percentage points (each figure relates to the population of the same age).

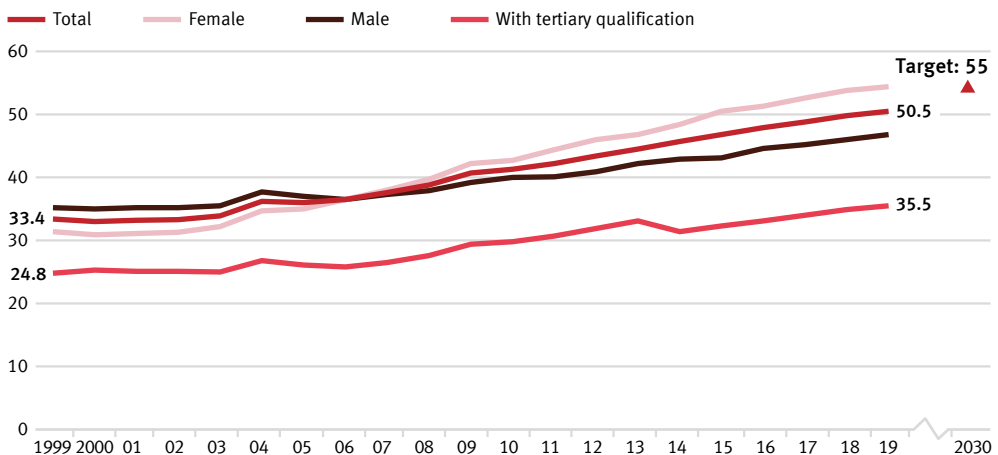
4 QUALITY EDUCATION

Education – *Continuously improving education and vocational training*

4.1.b Persons with a tertiary or post-secondary non-tertiary level of education



30 to 34-year-olds with a tertiary or other post-secondary academic or vocational qualification
Percentage of all 30 to 34-year-olds



Source: Federal Statistical Office

Definition of the indicator

The indicator specifies the proportion of 30 to 34-year-olds who hold a certificate from the tertiary education sector (levels 5 to 8 of ISCED 2011) or a post-secondary non-tertiary certificate (ISCED level 4).

Targets and intention of the German Government

Developed economies like Germany's, in which the service sector and the demand for knowledge and expertise are becoming increasingly important, need a highly skilled labour force. According to the updated national sustainable development targets, 55% of 30 to 34-year-olds are to possess a tertiary or other post-secondary qualification by 2030.

Content and development of the indicator

The definition of the indicator is linked to the tradition of a dual system of vocational training in Germany. Besides the tertiary diplomas awarded by universities, universities of applied sciences, colleges of public administration, vocational academies, technical colleges and specialised academies and master craftsmen's and technician's diplomas, there are numerous post-secondary non-tertiary certificates nationwide. In general terms, these include all certificates awarded on completion of post-*Abitur* vocational courses but also qualifications in health professions obtained by students who do not have an *Abitur*, for example on completion of training as a medical laboratory technician.

The International Standard Classification of Education (ISCED) serves as the basis for international comparison of statistics and indicators regarding educational certificates. Certificates regarded as equivalents are assigned to the same ISCED level. The indicator therefore covers both the tertiary diplomas corresponding to ISCED levels 5 to 8 and the post-secondary non-tertiary certificates corresponding to ISCED level 4.

The data used for the indicator are obtained from the microcensus, which is based on an annual sample survey covering 1% of the population. Additional information is provided by the higher education statistics, which are likewise compiled by the Federal Statistical Office.

From 33.4% in 1999, the indicator rose 17.1 percentage points to 50.5% by 2019. If the average growth rate of the last five reference years is maintained, the target value of 55% could be achieved considerably earlier than 2030. The relation between the gender-specific percentages has changed over time. In 1999, the indicator for men was 3.8 percentage points higher than for women. In 2006, the values were the same for both sexes. Since 2007, the percentage of women with a tertiary or post-secondary non-tertiary qualification has been higher than that of men. If the average trend of the past five reference years is examined for these figures too, it emerges that the proportion of women qualified to these levels, having reached 54.4% in 2019, could already overachieve the 55% target in 2020. While the proportion of men, which was 46.8% in 2019, would reach the target a good bit later.

In many other countries there are no post-secondary non-tertiary qualifications. For this reason, the indicator used for the Europe 2020 strategy of the European Union is more narrowly defined and takes only tertiary diplomas (ISCED levels 5 to 8) into account.

Following a steady increase since 2005, the indicator for the EU-28 reached a total of 41.6% in 2019. When this more narrowly defined indicator is applied to Germany, the figure for 2019 comes to 35.5%, which is 6.1 percentage points below the EU value. In 2019, the proportion of women, at 36.0%, was slightly higher than that of men (35.1%).

The total number of graduates of institutions of higher education in 2019 was 512,285. This was more than twice as many as in 1999. They included 131,989 engineering graduates (three times as many as in 1999) and 55,555 graduates in mathematics and science (70.7 % more than in 1999).

4 QUALITY EDUCATION

Prospects for families – *Improving the compatibility of work and family life*

4.2.a, b All-day care provision for children

a) 0 to 2 years

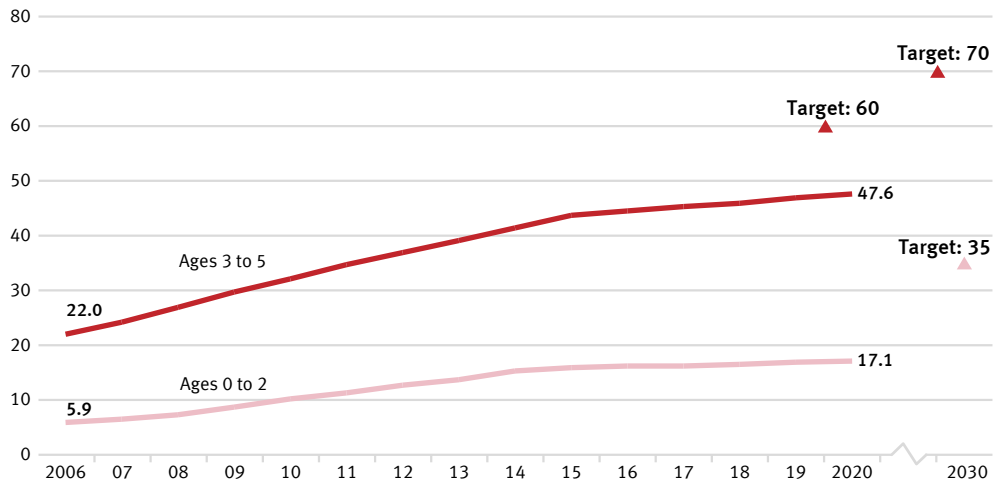


b) 3 to 5 years



Children in all-day care in child daycare centres

Percentage of all children in the same age group



Care period of more than seven hours in child daycare centres, excluding home-based care.

Source: Federal Statistical Office

Definition of indicators

The indicators show the children who were in all-day care as of 1 March as a percentage of all children who were in the relevant age group on 31 December of the preceding year. All-day care means an uninterrupted contractually agreed care period exceeding seven hours per care day; day care at private homes and the care of schoolchildren are not taken into account. Indicator 4.2.a refers to the group of 0 to 2-year old children, indicator 4.2.b to 3 to 5-year olds.

Targets and intention of the German Government

Provision of all-day care for at least 35% of children aged 0 to 2 by 2030 is the target for indicator 4.2.a. For 3 to 5-year-olds (indicator 4.2.b), the target is an increase to at least 60% by 2020 and at least 70% by 2030. An increase in the proportion of children attending all-day care is desirable because the availability of childcare options that meet needs of today's families improve the compatibility of family life and work. It also makes an important contribution to equal opportunities, gender equality and integration.

Content and development of the indicator

The indicator shows the proportion of children for whom daily care of more than seven hours' duration has been arranged. This defined length of time may differ from the actual duration of care of which parents avail themselves. Contractually agreed childcare provision of seven hours and less, which can likewise make work and family life more compatible, and additional types of care such as day care at private homes are not included in the indicator. Information about childcare services for children aged six and older is also relevant to this topic. Such supplementary information is provided, for example, by data from the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (see the last section).

The information for these indicators is taken from the annual statistics of the Federal Statistical Office on children and employees in child daycare centres. In 2020, all-day care in child daycare centres had been arranged for 47.6% of children aged 3 to 5 (kindergarten age). This means that the proportion of 3 to 5-year old children receiving all-day care increased by 25.6 percentage points since 2006 and had therefore more than doubled. The target of 60% which was set for 2020 was not achieved. For children under three (nursery age), the proportion is about 17.1%. All-day care provision for children under three years of age, in other words, increased by 11.2 percentage points from 2006 to 2020 and hence almost trebled.

The absolute number of children below the age of six receiving all-day care in child daycare centres came to about 1.53 million in 2020. Another 67,385 children below six years of age were receiving publicly subsidised childminder care; like those five-year-old children who are already at school, they are not covered by the indicator. In addition, in 2020 some 1.3 million children were receiving part-time care of seven hours or less.

More than a quarter of the children aged below six receiving care in daycare centres or publicly subsidised childminder care in 2019 had a migration background, meaning that they had at least one parent of foreign origin. The care rate for these children was 50%, while the rate for children with no migration background was around 70%.

The percentages of children enrolled in daycare centres differs sharply between the old Länder and the new Länder. The highest full-time care rates for 0 to 2-year-olds are recorded in the new Länder and in Berlin. The figures range from 50.3% in Thuringia to 9.9% in Baden-Württemberg. For 3 to 5-year-olds, the highest percentage of all-day care – 92.2% – is also found in Thuringia, while Baden-Württemberg has the lowest ratio of 25.2% (both 2020).

In terms of childcare facilities for schoolchildren, after-school care centres and all-day schools also play an important role. In 2020, a total of 20,200 children between 5 and 13 years of age were cared for on an all-day basis in after-school care centres, while about 492,600 children received part-time care in those centres; classroom time is not counted as care time. In 2018/2019 school year, of all pupils enrolled in schools providing a general education, 45.0% were in school all day. This figure, however, encompasses pupils at all stages of schooling, including pupils who are older than 13. In the same school year, 42.2% of the children in primary schools received all-day care. In comparison with 2006, the number of all-day pupils had risen sharply by 2018, from almost 1.5 million to 3.3 million in all schools providing a general education and from 400,000 to around 1.2 million in primary schools alone.

5 GENDER EQUALITY

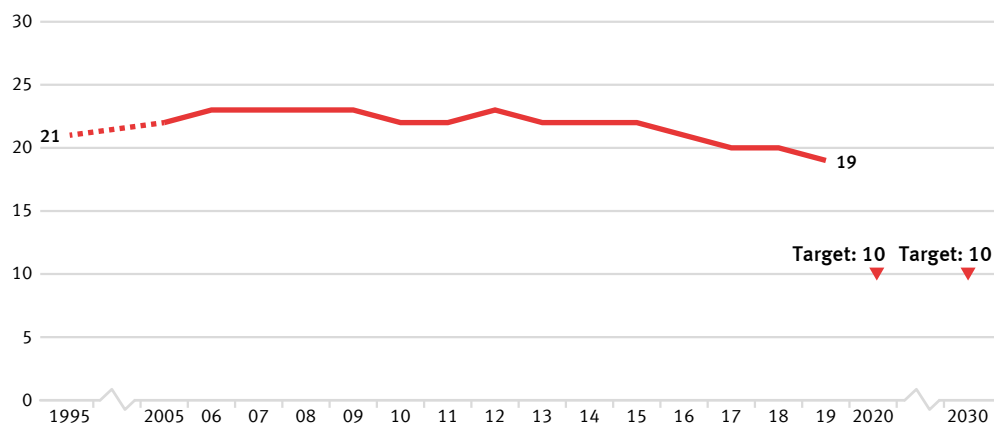
Equality – *Promoting equality and a partnership-based division of responsibilities*

5.1.a Gender pay gap



Difference between average gross hourly earnings for women and men

In %



The data for years 2015 to 2019 have been revised.

Source: Federal Statistical Office

Definition of the indicator

The indicator is a percentage figure showing the gender pay gap as the ratio of the average gross hourly earnings for women to the average gross hourly wage of men.

Targets and intention of the German Government

Differences in pay between men and women in modern working societies are a sign of social inequality. A narrowing of pay disparities is an indicator of progress on the road to equality. The German Government has therefore been pursuing the target of reducing the pay gap to 10% by 2020 and maintaining it until 2030.



Content and development of the indicator

The indicator presented here shows the unadjusted gender pay gap. It simply uses the percentage ratio between the average gross hourly rates of pay. Factors such as qualification levels, hours worked and occupational experience profiles are not taken into account.

The data for the indicator are based on the four-yearly wage structure survey conducted by the statistical offices of the Länder in the form of a representative sample survey with a disclosure obligation covering a maximum total of 60,000 businesses. On the basis of these data, results are calculated, broken down by age group, education level, performance group, activity category, collective agreement coverage, company size class and economic sector, and the resulting adjusted gender pay gap (GPG) is published. For the interim years, the rates of change from the quarterly wage survey are used to extrapolate the unadjusted GPG. When the adjusted and the unadjusted GPG are calculated, the EU categorisation is used, in which employees in agriculture, forestry and fishing and in public administration, defence and compulsory social security as well as employees of microenterprises are not taken into account.

According to provisional figures, the average unadjusted gender pay gap between women and men in 2019 was 19%. This means that the average gross hourly pay earned by women was about a fifth lower than that earned by men. Over the longer term, a slow but steady narrowing of the unadjusted gender pay gap is evident in the whole of Germany. It stood at 22% in 2014, which is three percentage points higher than in 2019. If the trend recorded over the last five years continues, the target will not be achieved in 2020 or in 2030.

At the same time, the picture for Germany is not a uniform one. There are considerable differences between Länder: the highest unadjusted GPG in 2019 was 25% in Bremen, while in Mecklenburg-Western Pomerania and in Thuringia the gap was only 6%. Pay levels generally, however, were lower in Mecklenburg-Western Pomerania and Thuringia than in Bremen.

Investigations into the causal factors behind the GPG can be conducted every four years on the basis of the detailed results of the wage structure survey. The latest available findings date from 2018. The factors that determine pay differentials are subject to long-term evolution processes and are therefore fairly stable over the course of time. The findings show that structural causes account for 71% of the gender pay gap, in other words the differences are partly due to the fact that women often work in sectors and occupations where pay rates are low, and they more rarely attain managerial positions. They are also more likely than men to work part-time or to have mini-jobs. The remaining 29% of the pay differential corresponds to the adjusted GPG of 6% in 2018. Compared with the unadjusted GPG, the adjusted GPG figure is considerably more uniform across the Länder. In 2018, the adjusted gap ranged from 4% in Berlin to 7% in Baden-Württemberg, Bavaria, Bremen, Hamburg and Saxony.

Comparative figures for the European Union are also available for 2018. At 20%, the unadjusted gender pay gap in Germany for 2018 lay considerably above the provisional European Union average of 15%. Of the 28 EU states in 2018, only Estonia, with 22% had a higher gender pay gap. The countries with the lowest gender differentials in gross hourly pay were Luxembourg, with 1%, and Romania, with 2%.

5 GENDER EQUALITY

Equality – Promoting equality and a partnership-based division of responsibilities

5.1.b, c Women in management positions in business and in the federal civil service

b) Business



c) The federal civil service

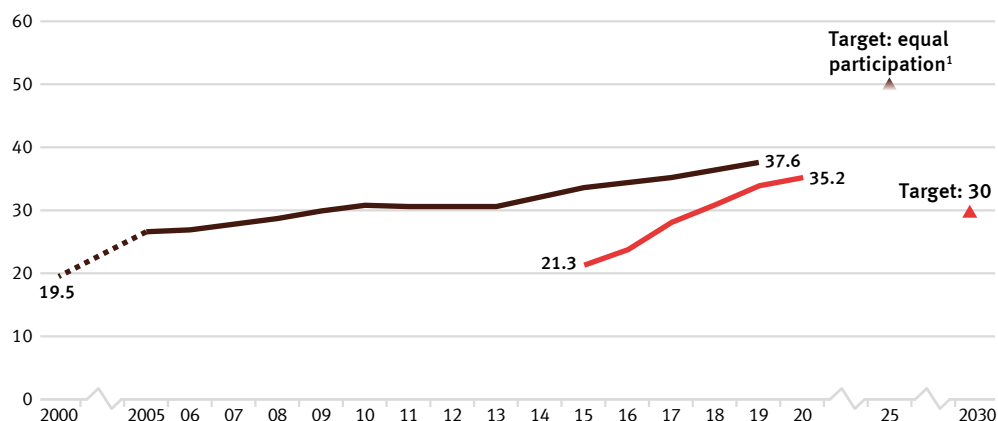


Women in management positions

Percentage of management positions held by women, in %

— On supervisory boards of listed and fully co-determined companies

— In management positions in the federal civil service



¹ Approximate numerical equality

Women on supervisory boards: figures as at January each year, 2015 to 2020. Women in management positions in the federal civil service: figures as at 30 June each year. Data for 2016 and 2018 interpolated; provisional data for 2019.

Sources: Frauen in die Aufsichtsräte e.V., Federal Statistical Office

Definition of indicators

Indicator 5.1.b shows the percentage of women on supervisory boards of listed and fully co-determined companies. Indicator 5.1.c shows the percentage of women in management positions in the federal civil service.

Targets and intention of the German Government

Women are as highly qualified as men, yet they are under-represented in management positions in German business, particularly at senior management level. The same applies to the percentage of women in management positions in the federal civil service. For this reason, the share of women on supervisory boards of listed and fully co-determined companies is to be increased to 30% by 2030. Under the bill for a Second Gender Equality (Management Positions) Act, which the Cabinet adopted on 6 January 2021, equal representation of women and men in management positions in the civil service is to be achieved by 2025. This will fulfil one of the commitments made in the coalition agreement of 2018.

Content and development of the indicators

Percentage of women on supervisory boards of listed and fully co-determined companies

The indicator records the percentage of women on the supervisory boards of joint-stock companies and partnerships limited by shares with more than 2,000 employees plus European companies (SEs) and listed companies with full co-determination. The data basis for the indicator comprises the publications of listed and fully co-determined companies, which are analysed by the *Frauen in die Aufsichtsräte* (Women on Board) association and published in the form of a WOB index.

In January 2020, women's share of positions on the supervisory boards of these companies came to about 35.2%. In January 2015, it was still only 21.3%. The target of 30% was reached in 2018, which was twelve years in advance of the deadline set in the German Sustainable Development Strategy. The Gender Equality (Management Positions) Act prescribed that, in cases where elections were held for positions on the supervisory boards of the companies defined above in or after 2016, at least 30% of the seats on those boards must be occupied by women, and so compliance with the Act could be expected to yield this increase.

Given the definition used for the indicator, most of the businesses in Germany and the majority of management positions in the private sector are not taken into account. At the present time, the reported and analysed data relate to a group of 105 companies. The positions on supervisory boards that the WOB association has examined to date, fewer than 1,600 in number, are but a small fraction of the total of 882,000 management positions in the private sector identified by the pay structure survey in 2018. The figures show clearly that focusing on the supervisory board of a company reveals only some of the management positions in that company.

According to the International Standard Classification of Occupations (ISCO), managers are all persons who plan, direct, coordinate and evaluate the overall activities of enterprises, governments and other organisations, or of organisational units within them, and formulate and review their policies, laws, rules and regulations. This definition includes the activities of supervisory boards. If the ISCO classification is used as a basis, 22% of the 882,000 management positions in businesses were held by women in 2018. This figure is reached by considering all businesses with at least one employee for whom compulsory social insurance contributions are payable, excluding entities in sector O – Public administration and defence; compulsory social security – and parts of sector P – Education. Compared with 2014, the year of the previous pay structure survey, this represents an increase of 1.2 percentage points.

5 GENDER EQUALITY

Percentage of women in management positions in the federal civil service

The data basis for this indicator comprises the internal gender equality statistics collected by all offices of the federal government pursuant to the Federal Gender Equality Act. Since 2015, these statistics have been compiled every second year, updated to 30 June, by the Federal Statistical Office on behalf of the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth. Before then they were compiled annually.

In 2019, according to preliminary data, the proportion of women in management positions in the federal civil service was about 37.6%. In 2000, the indicator value was 19.5%. This represents a 92.8% increase in the proportion of women since 2000. If the trend of the last five years were maintained, the target of virtual numerical equality in management positions in the federal civil service by 2025 would be narrowly missed.

The indicator is focused on the employees in management positions in all departments of the federal government. Their number includes all persons employed on a full-time or part-time basis as well as those who have been given leave of absence on grounds of family or care responsibilities or have been entirely released from their normal duties. The departments of the federal civil service encompass the supreme federal authorities, the subordinate federal authorities and courts and the corporations, agencies and foundations established under federal public law.

The concept of management positions that is used in the federal gender equality statistics differs from the aforementioned ISCO definition. There is therefore only limited scope for comparisons between the different statistics.

In the gender equality statistics, managers have hitherto comprised those persons who have command and leadership duties in departments of the civil service. In order to ensure a certain degree of consistency and to enable comparability of the figures, only employees with supervisory and management duties in the senior civil service are recorded in the federal ministries, irrespective of whether employees in the senior or midlevel civil service also perform such duties in these departments. As a rule, such functions, ranging from heads of division to state secretaries, are performed by staff in the higher service. In other departments, moreover, management positions may be delegated to staff in the higher intermediate or intermediate service.

The Second Gender Equality (Management Positions) Act (*Zweites Führungspositionengesetz*) has specified which positions are to be included in the future statistics, which will be compiled in accordance with section 3 of the Ordinance on Equal Opportunities Statistics (*Gleichstellungsgesetz*).



5 GENDER EQUALITY

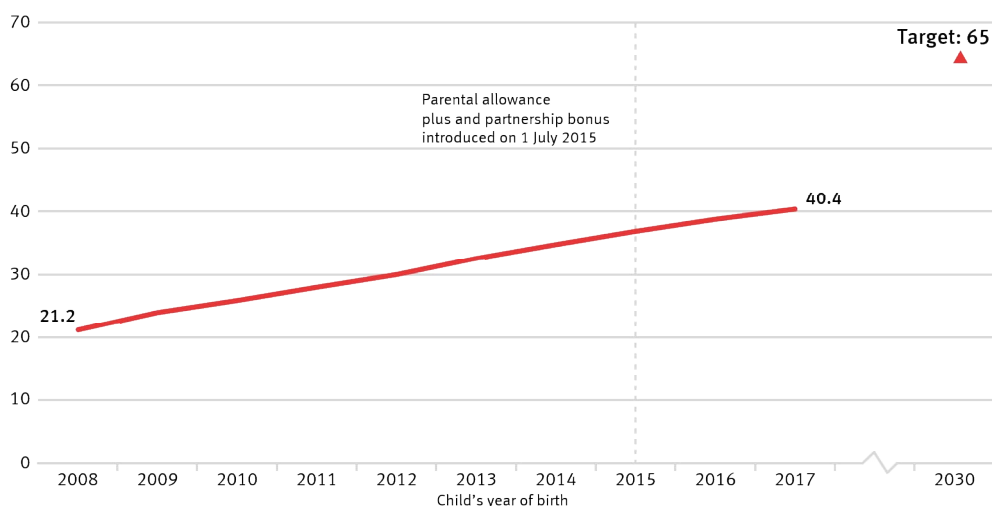
Equality – Promoting equality and a partnership-based division of responsibilities

5.1.d Proportion of fathers receiving parental allowance



Proportion of children whose fathers receive parental allowance

In %



Source: Federal Statistical Office

Definition of the indicator

The indicator shows the percentage of children whose fathers have receiving parental allowance.

Targets and intention of the German Government

Parental allowance is intended to assist mothers and fathers in sharing their tasks in a spirit of partnership and in successfully reconciling work and family life. The introduction of parental allowance plus (*ElterngeldPlus*) and the partnership bonus (*Partnerschaftsbonus*) in particular are intended to keep driving social change in the stereotypical role models for mothers and fathers and ultimately to promote equality of opportunity in the labour market. For that reason, the German Government has set itself the target of increasing the proportion of fathers receiving parental allowance to 65% by 2030.

Content and development of the indicator

The Federal Parental Allowance and Parental Leave Act (*Bundeselterngeld- und Elternzeitgesetz*) introduced parental allowance as a family benefit in respect of children born on or after



1 January 2007. To be eligible, claimants must have a permanent or common residence in Germany, live in the same household as their child, look after and bring up that child themselves and not engage in paid employment or, as the case may be, in full-time paid employment. Mothers and fathers are equally entitled.

Even if the child is not his or her natural child, the spouse or civil partner of the natural mother or father may receive parental allowance if both spouses or partners live in the same household. In more than 99% of cases, however, the beneficiaries are the biological parents, so that in the following simplified reference is made to mothers and fathers.

The figure for fathers receiving a share of parental allowance represents the percentage of children whose fathers received parental allowance as a percentage of all children born in a particular year for whom parental allowance was received. For the children born in 2008, fathers received parental allowance in 21.2% of cases, and this figure rose to 40.4% by 2017. The proportion of children whose mothers received parental allowance in the same period was far higher, amounting to about 98% in every year.

Although the percentage of fathers receiving parental allowance increased over time, the average period for which they received the allowance declined slightly from 3.7 months for children born in 2008 to 3.4 months for children born in 2017.

These two effects also impacted on the development of the overall average period for which parental allowance was received by all fathers, i.e. including those who did not receive any allowance. At the same time, the increase in the percentage of fathers receiving the allowance outweighed the decline in the period of receipt. The average period for which fathers in general obtained parental allowance increased from 0.8 of a month for children born in 2008 to 1.4 months for those born in 2017. By comparison, the average period for which mothers in general received parental allowance rose from 11.5 months for children born in 2008 to 13.2 months for those born in 2017.

The indicator is based on data from the parental allowance statistics, in which all payments of personal allowance are recorded on a quarterly basis. The figures relate in each case to the year of birth of the child for whom the allowance has been granted. The figure used to calculate the value of the indicator is the number of children for whom parental allowance was actually granted, not the total number of children born in Germany. This is intended to avoid the inclusion in the calculation of children for whom there is no entitlement to parental allowance, such as the children of foreign asylum-seekers.

It is not yet possible to differentiate precisely on the basis of the parental allowance statistics between types of partnership in which the eligible persons are living, i.e. whether it is a same-sex partnership. Therefore, for the purpose of calculating the indicator, it is assumed for simplification that exactly one father is entitled to benefits for each child.

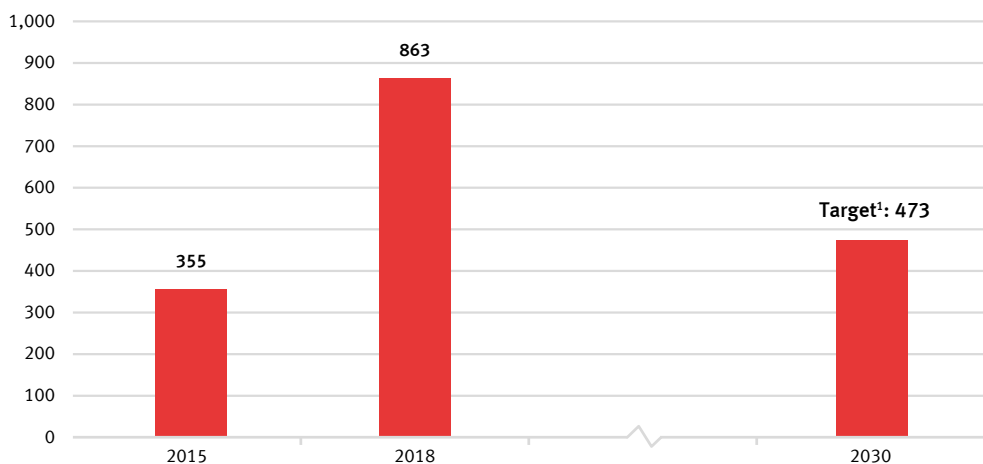
For children born before 1 July 2015, the maximum period for which parental allowance could be received was 14 months. Parents whose children were born on or after 1 July 2015 are able to choose between basic parental allowance, parental allowance plus or a combination of both and can also obtain an additional partnership bonus in the form of four extra monthly payments of parental allowance plus. As a result, the period of receipt can be considerably extended.

5 GENDER EQUALITY

Equality – *Strengthening the economic participation of women globally*

5.1.e Vocational qualification of women and girls through German development cooperation

Women and girls reached by vocational qualification measures through German development assistance
In thousand



¹ This figure represents a one-third increase since 2015.

Sources: Federal Ministry for Economic Cooperation and Development, Centrum für Evaluation GmbH, Deutsche Gesellschaft für internationale Zusammenarbeit GmbH

Definition of the indicator

The indicator shows the number of women and girls in developing and emerging countries who were reached by vocational qualification measures through German development cooperation.

Targets and intention of the German Government

The economic participation of girls and women in developing and emerging countries is to be increased. To this end, the number of girls and women in developing and emerging countries who obtain vocational qualifications through German development cooperation is to be gradually increased by one third over the period from 2015 to 2030.

Content and development of the indicator

Information provided by the Federal Ministry for Economic Cooperation and Development (BMZ) on supported projects that entered the implementation phase in 2015 served as a data source. The measures taken into account include all short-, medium- and long-term formal and non-formal vocational training measures in developing and emerging countries. The measures are financed entirely by funds from the federal budget and from market funds provided through the Kreditanstalt für Wiederaufbau (KfW). The data were collected for the first time in 2015 on behalf of the Ministry of Development by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and Centrum für Evaluation GmbH, and are updated at three-annual intervals. This means that it is not yet possible to gauge the prospects of meeting the target on the basis of the methodology set out in the Indicator Report.

In 2018, some 863,000 women and girls were reached by skills development measures. This is 243% higher than 2015, the first year for which data were collected. Of these women and girls, 26.5% were reached directly through individual vocational training. A total of 31.6% of the women and girls were reached through institutional funding and 41.8% through measures in specific policy fields. Of all these women and girls, 93.0% were reached through financial cooperation.

Because women and girls in developing and emerging countries are reached by German development cooperation by three different levels, the data were searched for each of those levels. (1) In the case of individualised measures, the number of women and girls who received vocational training and continuing education or participated in individualised extension measures can be recorded directly. When it comes to (2) the funding of institutions and (3) the allocation of funds to specific policy fields, the number of beneficiaries reached in the supported training and further education facilities has to be estimated. In this case, the total number of female trainees and students in each of the funded education and training establishments as well as all women and girls receiving education or training in the relevant policy field are assumed to be beneficiaries of German development cooperation. As a result, there can be over-estimates and duplication, especially in the figures for policy fields. Furthermore, in the case of follow-on projects or when two or more projects are implemented simultaneously in the same region, the possibility of double counting some of the beneficiary women and girls cannot be ruled out.

The value of the indicator depends heavily on the funding level, as funding through institutions or policy fields generally reaches more women and girls than individual measures. The indicator does not provide any information on the success, scope and quality of the qualification measures, which can vary considerably. The measures designed to promote the vocational skills of women and girls are part of overall official development assistance. The total amount of ODA is shown in indicator 17.1.

6 CLEAN WATER AND SANITATION

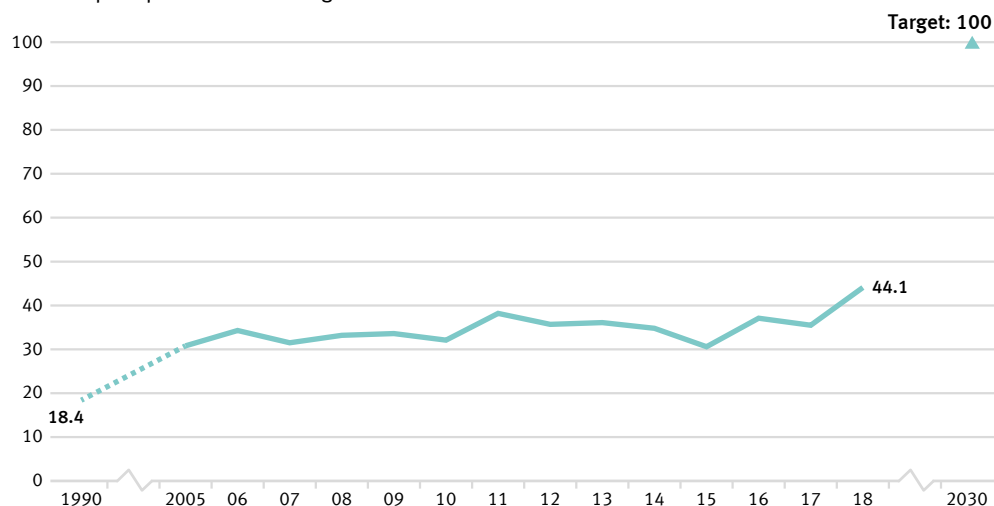
Water quality – Reduction of substance pollution in water

6.1.a Phosphorus in flowing waters



Phosphorus in flowing water

Percentage of monitoring points at which the benchmark values for good ecological status for total phosphorous in flowing waters is not exceeded



Source: German Environment Agency on the basis of data from the German Working Group on Water Issues of the Länder and the Federal Government

Definition of the indicator

The indicator shows the percentage of monitoring sites at which the benchmark values for good ecological status are achieved for the relevant water types with regard to phosphorus in flowing waters.

Targets and intention of the German Government

Roughly half of the phosphorus entering flowing water in Germany today comes from agriculture, and the other half is from cities (municipal water treatment plants and rainwater run-off). Together with nitrate pollution, it is one of the reasons why a surfeit of nutrients (eutrophication) occurs in rivers, lakes and seas. The consequences of this are algae growth, oxygen depletion and even fish mortality or the growth of toxic blue-green algae. For this reason, adherence at all monitoring sites to the benchmark values indicated in the Ordinance on the Protection of Surface Waters (*Oberflächengewässerverordnung*) for the relevant water types was defined as a goal for 2030.



Content and development of the indicator

The pollution of rivers with phosphorus is measured by the Länder as part of their monitoring under the EU Water Framework Directive. The data used for the indicator are taken from the surveillance network, which comprises some 250 monitoring sites. In most cases, the monitoring sites were established in the main flows of the large rivers and at the mouths of important tributaries. The data are compiled by the German Environment Agency on the basis of information from the German Working Group on Water Issues of the Länder and the Federal Government (LAWA).

Each of the figures used to calculate the indicator value shows whether the annual average reading from a particular monitoring site adhered to or fell below the benchmark value but not the extent to which the threshold was exceeded. The information from the individual monitoring sites is presented in aggregated form. Accordingly, the value of the indicator depends on the number of monitoring sites and how representative their distribution is. Lakes and other bodies of water are not covered by the indicator.

Since the different bodies of water react with differing levels of sensitivity to nutrients such as phosphorous, the precise benchmark values vary. The vast majority of flowing waters use the benchmark value of 0.1 mg/l of phosphorous. In organic substrate-dominated rivers, the benchmark value is 0.15 mg/l, for marshland streams 0.3 mg/l and for transitional waters influenced by tidal movement 0.045 mg/l.

The indicators of phosphorous and nitrate levels (6.1.a and 6.1.b) cover two key aspects of water quality. However, there are other, additional components such as the existence of natural habitats around water bodies and the exposure to pollutants (such as pesticides, metals, medicines), all of which are also relevant to water quality. Phosphorous generally enters a body of water through the input of phosphates.

In 2018, the annual average of values measured was below the benchmark value at 44 % of the monitoring points at rivers. 50 % of the monitoring points showed average concentrations of up to twice the benchmark value, while 4 % of the monitoring points were in the range of up to four times the benchmark value (not shown in the chart). The remaining 2 % showed even higher concentrations.

When viewed over time, the proportion of monitoring points not exceeding the benchmark value has continuously increased and has doubled since 1990. However, the percentage rate of monitoring points with concentrations of up to twice the benchmark value tripled during the same period. Conversely, the share of monitoring points with even higher values has fallen significantly since the early 1990s. The level of pollution has been reduced significantly thanks in particular to the introduction of phosphate-free detergents and the specification of threshold values for the discharge of treated waste water.

Considering the average trend of the last five years, the indicator has developed slightly positively. The goal of not exceeding the specified threshold value at all monitoring points was still clearly missed.

6 CLEAN WATER AND SANITATION

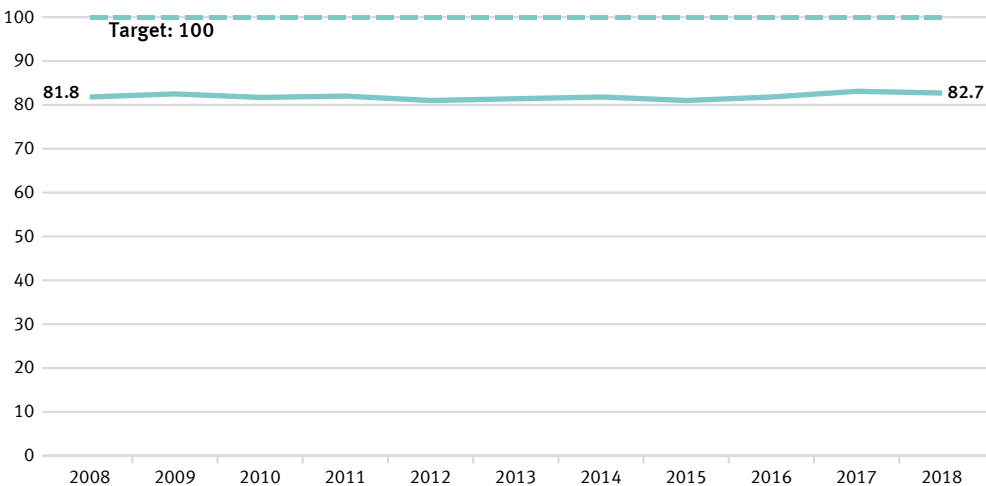
Water quality – *Reduction of substance pollution in water*

6.1.b Nitrate in groundwater



Nitrate in groundwater

Percentage of monitoring points at which the threshold¹ is not exceeded



¹ Basis: EEA monitoring network; the threshold is an annual average of 50 mg nitrate per litre of groundwater.
Sources: German Environment Agency and Länder Initiative for a Core Set of Indicators, on the basis of data from the German Working Group on Water Issues of the Länder and the Federal Government

Definition of the indicator

The indicator shows the percentage of monitoring sites at which the annual average concentration of nitrate in groundwater does not exceed the threshold of 50 milligrams per litre.

Targets and intention of the German Government

Groundwater is a key element of the ecosystem. It is part of the water cycle and performs important ecological functions. Groundwater is also Germany's most important drinking water resource. However, elevated nitrate content impairs the ecology of bodies of water. The threshold of 50 mg/l of nitrate in groundwater specified in the Ground Water Ordinance and in the Surface Waters Ordinance are therefore to be observed at all monitoring sites by 2030.



Content and development of the indicator

The nitrate content in groundwater is collected by the Länder for the purpose of reporting on the status of groundwater in Germany to the European Environment Agency (EEA). The monitoring sites used for this purpose together form the so-called EEA monitoring network. The EEA monitoring network comprises a total of 1214 monitoring sites and provides a representative picture of Germany. The data are compiled by the German Environment Agency from information provided by the German Working Group on Water Issues of the Länder and the Federal Government (LAWA).

Like the indicator of phosphorus content in flowing waters, the nitrate indicator does not reveal how far above or below the threshold the readings have been. The indicator merely records how many of all the monitoring sites complied with the prescribed threshold. The nitrate load may have fallen sharply at some monitoring sites. Nevertheless, if the concentration remains above the maximum of 50 mg/l, the reduction will not be reflected in the indicator. The same applies to nitrate loads that have increased but are still below the threshold. The interpretation must also take into account that measures to reduce nitrate pollution may have a delayed effect, since the period of infiltration from the surface to the groundwater can take several years.

The naturally occurring level of nitrate lies between 0 and 10 mg/l. Concentrations between 10 and 25 mg/l indicate minor to medium loads. Concentrations between 25 and 50 milligrams per liter indicate severe groundwater contamination. Figures above the threshold of 50 mg/l which is set in the Ground Water Ordinance and which also underlies this indicator mean that the groundwater has a poor chemical status and cannot be used as drinking water without treatment.

In 2018 the target of less than 50 mg of nitrate per litre was met at 82.7 of all monitoring sites. Since 2008, the percentage of monitoring sites at which this target is met has remained virtually unchanged. This means that the goal of recording concentrations below the threshold at all monitoring sites has not been achieved and that the indicator value is not recognisably moving in that direction. Conversely, in 2018 the nitrate threshold of 50 mg/l was exceeded at 17.3% of the groundwater monitoring sites in the EEA monitoring network. Consequently, the groundwater at these locations cannot be used for drinking-water supplies without treatment. At 17.3% of the monitoring sites the nitrate value lay between 25 and 50 mg/l, which still indicates an elevated degree of pollution. This percentage rate also remained virtually unchanged over the years.

The pollution of groundwater with nitrate is caused primarily by the leaching of nitrate from various nitrogen fertilisers. Besides farmyard manures such as liquid manure and slurry, these also include the mineral fertilisers that are used in intensive crop-farming. The last few years have also seen an increase in the use of digestate, which occurs as a by-product of biogas power plants, as an agricultural fertiliser. All of these things can contribute to higher nitrate values in groundwater if fertilisation is not matched to specific crop requirements. Accordingly, the development of indicator 2.1.a – Nitrogen surplus in agriculture – influences the nitrate load in groundwater.

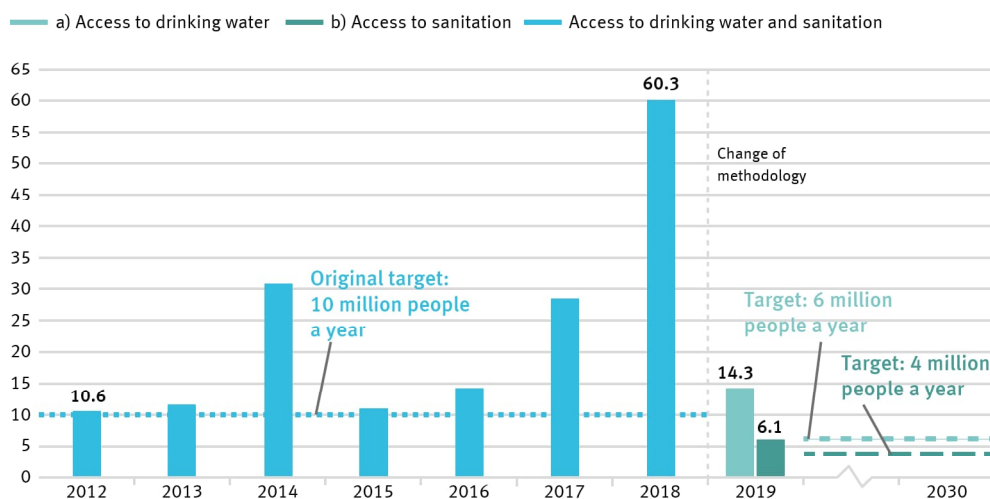
In order to measure the actual influence of agricultural activity on the nitrate load of waters, there is a separate system of nitrate reporting to the EU. For this report, the monitoring sites for waters in predominantly agricultural catchment areas are selected from the EEA site network. The nitrate load in that specific part of the monitoring network is therefore above the average for indicator 6.1.b.

6 CLEAN WATER AND SANITATION

Drinking water and sanitation – *Better access to drinking water and sanitation worldwide, higher (safer) quality*

6.2.a, b Development cooperation for access to drinking water and sanitation

Access to drinking water and sanitation worldwide with German support
Number of people reached, in million



Source: Kreditanstalt für Wiederaufbau

Definition of indicators

The indicator shows the number of people in the relevant reference year who obtained first-time or improved access to drinking water (6.2.a) and/or sanitation (6.2.b) as a direct result of German support.

Targets and intention of the German Government

Inadequate provision of drinking water and sanitary facilities has far-reaching consequences for human nutrition and health. The target of the German Government is that ten million people worldwide should, with German support, obtain access to drinking water and sanitation each year up to 2030. This target has now been further refined, and now six million people worldwide are to obtain access to drinking water with German support each year until 2030, while four million people in the world are to obtain access to sanitation each year with German support.



Content and development of indicators

The indicator is based on data from the Kreditanstalt für Wiederaufbau (KfW) and only measures the number of people reached through its support. Measures taken by other parties, such as the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), Länder and private aid agencies, are not taken into account. The indicator is based exclusively on the planned scope of new funding commitments for drinking water and sanitation projects at the time of submission of the programme proposal to the Federal Ministry for Economic Cooperation and Development. The KfW assesses the number of people who, following completion of the construction projects, will have obtained first-time or improved access to drinking water and sanitation or will be able to benefit from the constructed facilities. Whether people are actually reached cannot be estimated in practice until the infrastructure has become operational, and this is not what the indicator shows. Since a person may obtain first-time or improved access to both drinking water and sanitation, double counting is possible between the two indicators and between two years.

The funding granted by the KfW comprises grants and loans financed from the federal budget and funds raised in the financial markets. The recipients are generally developing and emerging countries, which means that this indicator is related to indicator 17.1 – official development assistance as a proportion of gross national income.

In 2019 the data collection method was revised. Whereas the indicator previously counted people who were reached either directly, e.g. by domestic connections, or indirectly, e.g. the entire population of a country supported by a sectoral reform programme, it now covers only those people who are reached directly. In 2017, for instance, of the total of 28.6 million recorded beneficiaries, 9.5 million were reached indirectly. In 2018, 45.1 million out of a total of 60.3 million were indirect beneficiaries. In 2017 and 2018 the indirectly reached target group represented 33.2% and 74.8% respectively of the total number of beneficiaries. Another change lies in the fact that the figure is based only on the proportion of beneficiaries who have been reached by German-funded share of measures. Contributions made by other donors and the efforts of the host country itself are not counted. Similarly, no consideration is given to energy-efficiency measures, improvements to operational processes or renewals of pumping stations, since these do not lead directly to improved access for the target group.

In recent years, the planned numbers of people who were to obtain access to drinking water and sanitation with German support have always been above the target of ten million. Under the revised methodology, the planned numbers of people who were to obtain first-time or improved access in 2019 were about 14.3 million for drinking water and 6.1 million for wastewater and sanitation.

The commitments made by the KfW with regard to drinking water and sanitation rose by 26.0% from 2012 to 2018 to more than EUR 1 billion. By contrast with the commitments, disbursements have steadily declined since 2015 to the most recent figure of EUR 424.9 million. One of the main reasons for this lies in the time lag between commitments and payments.

7 AFFORDABLE AND CLEAN ENERGY

Resource conservation – *Using resources economically and efficiently*

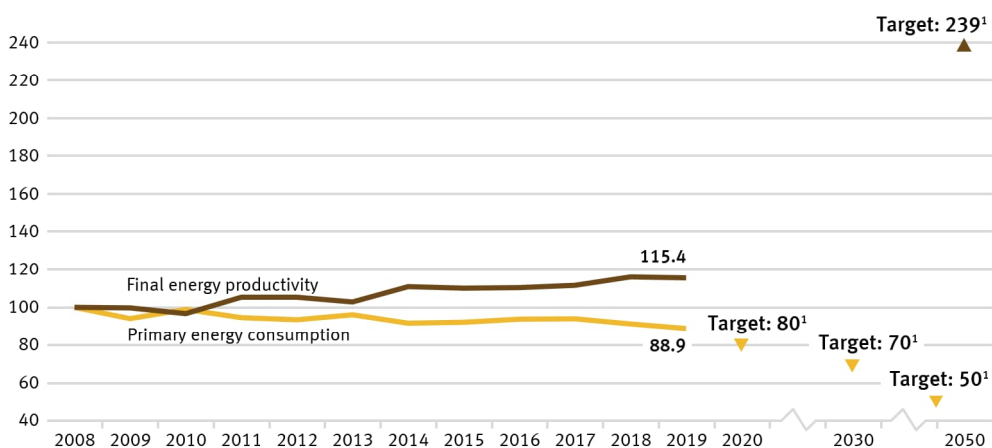
7.1.a, b Final energy productivity and primary energy consumption

a) Final energy productivity ☁

b) Primary energy consumption ☁

Final energy productivity and primary energy consumption

2008 = 100



Provisional data for 2019

¹ The target represents an annual increase of 2.1% in final energy productivity from 2008 to 2050 and a reduction of primary energy consumption by 20% compared to 2008 in 2020, by 30% to 2008 in 2030 or by 50% compared to 2008 in 2050 (energy concept).

Sources: Federal Statistical Office, Energy Balance Association

Definition of indicators

The final energy productivity indicator shows the trend of value added for each unit of final energy used. “Final energy” refers to the part of the energy that is available as thermal or electrical energy for the manufacture of goods or for use by households.

The primary energy consumption indicator shows how much energy has been consumed in a country, on the one hand for transformation by the energy industries and on the other hand in industry, households and transport.

Targets and intention of the German Government

After the promotion of renewable energies, the reduction of energy consumption through increased energy efficiency is the second pillar of the energy transition. The aim is to achieve a high level of economic output while using as little energy as possible. Energy saving protects the climate and the environment and helps to improve the security of supply and industrial competitiveness.

According to the German Government’s energy blueprint, final energy productivity is to be increased by 2.1% annually from 2008 to 2050. At the same time, primary energy consumption is to be reduced by 20% from its 2008 level by 2020, 30% by 2030 and 50% by 2050.



Content and development of indicators

Final energy consumption and primary energy consumption are directly related to one another. Final energy consumption is primary energy consumption less total losses from transformation, flaring and distribution and the statistical difference.

Primary energy consumption is the sum of domestically extracted primary energy sources, use of stocks and all imported energy sources minus storage, energy exports and marine bunkers. The main basis for the calculation of energy consumption comprises the data on energy balances from the Energy Balance Association (AGEB), which are supplemented with data from other sources.

Final energy productivity means how much added value accrues from each unit of final energy used. It constitutes a measurement of energy efficiency in the production of goods and in household energy use. However, estimates of energy efficiency in the transformation process (plant efficiency) or in the transmission of energy (elimination of leakages, improved heat insulation, etc.) cannot be directly inferred from the indicator.

According to provisional findings, final energy productivity in the period from 2008 to 2019 increased by 15.4%, which equates to an average annual increase of about 1.4%. This means that the goal of an annual increase of 2.1% on average up to 2050 is not yet being achieved. In 2019, energy productivity showed a slight year-on-year decline of 0.6 percentage points.

Primary energy consumption registered a year-on-year decline in 2019. Provisional findings indicate that primary energy consumption fell by 11.1% in the period from 2008 to 2019. Accordingly, if the trend of past years were to remain unchanged, the target value for 2020 would not be achieved.

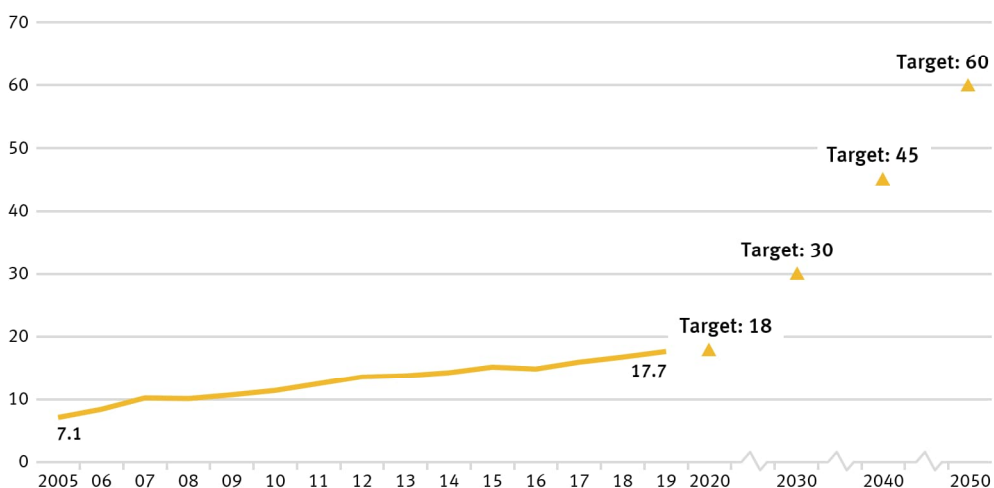
7 AFFORDABLE AND CLEAN ENERGY

Renewable energies – *Strengthening a sustainable energy supply*

7.2.a Share of renewable energies in gross final energy consumption



Generation of renewable energies as a share of gross final energy consumption
In %



Provisional data for 2019.

Sources: Working Group on Renewable Energy Statistics, Federal Ministry for Economic Affairs and Energy; data as at December 2020

Definition of the indicator

The indicator shows the energy generated from renewable sources as a percentage of gross final energy consumption. Gross final energy consumption encompasses the energy used by final consumers, transmission losses and the energy generation sectors' own energy consumption.

Targets and intention of the German Government

Reserves of fossil fuels such as oil and gas are limited. Their use, moreover, entails the emission of greenhouse gases. Switching to renewables, natural energy sources that constantly regenerate, serves to reduce energy-related emissions and hence the extent of climate change. In addition, it reduces dependence on energy imports and consumption of resources and promotes technological innovation. For this reason, the target of the German Government is to increase the share of renewable energy in gross final energy consumption to 18% by 2020, to 30% by 2030, to 45% by 2040 and to 60% by 2050.



Content and development of the indicator

For this indicator, the electricity generated from renewable sources, which include hydro power, onshore and offshore wind power and solar power, the heat generated from sources such as geothermal energy, biomass and biogenic waste and the consumption of regenerative motor fuels are presented as a percentage of the energy generated from all sources that is consumed in Germany. Besides renewables, these sources also include imported electricity and fossil fuels such as coal and lignite, oil and gas.

The indicator is calculated by AGEE-Stat, the Working Group on Renewable Energy Statistics. In contrast to the reporting under the Renewable Energy Directive of the European Union (Directive 2009/28/EC), uses an average value for hydro and wind power over several years to smoothen the effects of varying supply, this indicator takes account of the volumes of electricity actually generated from wind and hydro power (German Government Energy Concept).

With regard to the method used to calculate the indicator, it should be noted that imports and exports of electricity are not included in full in the consumption of energy from renewable sources, whereas they are factored into gross final energy consumption. Accordingly, the indicator may overstate or understate the ratio of energy from renewable sources to gross final energy consumption, depending on the balance of trade. If there were an export surplus for electricity – as has been the case since 2001 – the actual percentage of renewables in the energy mix would be lower than the level represented by the indicator.

Between 2005 and 2019, the share of renewable energy in gross final energy consumption rose from 7.1% to 17.7%. If the trend continues at the average pace seen in the past few years, the goal for 2020 will be achieved.

The use of renewables varies widely between sectors. In 2019, the share accounted for 42.0% of gross electricity generation, 15.0% of final energy consumption for heating and cooling and 5.6% in the transport sector. Among renewable energies, biomass, with a share of 58.8% and wind power, which accounts for 24.1%, play the greatest part in primary energy consumption.

The indicator has dependencies with indicator 13.1.a (Greenhouse gas emissions), as well as with indicators 3.2.a (Emissions of air pollutants) and 7.2.b (Share of electricity from renewable energies in gross electricity consumption).

7 AFFORDABLE AND CLEAN ENERGY

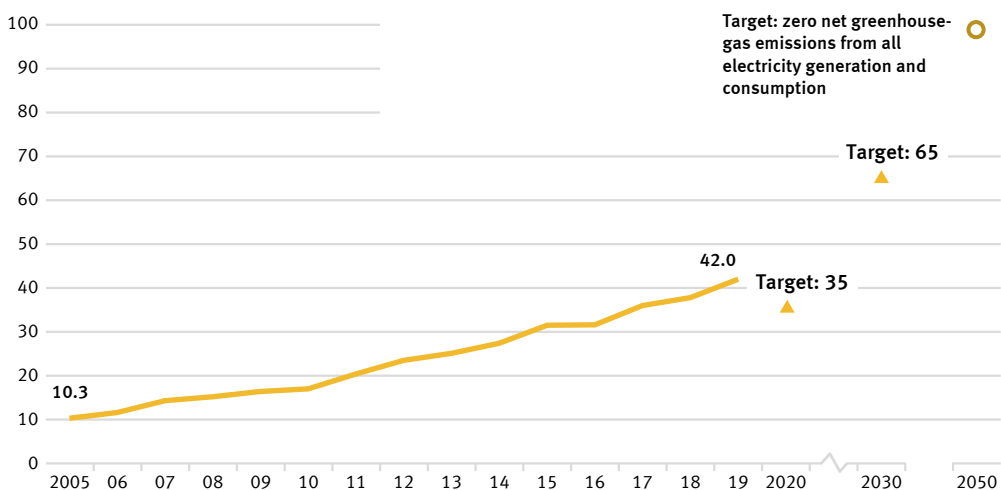
Renewable energies – *Strengthening a sustainable energy supply*

7.2.b Share of electricity from renewable sources in gross electricity consumption



Electricity from renewable sources

As a % of gross electricity consumption



Provisional data for 2018 and 2019.

Sources: Working Group on Renewable Energy Statistics, Federal Ministry for Economic Affairs and Energy; data as at December 2020

Definition of the indicator

The indicator reflects the share of electricity from renewable energy sources in gross electricity consumption.

Targets and intention of the German Government

Switching to renewables, natural energy sources that constantly regenerate, can reduce demand for fossil fuels. As a result, dependence on imports of conventional fuels would be reduced, as would the release of energy-related emissions, which would limit the extent of climate change. The German Government had therefore set itself the aim of increasing the share of electricity from renewable sources in gross electricity consumption to at least 35% by 2020 and at least 65% by 2030. Before 2050, all electricity generated and consumed in Germany is to be greenhouse gas neutral.



Content and development of the indicator

The indicator is calculated by the Working Group on Renewable Energy Statistics (AGEE-Stat) from various official and unofficial sources. Gross electricity consumption is the sum of all generated and imported electricity minus the volume of exported electricity. It therefore comprises the electricity generated in Germany, the balance of exchanges across national borders, power stations' own electricity consumption and network losses. The following are considered to be renewable energies: wind power, hydro power, solar radiation energy, geothermal energy and biomass including biogas, biomethane, landfill gas and sludge gas as well as the biodegradable proportion of waste from households and industry.

Over the period from 2005 to 2019, the share of renewable energies in electricity consumption increased from 10.3% to 42.0%. This means that the target set by the German Government in its energy policy blueprint of at least 35% by 2020 was already achieved in 2017. This trend was accelerated by legal measures such as the Renewable Energy Sources Act (*Erneuerbare-Energien-Gesetz*). Among other things, the Act requires grid operators to give priority to energy from renewable sources for electricity feed-in. If the trend of past years continues, the target for 2030 is also likely to be achieved.

As in the case of indicator 7.2.a, with regard to the calculation method it should be noted that external trade in electricity directly influences the denominator of the indicator but not the numerator.¹ Regardless of whether electricity is produced from renewable sources, net exports reduce gross electricity consumption, while net imports increase gross electricity consumption. Since 2003, Germany has increasingly been a net exporter of electricity, which means that the indicator has been overstating the actual share of renewable energies in gross electricity consumption over the subsequent period.

Since 2005, the share of renewable energies in electricity generation has risen, particularly because of the increased use of wind power, photovoltaics and biomass. Between 2005 and 2019, declining electricity generation from conventional energy sources was offset by an increase of almost 180 terawatt-hours in the production of electricity from renewable sources. In particular, onshore and offshore electricity generation from wind power soared from 27.8 terawatt-hours in 2005 to 126 terawatt-hours in 2019. Offshore wind farms contributed about 24.7 terawatt-hours of the total in 2019. Electricity generation from photovoltaics rose between 2005 and 2019 from 1.3 terawatt-hours to 46.4 terawatt-hours. Electricity generation from biomass more than trebled in the same period to 50.2 terawatt-hours.

¹ This is a purely mathematical effect and does not refer to a correlation between the exchange balance and gross electricity consumption.

8 DECENT WORK AND ECONOMIC GROWTH

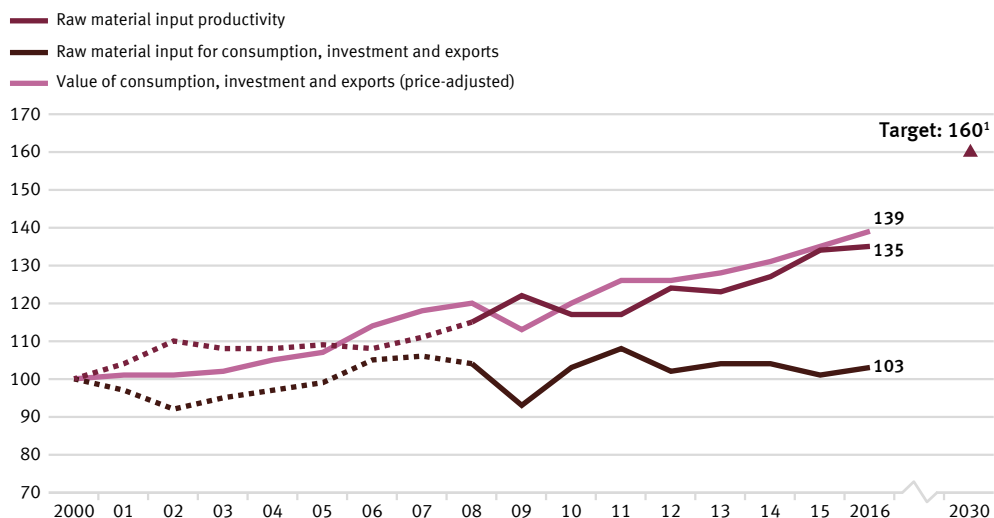
Resource conservation – *Using resources economically and efficiently*

8.1 Raw material input productivity



Raw material input productivity

2000 = 100



Provisional figure for 2016 – raw material input data for 2001 to 2007 are interpolated.

¹ The target represents a continuation of the trend in the period from 2000 to 2010, when the average annual increase amounted to 1.6%.

Source: Federal Statistical Office

Definition of the indicator

The indicator for raw material input productivity relates the value of all goods released for final use (in EUR, price-adjusted) to the mass of the raw materials used domestically and abroad for their production (in tonnes). Final use covers both domestic consumption and domestic investment as well as export.

The denominator of the indicator takes into account abiotic and biotic resources extracted from the environment as well as plant materials produced by farming and forestry. In the graph, the development of the indicator itself and of both the numerator and the denominator are traced separately.

Targets and intention of the German Government

The extraction of raw materials always entails some impairment of the natural environment. Owing to the growing demand for raw materials, raw material deposits in all parts of the world are increasingly being extracted in areas that are particularly sensitive to human intervention. For this reason, back in 2016, in the German Resource Efficiency Programme (ProgRess) II, the German Government set itself the goal of ensuring a continuing rise in raw material input productivity. In the years 2000 to 2010, raw material input productivity was already increasing at an average rate of around 1.6% annually. The aim is to maintain this kind of positive trend up to 2030.

Content and development of the indicator

To calculate this indicator, it is necessary to determine, among other things, the mass of all raw materials required to produce the country's imports. The calculation of this variable, designated as imports in raw material equivalents, is based on a complex model that employs data from various official and unofficial sources.

By considering imports in terms of both monetary value and mass, the indicator takes into account the value added and the raw material input along the entire domestic and foreign production chain. In this way, it also takes full account of the degree of economic interdependence with other countries. The raw material input reflected in the indicator covers not only domestic final use but also export. Accordingly, it should not be confused with a resource footprint for Germany.

Besides non-renewable resources – mineral resources and fossil fuels – the indicator also covers plant products from agriculture and forestry. As a result, there are a very few instances of double counting. For example, both the mass of a harvested agricultural product and that of the mineral fertiliser used to produce it are recorded.

According to preliminary data, the value of the indicator increased by 35% from 2000 to 2016. This increase results in particular from the growth of the numerator, that is to say the value of final use (domestic consumption and domestic investment plus exports), which rose by 39% during the reference period. Domestic extraction of raw materials fell to a moderate extent between 2000 and 2016; at the same time, however, the mass of imports in raw material equivalents increased, resulting in a slight increase of approximately 3% in the indicator denominator.


The export – or re-export – of domestically extracted and imported raw materials also increased. Consequently, the denominator of this indicator does not point to increased global raw material extraction for consumption and investment in Germany but reflects a generally closer interdependence between the German economy and the rest of the world.


Because of the exceptional economic situation during the European financial and economic crisis, the year 2009 should be regarded as an outlier. In 2010 and 2011, investments and exports, as well as the associated input of raw materials, rose sharply again. This marked a resumption of the trend that had been seen in the period up to 2008. From 2013 to 2014, the value of the indicator rose by 4%, from 2014 to 2015 it rose by 7%, and from 2015 to 2016 it rose by 1%; the upward trend of the preceding years was thus maintained.

8 DECENT WORK AND ECONOMIC GROWTH

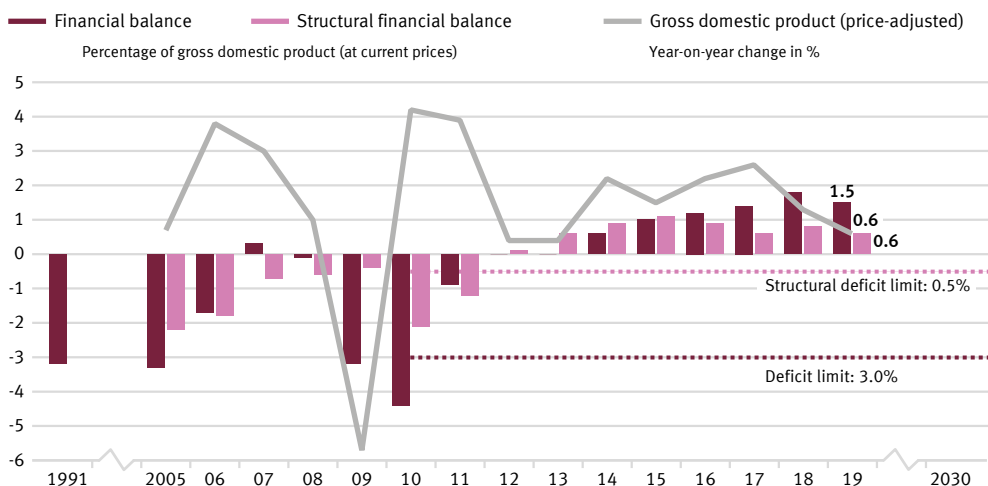
Government debt – Consolidating public finances – Creating intergenerational equity

8.2.a, b Government deficit, structural deficit

a) Government deficit 

b) Structural deficit 

Financial balance and structural financial balance of general government



Previous years' prices chain-linked, 2015 = 100

Sources: Federal Statistical Office, data as at August 2020; Federal Ministry of Finance, data as at October 2020.

Definition of indicators

The indicators show the financial balance of general government (deficit or surplus) and the structural financial balance as a percentage of gross domestic product (GDP) at current prices. The public financial balance is calculated as government revenue minus government expenditure, measured on a national accounts basis. The annual structural balance refers to the part of the financial balance that is not attributable to cyclical fluctuations and temporary effects.

Targets and intention of the German Government

Sound public finances are an essential element of a sustainable fiscal policy. A policy that relies too heavily on borrowing to fund current public expenditure and then passes this debt on to future generations is simply not sustainable.

According to the convergence criteria for the European Union, known as the Maastricht criteria, the annual government deficit should be less than 3% of GDP. The structural deficit must not exceed 0.5% of GDP. These are the stipulations of the European Stability and Growth Pact. The guiding principle of the structurally balanced budget has also been enshrined in Germany's Basic Law since 2009 (Article 109, referred to as the debt brake).

Content and development of indicators

The method used to calculate GDP and the financial balance of general government is laid down in the European System of National and Regional Accounts (ESA) and is applied by the Federal Statistical Office. The structural financial balance, on the other hand, is determined by the Federal Ministry of Finance. The calculation of government net borrowing takes into account the finances of the public authorities, that is to say the Federal Government, the Länder and local government, and the finances of the social insurance system.

In contrast to the previous indicator report, the national accounts calculations were reviewed and revised in 2019 as part of their periodic major revision, and the reference year was changed to 2015. As a result, nominal GDP figures are slightly lower on average than they were before the major revision of 2019. The overall economic picture, however, has remained largely unchanged.

In 2012, the Government achieved an overall surplus of EUR 0.3 billion, which was the first positive balance since the financial and economic crisis of 2008/2009. In 2019, the financial surplus amounted to EUR 52.5 billion and 1.5% of GDP (preliminary data). The federal surplus came to EUR 22.7 billion. At the same time, Länder yet again recorded an aggregate surplus (EUR 16.4 billion). The balances for local government (EUR 5.1 billion) and the social insurance fund (EUR 8.7 billion) were also positive. The national budget in 2019 showed a structural surplus of 0.6% of GDP (preliminary data). This meant that the EU convergence criteria for both the government deficit and the structural deficit had been met ever since 2012.

Given the economic repercussions of the COVID-19 pandemic and the government support measures, however, bodies such as the German Council of Economic Experts are already forecasting a negative financial balance in the forthcoming accounts for the 2020 and 2021 reporting years. This development has not yet been factored into the current status calculation and so has had no bearing on the displayed weather symbol. A valid assessment will not be possible until the figures for 2020 have been presented.

Over the entire period from 1991 to 2019 the growth of government revenue (134.7%) exceeded that of GDP (117.5%) at current prices as well as expenditure growth (111.4%). Government revenue as a proportion of GDP therefore increased from 43.3% to 46.7%.

The largest item on the expenditure side of the national accounts is monetary social benefits. These rose by 131.5% from 1991 to 2019, thus exceeding the GDP growth rate of 117.5%. Around 70% of monetary social benefits fall under the heading of social insurance, primarily in the form of pensions and unemployment benefits. As a proportion of GDP, monetary social benefits fell from 18.5% in 2003 to 15.8% in 2019, which is chiefly due to a steep decline in payments from the unemployment insurance fund. These payments fell by about EUR 22.6 billion between 2003 and 2019 as a result of the Hartz welfare legislation and an upturn in the job market.

8 DECENT WORK AND ECONOMIC GROWTH

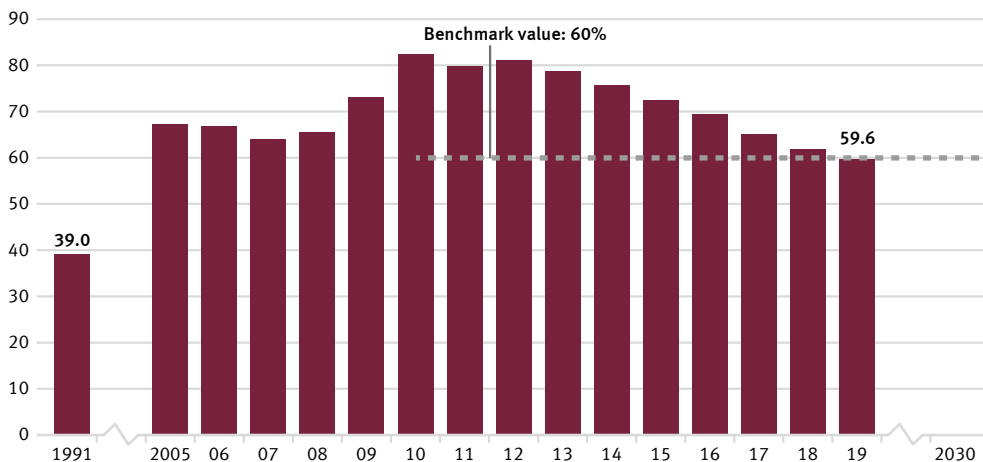
Government debt – Consolidating public finances – Creating intergenerational equity

8.2.c Debt



Government debt

Ratio to gross domestic product at current prices, in %



Sources: Federal Statistical Office, German Bundesbank; data as at October 2020

Definition of the indicator

The indicator shows the government debt defined in the Maastricht Treaty as a percentage of gross domestic product (GDP) at current prices. The indicator therefore serves as a measure of government debt.

Targets and intention of the German Government

The Stability and Growth Pact of the European Union specifies a reference value of 60% as the maximum debt-to-GDP ratio. That is also the targeted national threshold for this indicator.



Content and development of the indicator

The national debt is determined by the Bundesbank twice annually in accordance with the requirements of the Maastricht Treaty on the basis of calculations performed by the Federal Statistical Office. Gross domestic product (GDP) at current prices is determined as part of the national accounts by the Federal Statistical Office and published as a provisional figure in January of the following year. As part of the major revision of the national accounts in 2019 the calculations underwent thorough review and revision. As a result, nominal GDP figures are slightly lower on average than they were before the major revision of 2019. The overall economic picture, however, has remained largely unchanged.

The debt-to-GDP ratio is influenced by the state of the public budgets and by economic development in general. The indicator measures a stock, namely the volume of debt, against a flow, namely the value of GDP. With this formula, if the level of debt is constant, the faster GDP grows the more sharply the ratio will fall. In the event of an economic upswing, then, the debt-to-GDP ratio will fall even if absolute total public debt does not. Conversely, the debt ratio may rise even though absolute debt decreases if GDP falls faster than the volume of debt.

The indicator, moreover, does not include implicit government debt, in other words future financial commitments for which funds are yet to be disbursed.

Between 2003 and 2018, Germany's debt-to-GDP ratio was above the prescribed EU-wide reference level. Following budgetary consolidation measures, the ratio fell from 67.3% in 2005 to 64.0% in 2007, but then it rose again to peak at 82.3% in 2010. This increase must be seen in the context of the financial and economic crisis. In that period, Germany's public debt rose by EUR 511 billion from EUR 1,600 billion to EUR 2,111 billion.

Over the last eight years the debt ratio steadily declined, reaching 59.6% in 2019, the first year since 2002 in which it had fallen below the 60% reference value prescribed by the Maastricht Treaty. The German Bundesbank, however, expects that government debt will have increased sharply in 2020 as a result of the COVID-19 pandemic and that the debt ratio will again have risen considerably higher than the reference value. This development has not yet been factored into the current status calculation and so has had no bearing on the displayed weather symbol. A valid assessment will not be possible until the figures for 2020 have been disseminated.

The Federal Government reduced its debt for the first time in 2015, lowering it by EUR 24.3 billion to EUR 1,372 billion. In 2019, the volume of federal debt stood at about EUR 1,299 billion. The debts of the Länder fell from their high point in 2012 by EUR 75.1 billion to EUR 609 billion in 2019. Local government debt had continued to fall since 2017, reaching EUR 165 billion in 2019. Between 2010 and 2019 the social insurance funds were able to reduce their debts by EUR 651 million to EUR 695 million. Of the total amount of government debt in 2019, about 62.6% was federal debt, while some 29.4% was owed by the Länder and 8.0% by local government.

In the balance sheet, government debts are balanced against assets, both financial and non-financial. The largest items on the assets side are state-owned infrastructural properties, such as roads, schools and public buildings. According to the balance sheet drawn up by the Federal Statistical Office, these assets had a written-down value of EUR 1,418 billion in 2018. Financial assets were valued in 2018 at EUR 1,291 billion. Securities are the largest of the financial assets.

8 DECENT WORK AND ECONOMIC GROWTH

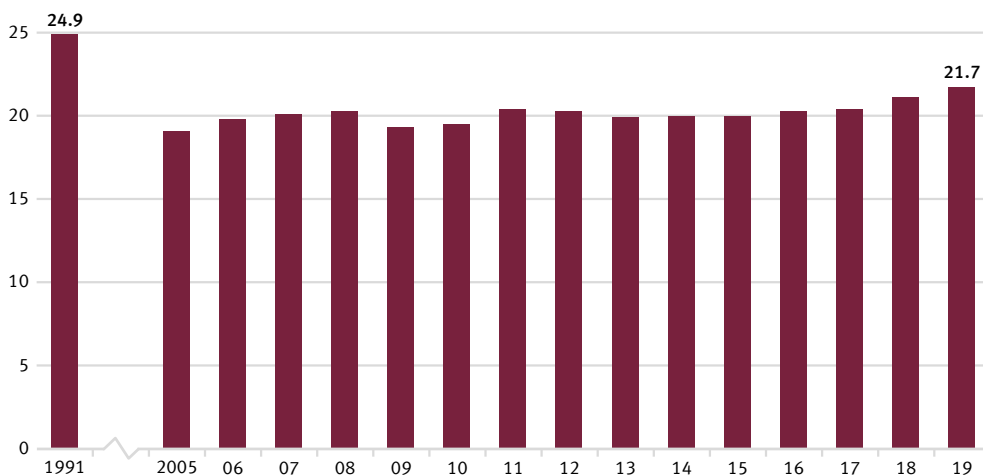
Provision for future economic stability – *Creating favourable investment conditions – Securing long-term prosperity*

8.3 Gross fixed capital formation in relation to GDP



Gross fixed capital formation

As a percentage of gross domestic product at current prices



Source: Federal Statistical Office; data as at September 2020

Definition of the indicator

The indicator shows the ratio of gross fixed capital formation to nominal gross domestic product (which means at current prices). This is also referred to as the investment ratio.

Targets and intention of the German Government

The future strength and competitiveness of an economy depend crucially on corporate and governmental investments. For this reason, the target of the German Government is to promote appropriate development of the ratio of gross fixed capital formation to gross domestic product (GDP).

Content and development of the indicator

The value of gross fixed capital formation is determined by the Federal Statistical Office. Gross fixed capital formation comprises resident producers' net acquisitions, i.e. acquisitions less disposals, of fixed assets, excluding depreciation. Fixed assets are non-financial produced assets that are to be used repeatedly or continuously for more than a year in the production process. These include building structures, machinery and equipment (machines, vehicles and



apparatus), military weapon systems and other systems (intellectual property such as investments in research and development, software, copyrights and mineral exploration as well as livestock and crops). They also include major improvements to existing stocks of fixed assets. Gross fixed capital formation is determined within the framework of the national accounts, which are compiled in accordance with harmonised European rules and are based on all available relevant data sources. As part of the major revision of 2019 the national accounts calculations were thoroughly reviewed and revised, and the reference year was changed to 2015. As a result, nominal GDP figures are slightly lower on average than they were before the major revision of 2019. The overall economic picture, however, has remained largely unchanged.

In 2019 the ratio of gross fixed capital formation to GDP was about 21.7%, which was 3.2 percentage points below the initial value for 1991 for the entire federal territory and 1.4 percentage points lower than in the year 2000. In the short and medium term, the indicator has been moving in the right direction, with a slight increase recorded from 2015 (20.0%) to 2019 (21.7%). The price-adjusted ratio in 2019 stood at about 21.2%. The average investment ratio in Germany over the years 2009 to 2018, at 20.1%, was lower than the investment ratio for the entire OECD region (21.0 %). The difference is smaller than in the period between 1999 and 2008 (-2.1 percentage points).

The time series reveals an undulating trend in the investment ratio with a slump at the start of the millennium and, after a slight recovery, another slump in 2009 following the financial and economic crisis of 2008/2009. By 2011 investment activity had recovered, and gross fixed capital formation once again exceeded the level of the pre-crisis year. In the years from 2014 to 2019, gross fixed capital formation soared by a total of 27.5%, reaching EUR 774 billion. Since the increase in nominal GDP was somewhat lower, at 17.8%, the investment ratio increased slightly from 20.0% to 21.7 %.

With regard to investments in building projects, housing construction has recorded strong nominal growth (+69.4%) since 2010, while the growth of investments in non-residential construction, including civil engineering, in the same period was less pronounced (+41.2%) and even dipped slightly in 2012 and 2015. Investments in tangible fixed assets at current prices showed year-on-year increases of 4.9% in 2018 and 1.9% in 2019. The highest growth rates for the period from 1991 were recorded for investments in research and development as well as in software and databases. Between 1991 and 2019, their volume more than trebled.

The period from 1991 to 2018 witnessed a strong shift in investment activity from the manufacturing sector to the service sector. Whereas 30.4% of new capital investments were still being made by manufacturing companies in 1991, by 2019 this figure had fallen to just 23.5%. In 2019, 75.2% of capital investments were made by companies in the service sector; in 1991, the figure had been 67.9%. The largest single investment area was that of property and housing. In 2019, this sector alone accounted for 31.6% of all new capital investments. In 2019, 11.4% of total gross fixed capital formation was attributable to the government sector, whose investment activity is distributed among various activity classifications.

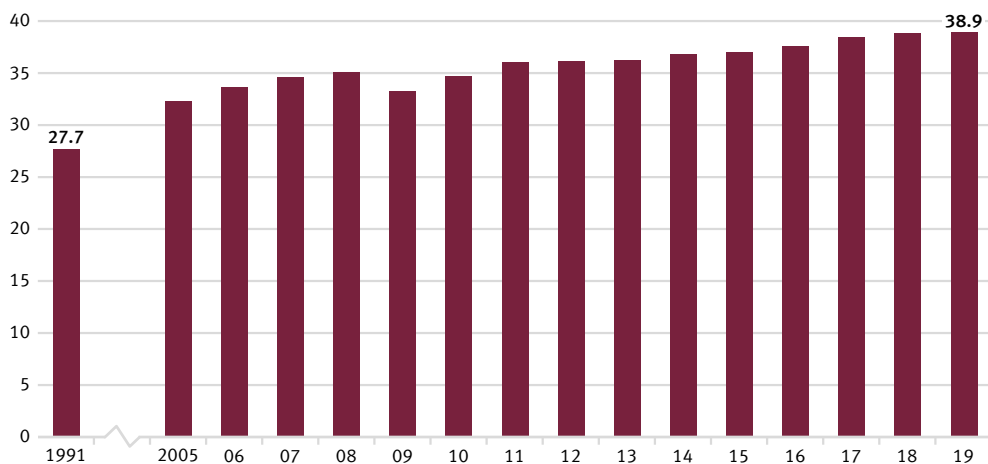
8 DECENT WORK AND ECONOMIC GROWTH

Economic performance – *Combining greater economic output with environmental and social responsibility*

8.4 Gross domestic product per capita



Gross domestic product per capita
Price-adjusted, in EUR thousand



Previous years' prices chain-linked, reference year 2015.

Source: Federal Statistical Office; data as at September 2020

Definition of the indicator

The indicator shows price-adjusted gross domestic product (GDP) per capita (inhabitants) in Germany at 2015 prices. GDP measures the value of all goods and services produced in the domestic economy; inhabitants means all persons whose permanent residence is in Germany.

Targets and intention of the German Government

The GDP trend is related in a variety of ways to other indicators in the Sustainable Development Strategy. Social factors, for instance, such as the population structure, the labour supply, the education system and social cohesion strongly influence the international competitiveness of the economy. GDP is regarded as an important indicator of the strength and growth of a national economy, and so the goal is to achieve continuous and appropriate levels of GDP growth.



Content and development of the indicator

GDP expresses the value of total economic output produced within the country in a reference period. It focuses primarily on market goods and services and public goods and services. The value of GDP is determined quarterly and annually by the Federal Statistical Office on the basis of internationally harmonised rules and standards, such as the European System of National and Regional Accounts (ESA). Because of the early calculation dates, many of the essential basic data are not available in time for the first publication date. Accordingly, the initial publication is still based to a considerable extent on indicators and estimates. Missing information is initially estimated or extrapolated. The data basis is subsequently improved with additional statistics, which are successively incorporated into the calculations. It takes about four years until almost all of the baseline statistics are available, at which point the data are classified as final.

GDP is a key variable in the national accounts. The national accounts are the consolidation of several accounts that portray the economic activity of a given period. The results are recorded in the form of a closed sequence of accounts and presented in tables. The national accounts calculations were last reviewed and revised in 2019 as part of their periodic major revision, and the reference year was changed to 2015. This resulted in new rates of change for real gross domestic product as a whole. The overall economic picture, however, has remained largely unchanged.

GDP is not designed to portray all of the social aspects that can be included in a measurement of overall well-being. If these variables are to be measured too, Additional indicators are needed that are specifically designed for these purposes. This includes e.g. environmental economic accounts that portray the interactions between the economy and the environment and indicators showing, for example, the volume of unpaid work in households. Furthermore, the distribution of income and assets among different population groups is not shown by GDP either.

Stock changes are not reflected in GDP, except in the case of capital stock resulting from the calculation of investments and depreciation. Key economic variables like quantities and qualities of human capital, such as education and health, of social capital, such as security and integration, and of natural capital, such as resources and ecosystems, are not factored into GDP. It is therefore impossible to conclude whether GDP and its growth have served to preserve capital in the fullest sense. This means that GDP cannot be used to gauge the sustainability of economic growth.


The basis for the calculation of per capita GDP comprise the average population figures interpolated and extrapolated by the Federal Statistical Office from the 2011 census data.


Between 1991 and 2019, price-adjusted GDP per head of population increased by a total of 40.2%. Following vigorous year-on-year GDP growth averaging 2.8% per annum over the period from 2005 to 2008, per capita GDP fell by 5.4% from 2008 to 2009 as a result of the global financial and economic crisis. Economic output then recovered, and by 2011 GDP had regained and exceeded its 2008 level. In the last five years of the time series, the indicator has been on an upward trajectory, with an average annual increase of 1.2%. In 2019, the value of GDP was EUR 39,000 per head of population.

8 DECENT WORK AND ECONOMIC GROWTH

Employment – *Boosting employment levels*

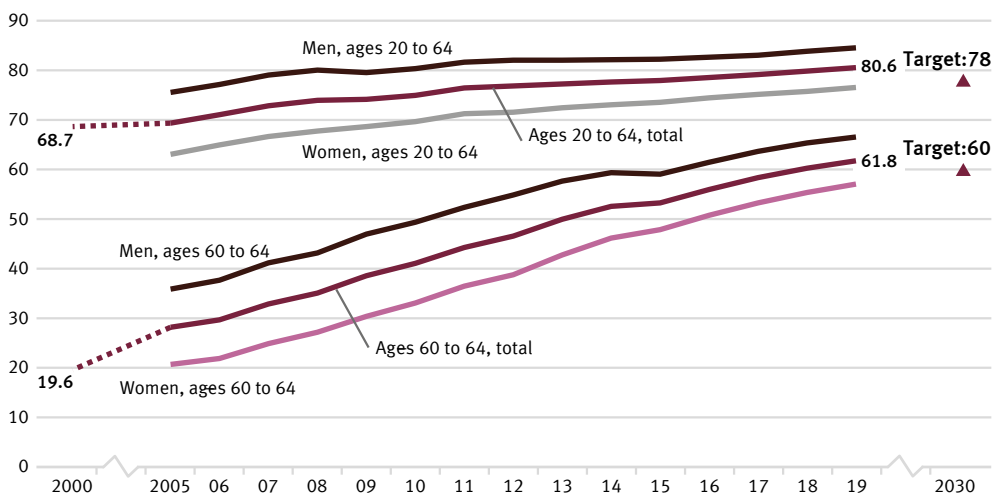
8.5.a, b Employment rate

a) Total (20–64-year-olds) 

b) Older people (60–64-year-olds) 

Employment rate

Persons in employment as a percentage of the population in the same age group



Sources: Federal Statistical Office, Eurostat

Definition of indicators

The indicators show the employment rate among the total population aged between 20 and 64 (8.5.a) and the employment rate among the population aged 60 to 64 (8.5.b), measured in each case as a share of the total population of the same age group.

Targets and intention of the German Government

Because of demographic changes, a shortage of skilled labour may occur in Germany in the long term. At the same time, the social security system faces a growing threat of underfunding. The potential pool of labour must therefore be used more effectively in future. The employment rate in the employable age group (20 to 64-year-olds) is to be increased to 78% by 2030. Another objective of the German Government is an employment rate of 60% among older people (60 to 64-year-olds) by 2030.



Content and development of indicators

The data source for the indicators is the EU Labour Force Survey, which is integrated into the microcensus in Germany. The Labour Force Survey is conducted throughout each year and is initially summarised by Eurostat in the form of quarterly findings, which are then consolidated into annual average values. It covers the population living in private households but excludes people living in shared accommodation. The available labour force potential in the Labour Force Survey comprises persons who have reached the age of 15 and who, for at least one hour during the reference week, have performed paid work or have acted as unpaid family workers. The survey also includes persons who temporarily did not work, because they were absent, for example because of leave or illness.

It should also be noted that annual average findings have been used for the employment rates since 2005. In previous years, the calculations were based on one fixed reporting week per year. From 2011 onwards, the interviewing was redesigned in order to improve the recording of employment, and the extrapolation factor for population estimates based on the intercensal population updates was adapted in the light of the 2011 census. From the 2016 reference year the sampling frame was updated on the basis of the 2011 census.

The employment rate overall (20 to 64-year-olds) rose by 11.9 percentage points from 68.7% in 2000 to 80.6% in 2019, which means that the target value of 78.0% for 2030 has already been achieved.

The employment rate for among older people (60 to 64-year-olds) rose by 42.2 percentage points from 19.6% in 2000 to 61.8% in 2019. The employment rate for men in that age group had more than doubled, rising by 39.4 percentage points to 66.6%. The rate for women even increased almost fivefold to 57.1%. And so the targeted 60% employment rate for older people in employment was likewise reached ahead of the deadline set in the German Sustainable Development Strategy.

The overall employment rates for women and men have developed in the same direction since 2000 but at different rates. The rate for 20 to 64-year-old men rose in the period under review by 8.1 percentage points to 84.6%, whereas in the case of women it rose by 15.9 percentage points to 76.6%, which was a far more rapid rise, albeit from a lower starting point. When assessing the increase in the employment rate for women, it should be taken into account that this growth was accompanied by an increase in part-time employment. In the year 2000, 61.5% of employed women worked full-time, while 38.5% worked part-time. In 2019 the breakdown was 52.9% full-time and 47.1% part-time. By way of comparison, the proportion of the male workforce in full-time employment dropped from 95.7% in 2000 to 90.5% in 2019.

A breakdown into age groups shows diverse employment rate trends. Among 20 to 24-year-olds, the rate rose from 2000 to 2019 by 2.5 percentage points to 67.3%. Their lower rate of employment compared with the 25- to 59-year-olds is partly due to average periods of training in colleges and universities, which delays their entry into working life. Among 25- to 59-year-olds, by contrast, the employment rate rose to 84.8%, an increase of 8.6 percentage points from 2000 to 2019.

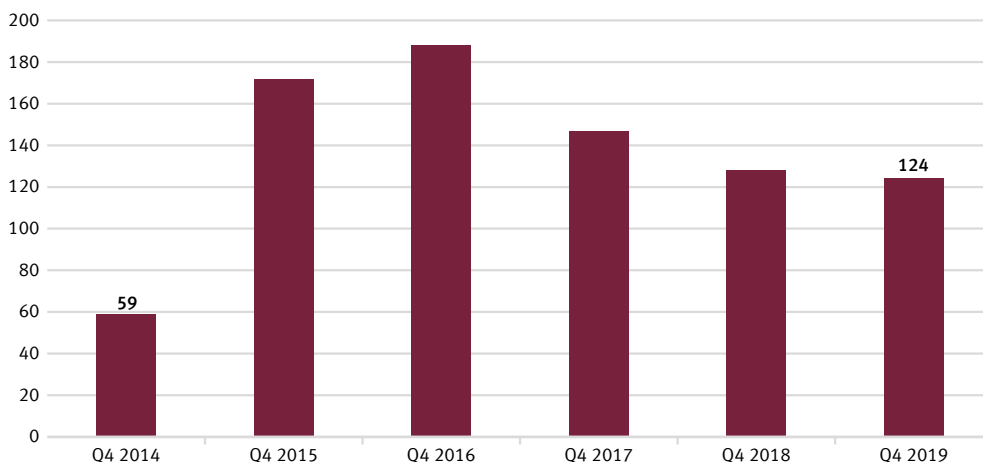
Global supply chains – *Enabling decent work worldwide*

8.6 Members of the Textiles Partnership



Partnership for Sustainable Textiles

Number of members



Source: Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH

Definition of the indicator

The indicator shows the number of members of the Partnership for Sustainable Textiles (the Textiles Partnership). The Textiles Partnership comprises ordinary, advisory and associate members. The ordinary membership is subdivided into what are known as stakeholder groups: the businesses (initiatives and associations), unions, non-governmental organisations, standards organisations and the German Federal Government. A standards organisation is a body that offers or develops non-commercial standards for sustainable textiles. Membership of the Textiles Partnership is voluntary and is obtained by application.

Targets and intention of the German Government

The Partnership for Sustainable Textiles is a multi-stakeholder initiative that was founded in 2014. The Textiles Partnership aims to improve the underlying social, ecological and economic conditions in the producer countries. Membership numbers should therefore be increased significantly by 2030.



Content and development of the indicator

The indicator shows the number of members of the Textiles Partnership. Being a multi-stakeholder initiative, the Textiles Partnership has more than just business enterprises in its ranks. On the basis of jointly defined Partnership objectives, each company, by joining the Textiles Partnership, pledges to implement measures for continuous improvement of conditions and for compliance with social and environmental objectives of the Partnership throughout the company's supply chain. To this end, since 2017 all members are bound to draw up individual action plans known as road maps. These road maps are then reviewed for plausibility by an external service provider.

In its founding year of 2014, 59 members joined the Textiles Partnership. The end of 2016 saw membership reach its peak, having more than trebled to 188. Since the introduction of the compulsory plans of action, however, there have been expulsions and several withdrawals from the Textiles Partnership. On the one hand, some members were expelled for non-fulfilment of their reporting obligations. On the other hand, some members withdrew, citing compliance costs or insufficient relevance, which meant that total membership stood at 124 at the end of December 2019. Of the original founding members that joined in October or November 2014, there were still 30 in the Partnership at the end of December 2019. Over that five-year period there was an overall downward trend in the number of members.

At the end of December 2019, 75 out of 124 members (60%) were classed as companies; eight of them did not have their registered office in Germany. If a company is a member of the Textiles Partnership, this does not necessarily mean that its main economic activity is in the field of textiles and/or clothing manufacture. According to the statistical business register of the Federal Statistical Office, some 70% of the member companies operated primarily in the manufacture, wholesaling or retailing of textiles and/or clothing in 2019. Their aggregate turnover in 2019 amounted to EUR 17.4 billion. According to the trade statistics of the Federal Statistical Office, total retail turnover for the whole of 2018 amounted to EUR 579.6 billion, while total wholesale turnover came to EUR 1,325.6 billion. About 4.8% of these amounts were earned by companies primarily assigned to the wholesale and retail sector through sales of clothing, textiles and curtains, excluding footwear, leather goods and carpets.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

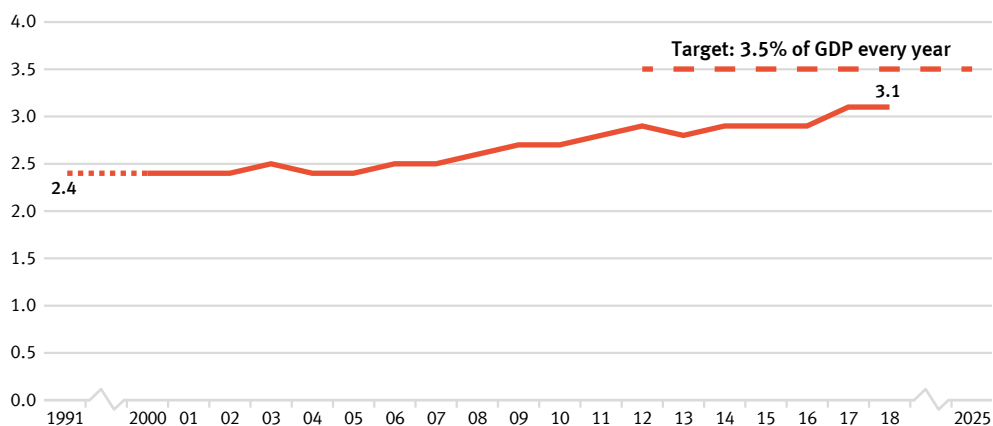
Innovation – *Shaping the future sustainably with new solutions*

9.1.a Private and public expenditure on research and development



Private and public expenditure on research and development

Expenditure as % of gross domestic product



Figures for 2017 and 2018 partially estimated

Source: Federal Statistical Office

Definition of the indicator

This indicator shows expenditure on research and development by the private sector, the state and institutions of higher education in relation to gross domestic product.

Targets and intention of the German Government

Expenditure on research and development (R&D) is a crucial parameter, albeit not the sole determining factor, in setting the pace of innovation of an economy. The higher the spending, the greater the likelihood of more dynamic gains in productivity, stronger economic growth and improved competitiveness. The German Government will leave no stone unturned in pursuit of its policy objective to raise private and public R&D spending – an important determinant of the pace of an economy's innovation – to at least 3.5%¹ of GDP annually by 2025.

¹ Adjustment of the target year and value from 3 % by 2030 to 3.5 % by 2025 under the 2017 coalition agreement.



Content and development of the indicator

Research and development are scientific activities and are defined as creative and systematic work with the goal of expanding knowledge – including knowledge of humankind, culture and society – as well as developing new applications on the basis of existing knowledge. The main criterion that differentiates R&D from related activities is the existence of an appreciable element of novelty or advancement from a previous position.

The Federal Statistical Office annually calculates how much has been spent on research and development as a proportion of gross domestic product. Overall spending on research and development comprises expenditure by the public sector (including private non-profit research institutions), businesses and institutions of higher education. The data-gathering and calculations adhere to the recommended methodologies of the OECD Frascati Manual on statistics about research and development, which enables international comparisons.

Overall R&D expenditure in Germany in 2018 amounted to EUR 104.7 billion, equivalent to 3.1% of GDP. It was thus 0.4 percentage points below the target set for 2025 of at least 3.5% of GDP annually. The intended target has not been reached.

Since 2000, spending on research and development in Germany has risen by about 0.7 percentage points as a proportion of GDP. The indicator has shown the strongest growth since 2007. While the figure increased by an average of 0.01 percentage points per annum between 2000 and 2007, it grew by an annual 0.06 percentage points on average from 2007 until 2018.

As an international comparison, Germany is ahead of the United States with its 2.8% and the EU-28 region with its 2.0%. On the other hand, several countries are ahead of Germany, including Sweden and Japan (both at 3.3%).

In 2018, the private sector accounted for by far the largest share of R&D expenditure in Germany at 68.9%, with 17.6% spent by institutions of higher education and a further 13.5% by public and private non-profit research institutions. Staff employed in R&D comprised around 708,000 full-time equivalents, a figure that includes only the share of their working hours actually spent on R&D work. Some 63.7% of these employees work in the private sector, 20.8% in institutions of higher education and 15.5% in public or private non-profit research institutions.

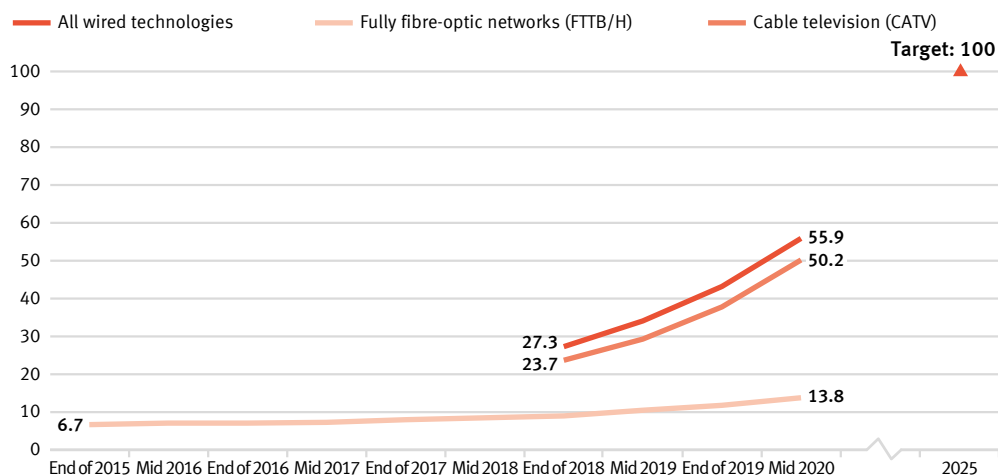
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Innovation – *Shaping the future sustainably with new solutions*

9.1.b Rollout of broadband

Broadband availability in Germany

≥1,000 Mbps via fully fibre-optic networks (FTTB/H) cable television (CATV) and all wired technologies as a % of households



Source: Broadband Atlas of the Federal Ministry of Transport and Digital Infrastructure

Definition of the indicator

The indicator shows the development of broadband availability for households in Germany in terms of the technology installed, with separate figures for gigabit connections (≥ 1,000 Mbps) using fully fibre-optic networks (FTTB/H), cable television (CATV) and other types of wired technology.

Targets and intention of the German Government

The nationwide roll-out of gigabit networks by 2025 is one of the German Government's key objectives. In addition to enhancing international competitiveness, the expansion of broadband availability with gigabit speeds is intended to facilitate the convergence of living standards across Germany. To achieve these aims, the predominantly private sector roll-out is to be supported by public funding schemes in unprofitable areas.



Content and development of the indicator

The indicator measures the availability of broadband to households in Germany at downstream speeds of at least 1,000 Mbps, or one gigabit per second, using wired technology – fibre optics (FTTB/H) and cable television (CATV). The figures are collated on behalf of the Federal Ministry of Transport and Digital Infrastructure and published on the Government's Broadband Atlas.

As of the middle of 2020, fully fibre-optic internet connections (FTTB/H) capable of more than 1,000 Mbps were available in 13.8% of households in Germany. Between 2015 and 2020, the availability of 1,000 Mbps FTTB/H broadband rose by 7.1 percentage points. In other words, it more than doubled, increasing by +105.9%. From the end of 2018 to the middle of 2020, the proportion of households with equally rapid connections using CATV grew from 23.7 to 50.2%. This is also more than double, equating to a +111.8% increase. Altogether, 55.9% of households had gigabit-capable connections available as of mid-2020.

Within the country, availability can be seen to vary depending on the region. For all technologies, the provision of gigabit broadband is concentrated particularly in urban areas, where some 74.6% of households had gigabit-speed internet access as of 2020. That figure is markedly lower for areas of a rural character, at 16.7% in 2020. To consider the distribution of the different technologies, 70.7% of urban and 7.8% of rural households had gigabit connections via CATV in mid-2020, while gigabit-capable fibre broadband was available to 17.6% of households in urban areas and 8.9% of those in rural areas. Rural locations are thus predominantly supplied with gigabit speeds via fibre-optic networks, while urban areas rely more on CATV.

Differences in availability between urban and more rural areas are also discernible among the Länder. Of all the Länder that are not city states, Schleswig-Holstein has the highest level of gigabit-speed provision using any technology in 2020, at 74.0% of all households, followed by North Rhine-Westphalia on 62.0%. At the other end of the scale, 12% of households in Saxony-Anhalt can say the same, with Brandenburg the next-lowest at 22.1%. In contrast, provision of gigabit-speed broadband is markedly higher than 90% in the three city states, Berlin, Bremen and Hamburg.

Various sources are used to calculate these data. Alongside the digital landscape model produced by the Federal Agency for Cartography and Geodesy and OpenStreetMap, more than 500 telecommunications companies in Germany are surveyed about their current provision. To preserve the companies' business and trade secrets, the resultant data are aggregated into a grid of 250-metre by 250-metre cells and grouped according to seven classes of broadband. Although full-fibre networks with speeds of over 1,000 Mbps have been included in observations since the end of 2015, that class has only been studied in detail since the end of 2018 in light of the latest technological advances.

Methodologically, it should be noted that the telecom companies provide their data on broadband availability on a voluntary basis, as there is no legal framework. Furthermore, the figures for availability refer to the technology that telecom companies have installed, as opposed to the actually usable broadband capacity in the area. Additional information on broadband measurement can be found in the annual report of the *Bundesnetzagentur*, Germany's federal networks agency.

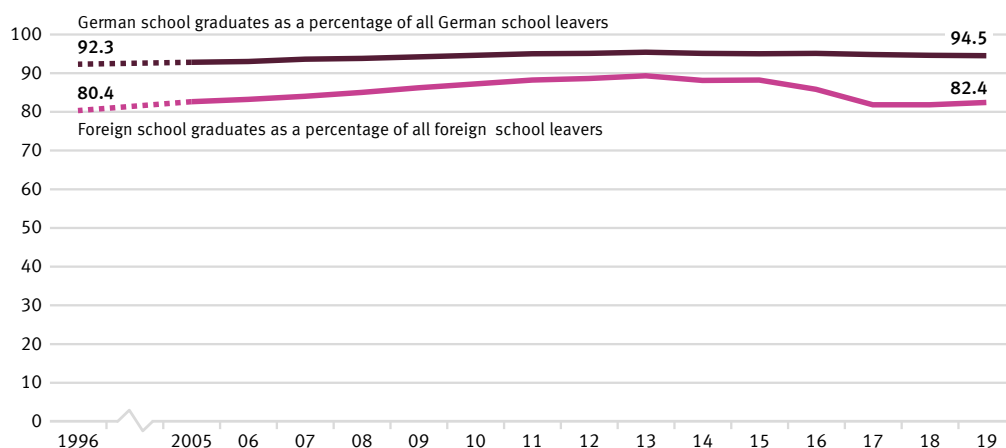
10 REDUCED INEQUALITIES

Equal educational opportunities – *Improving educational success of foreigners in German schools*

10.1 Foreign school graduates



Foreign school graduates in %



Source: Federal Statistical Office

Definition of the indicator

The indicator shows the number of foreign school graduates as a proportion of all the foreigners leaving schools in Germany in a particular school year. In this case, the term “graduates” refers to people who leave general-education schools with at least a *Hauptschulabschluss*, a lower secondary school leaving certificate.

Targets and intention of the German Government

The integration of foreigners living in Germany is an important prerequisite for cohesion within our society. A necessary condition for successful integration is the acquisition of sufficient qualifications at school to open up subsequent educational and professional opportunities. The goals of the German Government are therefore to increase the share of foreign school graduates who obtain at least a lower secondary school leaving certificate and bringing it into line with the corresponding rate for German school leavers by 2030.



Content and development of the indicator

The data for this indicator come from the school statistics compiled by the individual Länder. These statistics are generally derived from a full census for which a disclosure obligation applies. The Federal Statistical Office collates them to create a national result on the basis of the catalogue of definitions compiled by the Standing Conference of the Ministers of Education and Cultural Affairs. It is difficult to aggregate the Länder findings into a national whole because of the Länder's different education policies with regard to, for example, moving between schools or the creation of qualification pathways for vocational schools. Even formal rules for how the disparate elements should be counted can only partially offset this difficulty.

Graduates are former pupils who have left a particular type of school with the relevant school leaving certificate. They include those who have moved to another general-education school to pursue an additional qualification. Foreigners are defined as all those who are not German under Article 116 (1) of the Basic Law, i.e. who do not possess German citizenship. They include people who are stateless or whose citizenship status is unclear. Germans who also possess citizenship of another country do not count as foreigners.

In 2019, the proportion of all foreign school leavers who obtained at least a lower secondary school leaving certificate was 82.4%. This represents a slight increase compared with the previous year. If one splits the figures by gender, female foreign school leavers graduated at a rate of 85.5%, while the proportion was lower among their male counterparts, at 79.5%. The proportion of German school leavers obtaining at least a lower secondary school leaving certificate has remained fairly stable, most recently recorded as 94.5%. The gap between the share of foreign and German pupils graduating from school has risen slightly from 11.9 percentage points in 1996 to 12.2 percentage points in 2019. After tending towards convergence until 2013, the figures diverged again until 2017 and have remained almost parallel since.

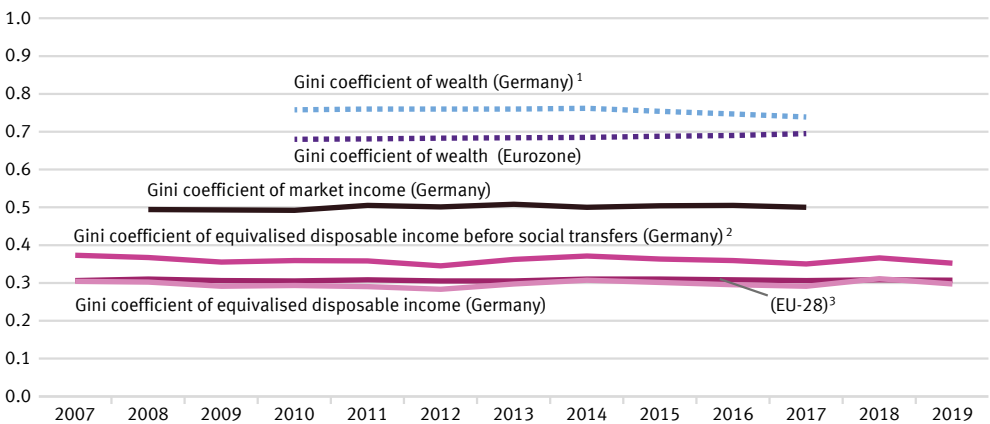
To break the figures down by types of certificate obtained, 31.0% of foreign pupils who graduated from general schools achieved a lower secondary school leaving certificate in 2019, while 36.8% completed their schooling with an intermediate secondary school leaving certificate and 14.5% gained university-entrance qualifications. Among German school graduates, 15.5% received a lower secondary school leaving certificate, 42.7% gained an intermediate secondary school leaving certificate and 36.8% earned university-entrance qualifications. This leaves young foreigners considerably under-represented in comparison to Germans, especially when it comes to the higher-level school leaving certificates.

Distributive justice – Preventing excessive inequality within Germany

10.2 Gini coefficient of income after social transfers



Equivalised disposable income
Gini coefficient



¹ Values for 2011-2013 and 2015-2016 (for Germany) interpolated ² Pensions not included in social benefits
³ Gini coefficient of equivalised disposable income: EU 27 until 2009, EU 28 from 2010
Source: Federal Statistical Office, Eurostat, German Bundesbank, European Central Bank, German Institute for Economic Research

Definition of the indicator

The indicator maps the distribution of equivalised disposable income per capita using Gini coefficients.

Targets and intention of the German Government

Inequality in income and wealth distribution is a generally accepted feature of a dynamic market economy. However, the income and wealth gap must remain moderate, and social inclusion must be guaranteed for all. By means of suitable framework conditions as well as the strategic redistribution of income through taxes and social benefits, the goal is to bring the Gini coefficient for equivalised disposable incomes below that of the EU-28 by 2030.



Content and development of the indicator

The Gini coefficient is a statistical measure of income inequality. It has a value between 0 and 1. If everyone had exactly the same income, the coefficient would be 0. If all of the income went to a single person – the situation of maximum inequality – it would have a value of 1. The smaller the Gini coefficient, the greater the equality in income distribution.

Equivalised income is a value derived from the total income of a household and the number and age of the people living on that income. With the help of an equivalence scale, the incomes are weighted according to household size and composition, as the shared use of living space and household appliances results in savings. With the equivalised income then allocated equally to each household member, it becomes possible to compare people's incomes independently of age or household size. A household's equivalised disposable income is the income, including social transfers, which remains after taxes and other deductions, and is therefore the income available for spending and saving. A distinction must be made between this measure and equivalised income before social transfers, which looks at disposable income without any possible welfare payments, such as unemployment benefit or housing assistance, or market income, which is calculated before taxes, social contributions and social benefits. In none of these ways of looking at income is a differentiation made between the sources of income, i.e. whether it takes the form of wages, rental income or capital gains.

The data used to calculate equivalised income come from the annual harmonised European statistics on income and living conditions (EU-SILC). The wealth distribution figures are taken from the Household Finance and Consumption Survey (HFCS) conducted on an irregular basis by the European Central Bank. The fact that households with high incomes and/or extensive assets are under-represented in voluntary sample surveys is compensated for methodologically. Therefore, this methodology, the values for income as well as for assets in Germany can be compared with those in Europe or the euro area. Since no Gini coefficient is calculated for market income from the EU-SILC, data from the German Socio-Economic Panel (SOEP) held by the German Institute for Economic Research are used instead.

As in previous years, the Gini coefficient for equivalised disposable income in Germany for 2019 (0.297) is close to the value for the EU as a whole (0.307) and has remained stable. There are therefore no significant differences in income distribution to be discerned between Germany and Europe as a whole. At 0.297, the Gini coefficient for equivalised disposable income remains clearly below that for equivalised income before social benefits (0.352). As expected, the 2017 Gini coefficient for market income was higher, at 0.500. Social benefits, social insurance and taxes in Germany contribute considerably to reducing inequalities in disposable income.

Measured by the relevant Gini coefficients, the distribution of wealth in Germany, at 0.739 in 2017, is considerably less equal than that of income. In this context, virtually no change can be detected over time (2010: 0.758 and 2014: 0.762). The equivalent value for the euro area in 2017 was lower than Germany's, at 0.695. However, the impression of above-average wealth inequality is qualified by several factors not covered by the Gini coefficient. For instance, the assessment of wealth does not take future pension entitlements into account. Moreover, Germany's higher level of protection for tenants means that people here are more likely to rent rather than own their homes compared with other European countries.

11 SUSTAINABLE CITIES AND COMMUNITIES

Land use – *Using land sustainably*

11.1.a Expansion of settlement and transport area



Expansion of settlement and transport area

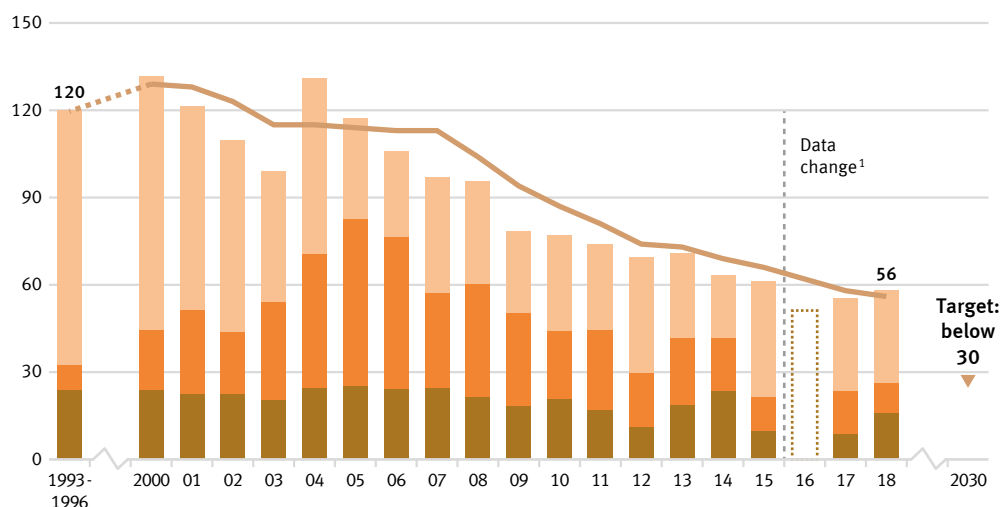
In hectares per day

Settlement area:

- Residential building, industrial and commercial land (excluding mining), public facilities
- Areas for sports, leisure and recreation, cemeteries

Transport area

Four-year moving average



¹ The data for assessing settlement and transport land is taken from the official survey of land. Since 2016, the survey has been based on ALKIS, the official land register information system. As a result, the possibilities of comparison with previous years are limited and it is more difficult to calculate the extent of changes. The settlement and transport land covered after the switch largely encompasses the same categories of land use as before.

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the average daily expansion of the area used for settlement and transport infrastructure in hectares per day.

Targets and intention of the German Government

Land is a limited resource. It is subject to competition from various interests, including agriculture and forestry, settlement and transport, nature conservation, resource extraction and energy generation. The development of additional land for settlement and transport purposes is to be limited to an average of less than 30 hectares per day by 2030. The goal is to establish a closed-loop land-use regime by 2050, meaning that, in net terms, no additional area will be developed for the purposes of settlement or transport.



Content and development of the indicator

Settlement and transport area should not be equated with sealed land. Settlement land includes areas used for residential building, industry and commerce, public facilities, recreational amenities or cemeteries. It also covers land used for surface or sub-surface mining. However, mining land is not counted in the calculations for this indicator, as it ends up being reclaimed for other uses in the long term (e.g. as renaturalised post-mining landscapes). Transport area is made up of four subcategories: road transport, rail, aviation and shipping. The indicator therefore refers not only to sealed areas but also to undeveloped and unsealed land. These include, for example, domestic gardens, parks and other green spaces. As calculated in the environmental economic accounts compiled by the Länder, the sealed share of their settlement and transport area is estimated at 45% on average (2017).

The indicator is derived from the area survey by type of actual use (official land-use statistics), which in turn is based on data from the official land register maintained by the Länder. Some areas of land have been reclassified in the official land register in recent years without any actual change in the way they are used. To balance out the effect this has on the statistics for any particular year, a four-year moving average is also shown, averaging out the year in question and the three preceding years. Moreover, the switch from the old to the new land-use classification system was completed in 2016, which affected the official land-use statistics such that the data for 2016 are not directly comparable to those for previous years. It is for this reason that the overall indicator value for 2016 is also not subdivided into types of settlement or transport use.

From 2000 to 2018, 5,880 km² of land was converted into settlement and transport area. This is equivalent to more than twice the area of Saarland. The majority, 84%, was converted into settlement land, while 16% went to accommodate transport infrastructure.

The four-year moving average of previously undeveloped areas newly converted to settlement or transport area continuously decreased throughout the time series, going from 129 hectares per day in 2000 down to 56 hectares per day in 2018. Considered for each reporting year separately, the value for new settlement or transport area was lowest in 2016, at 51 hectares per day. The figure has risen again since then, to 58 hectares per day in 2018.

In 2018, the area of settlement or transport use amounted to 49,819 km², or 14% of the total area of Germany. The largest land types in Germany are agricultural land at 181,625 km² (51%) followed by woodland at 106,546 km² (30%). Settlement and transport area grew by 565 km² between 2016 and 2018. Agricultural land shrank by 1,012 km² during the same period, while woodland grew by 376 km². It can therefore be assumed that the increase in settlement and transport area was primarily at the expense of agricultural land.

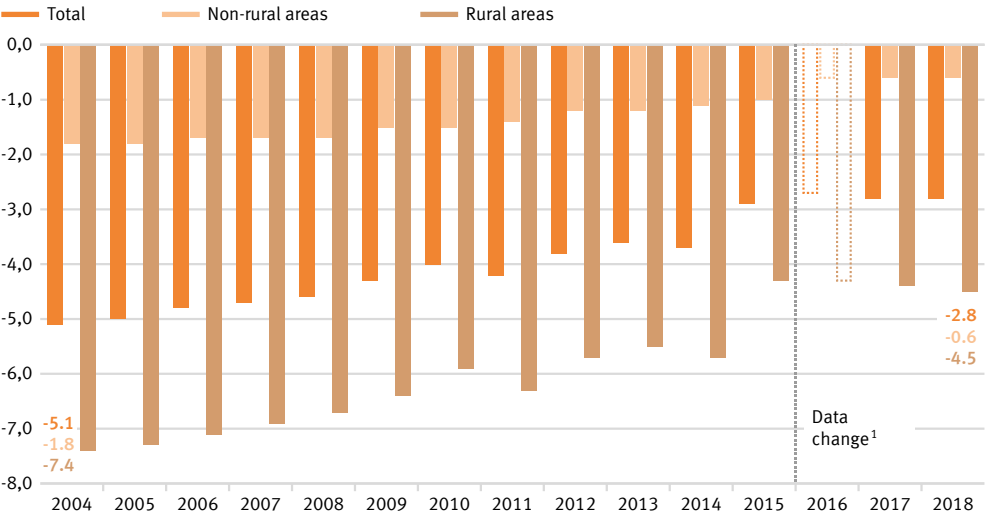
11 SUSTAINABLE CITIES AND COMMUNITIES

Land use – *Using land sustainably*

11.1.b Loss of open space area



Changes in open space area per capita
Four-year moving average in square metres per year



¹ A change in the data underpinning this indicator took effect on 31 December 2016, with a new land-use classification system being used from then on. This meant that no change could be recorded between 2015 and 2016. Comparisons over time are not possible without caveats.
Source: Federal Statistical Office, Federal Institute for Research on Building, Urban Affairs and Spatial Development, Johann Heinrich von Thünen Institute

Definition of the indicator

The indicator represents the annual change in open space area in square metres per capita as a four-year moving average.

Targets and intention of the German Government

Open spaces should be preserved for use as agricultural land, woodland, cultural and natural landscapes, and recreational areas. The intention is therefore to curb the decline in open space area per capita. A reduction in the loss of open space area points to the success of measures to strengthen brownfield development with a view to saving agricultural land, woodland and water systems for farming, forestry, nature conservation and recreational use by the public.



Content and development of the indicator

Open space area includes areas of vegetation, such as arable land, pasture and woodland, as well as mining land and bodies of water. A distinction is made between open space proper and open areas within settlement zones, such as cemeteries, gardens, parks and recreational amenities, which, although largely undeveloped, are generally considered part of settlement and transport area. As a result, if previously undeveloped parts of settlement land are built on, this is not reflected in the indicator for loss of open space area.

In the period under review, the national average for per capita loss of open space area went down. Whereas the four-year moving average for 2001-2004 was still around 5 m² per capita, the current average for 2015-2018 reveals a figure of just 3 m².

Although subject to a similar trend, significant differences can be observed between rural and non-rural areas in terms of the degree of change. The loss of per capita open space area per inhabitant in rural areas contracted from 7.4 to 4.5 m² per year. In non-rural areas, it fell from 1.8 m² to 0.6 m². In this context, it is important to remember that non-rural districts and district-free cities have much less open space, such as forest or farmland, than rural areas do. Demographic trends also differ, and the indicator reflects those disparities, with rural areas mostly seeing their populations shrink during the period under review, while population numbers in non-rural areas rose slightly overall.

The data sources for the indicator are the population figures and the area survey by type of actual use compiled by the Federal Statistical Office. Since population data at regional level are used for the associated calculations, the 2011 census caused a jump in the time series. Moreover, some areas of land have been reclassified in the official land register maintained by the Länder in recent years, without any actual change to the landscape. To smooth out these effects and depict the long-term trend, a four-year moving average is shown, averaging out the figures for each year with those for the three preceding years. Additionally, the switch from the old to the new land-use classification system was completed in 2016, which affected the official land-use statistics such that the data for 2016 are not directly comparable to those for previous years. This is why the development of the indicator for 2016 is only shown as a broken outline in the graph.

The distinction between rural and non-rural is based on a classification used by the Thünen Institute. The institute ascribes a degree of rurality to districts and district-free cities on the basis of geographical characteristics such as settlement density and share of farmland and woodland. The classification is thus applied to whole districts rather than to smaller entities like towns or villages.

11 SUSTAINABLE CITIES AND COMMUNITIES

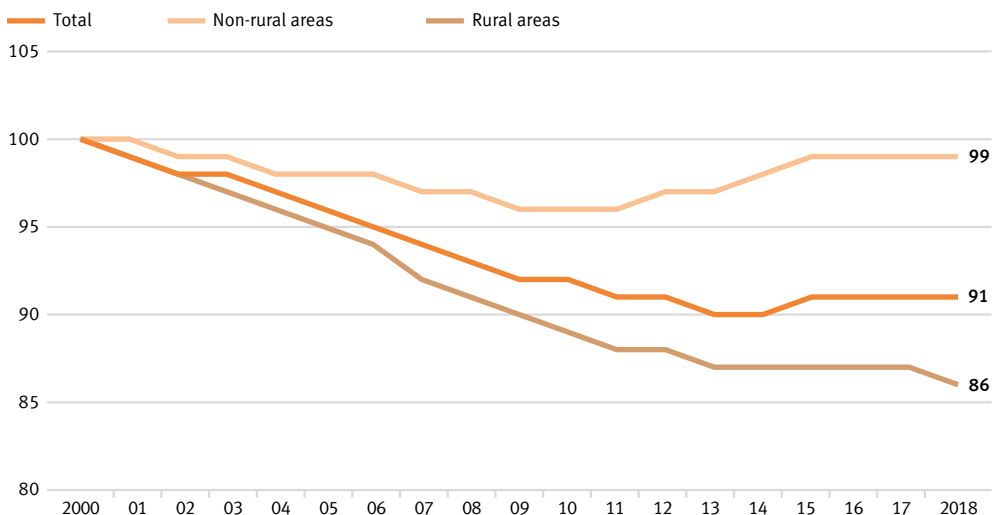
Land use – *Using land sustainably*

11.1.c Density of settlements



Inhabitants per square kilometre of settlement or transport area

2000 = 100



Source: Federal Statistical Office, Federal Institute for Research on Building, Urban Affairs and Spatial Development, Johann Heinrich von Thünen Institute

Definition of the indicator

Taking 2000 as a base year, the indicator shows the development of population numbers per square kilometre of settlement or transport area.

Targets and intention of the German Government

The density of settlements indicator provides information about the efficiency of settlement land use. The goal of the German Government is to counteract the reduction in settlement density by implementing space-saving measures for all new construction, brownfield development, reduction of residential and commercial vacancy, and densification or dedensification of built-up areas.

Content and development of the indicator

Settlement density looks at the number of inhabitants in relation to the amount of settlement and transport area – in contrast to population density, which is based on the entire land area.



Apart from residential building land, settlement land includes areas of special functional character (such as hospitals and schools), industrial and commercial land, mixed-use land (such as shopping streets), and areas for sports, leisure and recreation. Changes in the number of inhabitants and changes in the extent of settlement and transport area both affect figures for the density of settlements.

Settlement density varies considerably between rural and non-rural areas, with the figures for 2018 showing an average of 3,344 people per square kilometre of settlement and transport area in non-rural districts but around 1,205 in rural districts. 2018). Residential building land in towns and cities is frequently much more densely developed, and with more multiple-floor buildings, than in rural regions, where more scattered development incorporating larger unsealed areas such as domestic gardens is prevalent.

From 2000 to 2009, there was a steady decline in settlement density in both rural and non-rural regions. The reduction in absolute terms is slightly smaller in non-rural areas than in rural regions. In relative terms, given the distinctly lower settlement density in rural areas, the reduction was considerably greater there, at 11%, than the 4% reduction observed in non-rural areas. Settlement density in non-rural regions been rising again since 2011. This shows that settlement and transport area in relatively urban areas is being used more efficiently than in previous years.

Looking at the trends in population numbers and settlement and transport area separately reveals marked differences between rural and non-rural regions. Between 2000 and 2018, the amount of settlement and transport area in both rural and non-rural regions increased, though to differing extents – by 15% and 8% respectively. After rising slightly at the beginning of the century, the rural population then shrank by approximately 2.3% before increasing again by 1.8% between 2010 and 2018. In contrast, the population in non-rural regions grew by 1.7% between 2000 and 2010 and again, by 5.4%, between 2011 and 2018. The effects that the development of additional settlement and transport area had on the indicator were therefore amplified in rural regions by the declining population numbers there.

The data sources for this indicator are the population figures and the area survey by type of actual use compiled by the Federal Statistical Office. In the population numbers, the 2011 census caused a jump in the time series. Some areas of land have moreover been reclassified in the official land register maintained by the Länder in recent years, without any actual change in the way they are used. Additionally, the switch from the old to the new land-use classification system was completed in 2016, which affected the official land-use statistics such that the data for 2016 are not directly comparable to those for previous years. So that comparisons can nevertheless be drawn, the relevant values were extrapolated on the basis of the 2011 census and the 2016 reform of the land-use survey.

The distinction between rural and non-rural is based on a classification used by the Thünen Institute. The institute ascribes a degree of rurality to districts and district-free cities on the basis of geographical characteristics such as settlement density and share of farmland and woodland. The classification is thus applied to whole districts rather than to smaller entities like towns or villages.

11 SUSTAINABLE CITIES AND COMMUNITIES

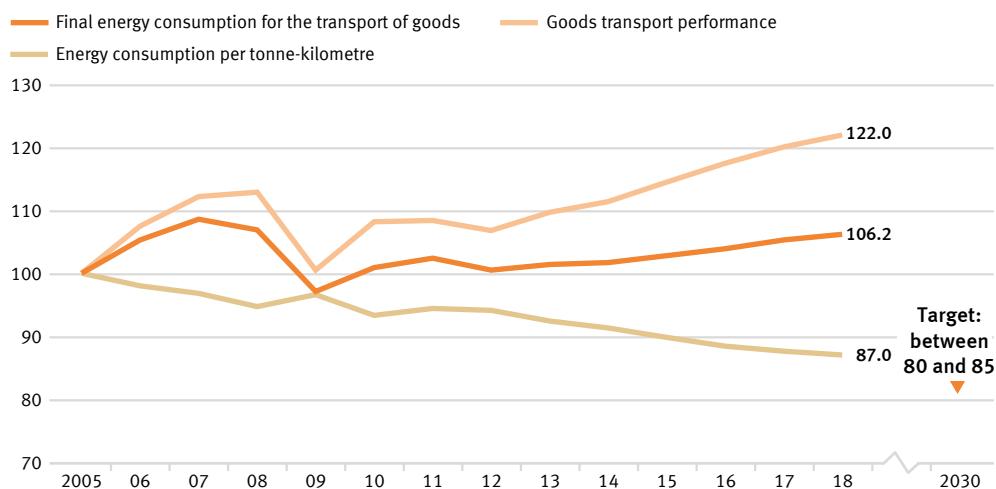
Mobility – *Guaranteeing mobility – Protecting the environment*

11.2.a Final energy consumption in goods transport



Final energy consumption in goods transport

2005 = 100



Source: Institute for Energy and Environmental Research, Federal Statistical Office

Definition of the indicator

Final energy consumption in goods transport represents the energy consumption for the transport of goods within Germany via inland waterways, by rail and by road.

Targets and intention of the German Government

Transport creates a range of problems. For instance, noise and air pollution impair quality of life, especially in cities, and traffic-related emissions contribute to climate change. The emission of harmful greenhouse gases is closely linked to the energy consumed for transport purposes.

The aim is to reduce final energy consumption in goods transport by 15 to 20% by 2030.

Content and development of the indicator

The data regarding domestic final energy consumption originates from the TREMOD (Transport Emissions Estimation Model) database at the Institute for Energy and Environmental Research. TREMOD is a model for evaluating transport emissions. The data record fuel consumption within Germany irrespective of where refuelling takes place. “Final energy” refers to that part of the total energy used that is directly consumed in transport. It does not cover the conversion losses that arise during the production of fuels or any pipeline losses that may occur.

TREMOD also supplies the goods transport volumes which are used to calculate the specific energy consumption of this sector. Air freight transport is not included, as it accounts for negligibly small volumes.

By definition, the indicator for final energy consumption in goods transport refers to consumption within Germany. It gives only an inadequate reflection of the German economy’s increasingly complex international ties in a globalised world. As a result, transport flows and the associated energy consumption that arises due to German exports and imports are not included.

The energy-consumption data presented here is supplemented by energy efficiency, or energy consumed per tonne-kilometre. The number of tonne-kilometres provides information about the extent to which transport intensity or the distance per transported tonne changes.

Contrary to the German Government’s target, final energy consumption for the carriage of goods was 6.2% higher in 2018 compared with 2005. Goods thereby accounted for almost 30% of total final energy consumption in the transport sector. The sharp increase can be attributed primarily to freight transport by road. Final energy consumption in road goods transport increased by 7.8% during this period, while consumption for rail and inland shipping was significantly reduced (-5.3% and -26.7% respectively).

During the same period, goods transport volumes increased by 22.0%. In conjunction with comparable energy consumption in 2005 and 2018, this means a significant increase in efficiency of 13.0% during that time.

During the economic crisis of 2009, price-adjusted gross value added in the manufacturing industry suffered a particularly sharp decline of just under 20%. This heavy loss particularly affected the transport sector, which reacts directly to increases and falls in the production of goods. The resultant decrease in the utilisation of transport capacity explains why average energy consumption per tonne-kilometre rose slightly despite the sharp fall in overall energy consumption in absolute terms during the crisis years.

Besides the more short-term consequences of the economic crisis of 2009, a number of long-term ramifications also affected the development of final energy consumption in goods transport during the 2005 to 2018 review period. For instance, there was a decrease in the average number of manufacturing steps a company performs, something that is normally associated with greater transport volumes because companies procure more intermediate goods from domestic and international suppliers. Furthermore, the average distance between where goods are manufactured and where they are used increased, which also caused transport volumes to rise. These effects are countered by a shift towards a less material-intensive pattern of demand (e.g. increasing demand for services). The resulting change in the composition of goods volumes dampened the increase in transport-related energy consumption.

11 SUSTAINABLE CITIES AND COMMUNITIES

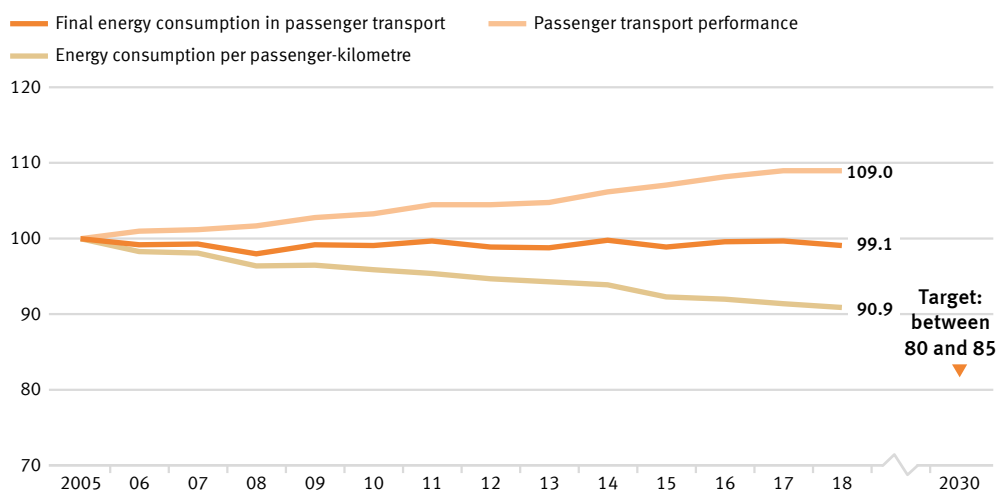
Mobility – *Guaranteeing mobility – Protecting the environment*

11.2.b Final energy consumption in passenger transport



Final energy consumption in passenger transport

2005 = 100



Source: Institute for Energy and Environmental Research, Federal Statistical Office

Definition of the indicator

Final energy consumption in passenger transport represents energy consumption due to the carriage of people by rail, by air and by road (public and private transport) within Germany.

Targets and intention of the German Government

Transport brings with it a range of challenges. For instance, noise and air pollution impair quality of life, especially in cities, and traffic-related emissions contribute to climate change. The emission of harmful greenhouse gases is linked to the energy consumed for transport purposes.

The aim is to reduce final energy consumption in passenger transport by 15 to 20% by 2030.



Content and development of the indicator

The data regarding domestic final energy consumption originates from the TREMOD (Transport Emissions Estimation Model) database at the Institute for Energy and Environmental Research. TREMOD is a model for evaluating transport emissions. The data record fuel consumption associated with passenger transport within Germany, irrespective of where refuelling takes place (in accordance with the principle of actual final consumption). “Final energy” refers to that part of the total energy used that is directly consumed in transport, so it excludes conversion losses that arise during the production of fuels as well as any pipeline losses that may occur.

The volume of passenger transport is expressed in terms of the number of passenger-kilometres travelled. Provided by TREMOD, this figure is used to calculate the specific level of energy consumption in this sector. In the aviation statistics, only domestic flights are taken into account. International flights departing from or landing in German territory are not counted. Nor is waterborne passenger transport included.

Some 30.1% of overall final energy consumption can be attributed to transport. Of this, more than 70% is accounted for by passenger transport. Savings in final energy consumption in passenger transport therefore have a marked effect on total energy consumption in Germany. The number of passenger-kilometres provides information about the extent to which transport intensity or the distance per transported tonne changes. In addition to final energy consumption, the indicator also examines energy efficiency in passenger transport, measured in terms of energy consumption per passenger-kilometre.

Final energy consumption in passenger transport decreased by a total of 0.9% between 2005 and 2018. However, analysis of progress since 2008 reveals that the indicator value increased by 1.1%, meaning that final energy consumption in passenger transport is developing contrary to the target set in the German Sustainable Development Strategy.

Although the number of passenger-kilometres covered increased by 9.0% between 2005 and 2018, energy consumption with reference to all forms of transport fell by 9.1% to 1.49 megajoules per passenger-kilometre during the same period. This indicates a notable increase in efficiency in passenger transport. A particularly large share of the efficiency gain can be attributed to the railways. The number of passenger-kilometres travelled by rail rose by 25.3%, while final energy consumption was reduced by 8.9%. This equates to a 27.3% increase in efficiency. A significant increase in efficiency was also achieved in aviation, with a 17.1% rise compared with 2005. Road transport registered a slight gain in efficiency of 7.4% recently, thanks to a rise in passenger-kilometres, even though final energy consumption remained almost constant (-0.5%).

Private motorised transport by car or two-wheeled vehicle accounted for 81.4% of total passenger transport volumes in 2018. Its share in 2017 was 81.6%. It can be subdivided into various categories. In 2017 (more recent figures not yet available), work-related transport, i.e. commuter traffic and business travel, accounted for the largest share, at 39.2%, followed by recreational transport at 29.5%. Travel for shopping accounted for 17.1%. These purpose-based categories of transport have developed differently since 2005. Work-related travel in particular has increased significantly (+30.0%), while journeys for recreation or shopping have declined (-11.4% and -2.7% respectively).

11 SUSTAINABLE CITIES AND COMMUNITIES

Mobility – *Guaranteeing mobility – Protecting the environment*

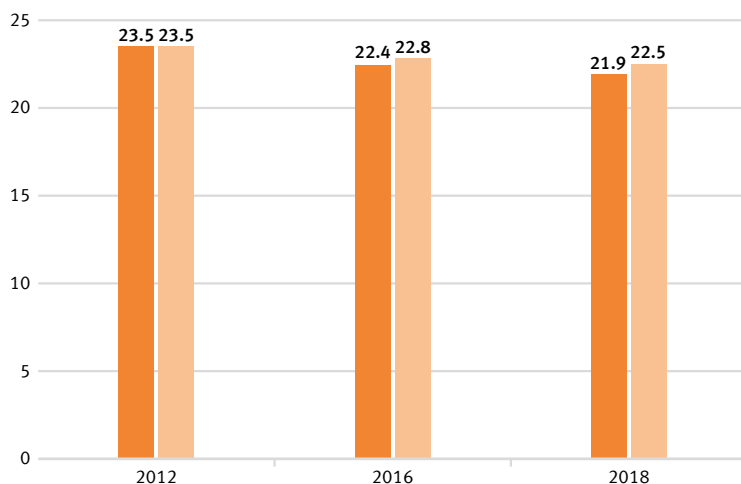
11.2.c Accessibility of medium-sized and large cities by public transport

Travel times by public transport to nearest medium-sized or major city

In minutes

— For the medium-sized and major cities of the year in question

— For the medium-sized and major cities of 2012



Source: Federal Institute for Research on Building, Urban Affairs and Spatial Development

Definition of the indicator

The indicator shows population-weighted average travel times to the nearest medium-sized or major city by public transport.

Targets and intention of the German Government

Mobility is a key factor in enabling people to participate in society. Accordingly, urban development and transport should be designed to provide good mobility services and suitable connections to medium-sized or major cities for the entire population. Therefore, the goal of the German Government is to shorten the average amount of time it takes people to travel to their nearest medium-sized or major city by public transport.



Content and development of the indicator

The indicator is computed by the Federal Institute for Research on Building, Urban Affairs and Spatial Development. Public means of transport are defined as transport services that anyone can use on payment of the relevant fees. Flexible forms of operation, such as on-call buses that operate on demand without fixed stopping points and timetables, are not taken into account.

Comparing the indicator values for 2012 and 2018 shows that the population-weighted average travel time to the nearest medium-sized or major city fell from 23.5 to 21.9 minutes during that period. This equates to a reduction of 6.9%.

However, the number of medium-sized and major cities grew from 1,010 in 2012 to 1,109 in 2018. Much of this growth can be traced to the designation of additional urban centres as medium-sized cities in Bavaria. It is beyond the purview of this report to assess whether that change of status reflects an actual improvement in the provision available in those cities. Nonetheless, the increase in medium-sized and major cities notably helped reduce the average travel time required to reach one. If the average travel time for each reporting year is calculated on the basis of only those intermediate and major cities which existed in 2012, it is found to have decreased from 23.5 minutes in 2012 to 22.5 minutes in 2018. This equates to a reduction in travel time of only 4.3% in relation to 2012.

The data for these calculations were taken from the timetables of Deutsche Bahn, various networks and numerous other transport providers. With the help of the timetable data, the travel times to the nearest intermediate or major city during peak morning traffic times were determined for some 258,000 stops. This period is defined differently across the reporting years. Whereas connections with arrival times between 6 a.m. and 9 a.m. were taken into account in 2012, the figures for 2016 and 2018 refer to connections with arrival times between 8 a.m. and 12 noon.

Not least because not all local transport schedules had been fully incorporated into the database used, the values for the different reporting years cannot be compared without caveats. Therefore, the frequency of transport services to the nearest intermediate or major city is ignored, as is travel time to and from the stopping point. Furthermore, this indicator is based on timetable data – which means that delays or even cancellations are not taken into account.

The classification of an urban centre as a medium-size or major city is determined according to the availability of goods, services and infrastructure that are not available in the surrounding regional towns. These include, among other things, specialist medical practices, hospitals, cultural facilities as well as secondary schools and institutions of higher education. In each intermediate or major city, especially in large cities, only one location in the city centre was designated as the destination. The destination stops were selected within a radius of one kilometre around that destination point, and the quickest connection from each departure stop to that point was sought. A population-weighted average value of the travel time for Germany was then determined with the help of small-scale population data from the Federal Statistical Office.

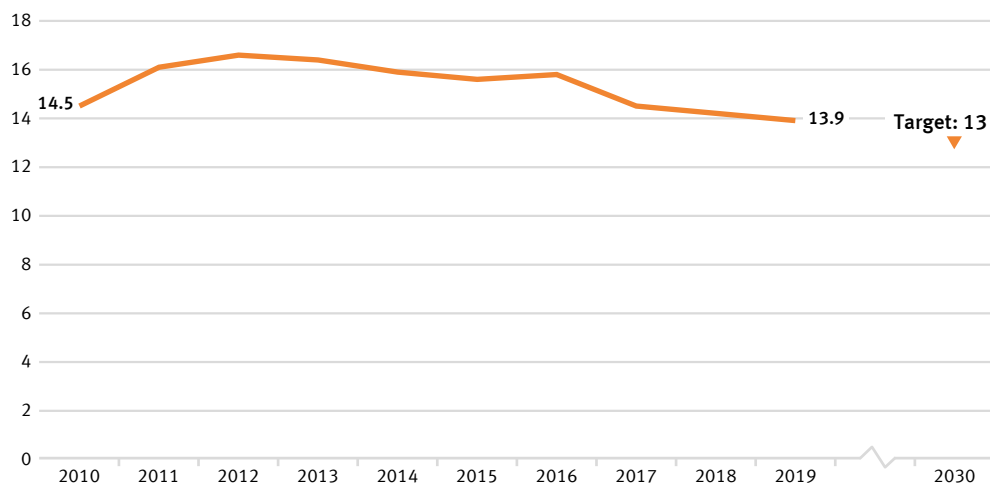
11 SUSTAINABLE CITIES AND COMMUNITIES

Housing – *Affordable housing for all*

11.3 Housing cost overload



Proportion of people living in households where more than 40% of disposable income is spent on housing
In %



Provisional data for 2019.

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the share of people living in households where more than 40% of disposable household income is spent on housing. Housing costs comprise rent and ancillary charges, energy costs and water bills as well as, in the case of home ownership, investments to maintain the value of a property and interest payments on associated loans.

Targets and intention of the German Government

High housing costs place restrictions on households with regard to their other consumption choices. Housing expenses amounting to more than 40% of disposable household income are considered to be excessive. The share of people who live in households where more than 40% of disposable household income is spent on housing is therefore to be reduced to 13% by 2030.



Content and development of the indicator

The data used for this indicator come from the harmonised European statistics on income and living conditions (EU-SILC). The indicator expresses housing costs relative to disposable household income. If a household is receiving housing benefits or comparable social benefits, such as social-security payments for accommodation and heating, these are also included in the calculations. These social benefits are not added to the income amount but are deducted from the housing costs, so that the burden of housing expenses on households that rely on housing-related social benefits is reduced or almost nullified.

The purchase of owner-occupied property is not included in housing costs. Other spending on measures to enhance the value of a property is not taken into account either – though it is not always possible to clearly differentiate such spending from value-maintaining expenditure, which does count as part of housing costs. In such cases, established assumptions are applied to simplify the calculation. Nor does the indicator take into account any additional costs associated with the geographical location. For instance, expenditure on travel from a person's place of residence to their workplace is not taken into account, although it is possible that the long commuting distance is the only reason that their housing costs remain below the 40% threshold.

By defining the threshold value as 40% of disposable household income, the indicator provides no information about average housing costs in absolute terms. If clusters emerge close to the threshold, even small alterations in the ratio of income to housing costs can cause major changes in the indicator.

The indicator rose from 14.5% in 2010 to a relatively constant 16% from 2011 to 2016. In 2017, it went back down to the starting rate of 14.5%, before reducing further in 2018, to 14.2%, and yet further in 2019, when it reached 13.9%. The value is therefore lower than the level it started at in 2010. If the average trend recorded over the last five years continued, the goal set for 2030 would be achieved.

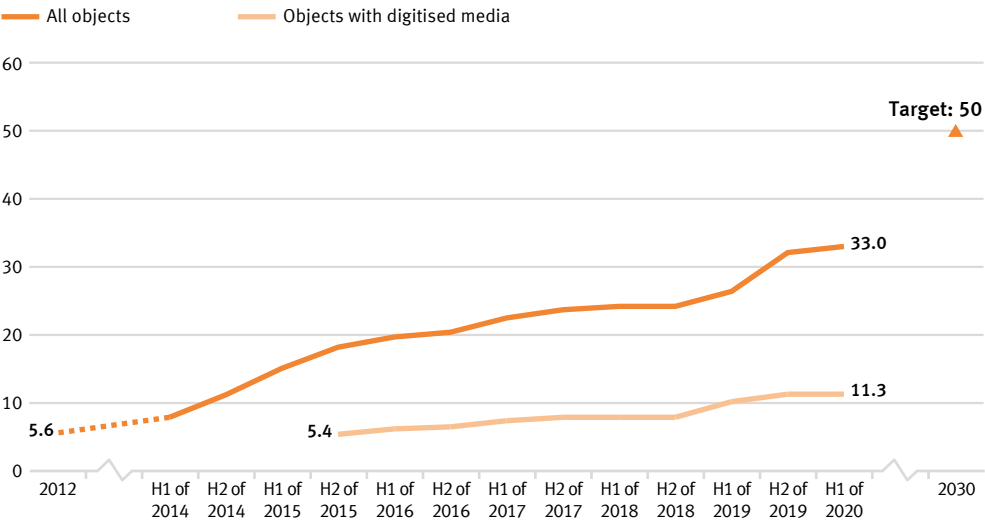
With regard to the actual housing situation and disposable income, the indicator provides only a limited amount of meaningful information. After all, the calculation method means that households with high incomes and high expenditure on housing also appear to be overburdened. Meanwhile, the data show that it is people at risk of poverty – that is, those with less than 60% of the median equivalised income for the population – who are particularly affected by excessive housing costs. Some 42.2% of people at risk of poverty were overburdened by housing costs in 2010, rising to 54.4% by 2014. That figure then sank to 48.3% by 2019. In contrast, excessive housing costs affected a markedly smaller proportion of people considered not at risk of poverty. The 2019 figure of 8.0% was lower than the 9.4% recorded in 2010 and peak of 10.5% reached in 2011.

Cultural heritage – Improving access to cultural heritage

11.4 Number of objects in the German Digital Library



Number of objects in the German Digital Library
In million



Source: Federal Government Commissioner for Culture and the Media

Definition of the indicator

The indicator shows the number of objects in the network of the German Digital Library, or *Deutsche Digitale Bibliothek* (DDB).

Targets and intention of the German Government

The German Digital Library connects and provides online access in one place to the digital holdings of Germany’s cultural institutions and repositories of learning. It thereby makes them easily accessible, in an up-to-date manner, to scholars and anyone else interested in culture. As such, the indicator is a useful gauge of the extent to which our shared heritage of culture and learning has been rendered digitally accessible in Germany. The goal is to increase the number of objects available via the German Digital Library to 50 million by 2030.



Content and development of the indicator

The German Digital Library is a platform created to connect the digital holdings of institutions like archives, libraries and museums. It is managed by a network of such repositories of culture and learning from the Federal Government, the Länder and local-authorities, and it is jointly funded by the Federal Government and the Länder. Most of the digital materials are held not by the German Digital Library itself but by partner institutions, while the DDB only hosts links to those objects. The partner institutions are responsible for the stability of the connection. As of May 2020, the number of partner institutions making data available for the German Digital Library had reached 448. The majority are museums or archives – 183 and 174 of them respectively.

The German Digital Library online platform has been accessible since 2012, at which point it hosted links to 5.6 million objects. By the middle of 2020, that number had risen to 33 million. If the trend continues as it has to date, the target of 50 million by 2030 could be achieved. Some of the objects made available by libraries may repeat the same content; for example, two libraries might post links in the German Digital Library to the same edition of a book. In such cases, the two links are counted separately.

Since 2015, it has been possible to differentiate between objects with and without digitised media. For those with digitised content, the German Digital Library link gives direct access to the digitised reproduction of the book, certificate, painting or other object in question. For objects without digitised media, on the other hand, the links lead only to information about them. The link pertaining to a painting, for instance, will provide information about who painted it, what year it is from and where it is kept. Objects with digitised media thus provide a good deal more information than those for which only metadata are made available.

There were 5.4 million objects with digitised media at the end of 2015, rising to 11.3 million by the middle of 2020. Objects with digitised media also increased as a proportion of all the objects linked to in the German Digital Library, rising from around 30% in 2015 to around 34% by mid-2020. At the end of the first half of 2020, the majority of digitised objects available via the Library were texts (60.2%), followed by pictures (33.8%) and other media (5.5%). In contrast, audio and video recordings made up only a very small proportion of digitised Library objects, at 0.4% and 0.1% respectively.

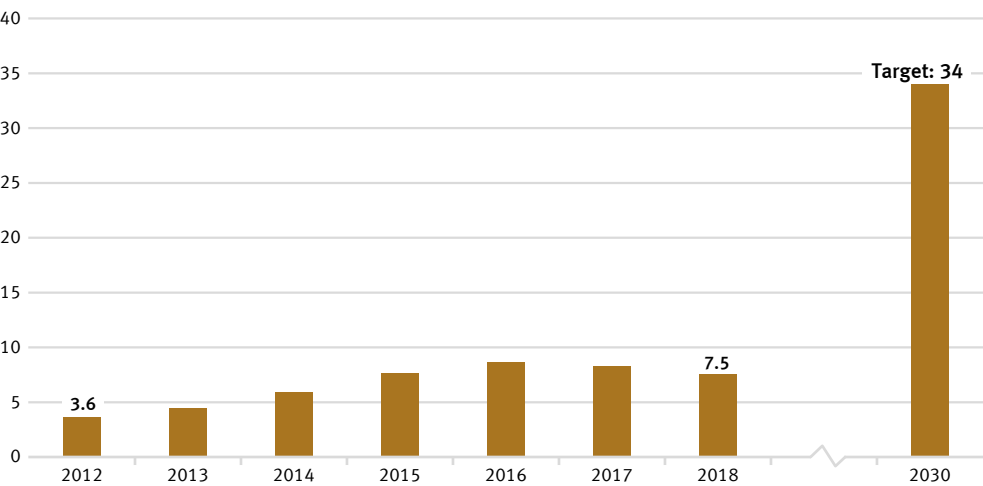
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Sustainable consumption – *Making consumption environmentally and socially compatible*

12.1.a Market share of products certified by publicly managed ecolabelling schemes



Market share of products certified by publicly managed sustainability labelling schemes
In %



Provisional data for 2018.
Sources: Gesellschaft für Konsumforschung, Federal Motor Transport Authority, Agricultural Market Information Company, Organic Food Production Alliance, Verkehrsclub Deutschland, German Environment Agency

Definition of the indicator

The indicator measures the market share of products with voluntary or mandatory ecolabels which are awarded according to criteria stipulated by government bodies.

Targets and intention of the German Government

Private households can engage in sustainable consumption both directly and indirectly. Not only do their purchasing decisions influence their own ongoing impact on the environment, as energy-efficient vehicles or insulated homes require less energy to use and lead to lower emissions of greenhouse gases, but consumers can also purchase products that have been manufactured in particularly sustainable ways. The aim of the German Government is therefore to increase the market share of products certified by publicly managed ecolabelling schemes to 34% by 2030.

Content and development of the indicator

The indicator is calculated on the basis of data from the consumer research institute GfK, the Federal Motor Transport Authority, the agricultural market information firm AMI, the Organic Food Production Alliance, the sustainable-mobility association *Verkehrsclub Deutschland* and the German Environment Agency. The latter has been calculating the indicator values for each reporting year since 2012.

The indicator is made up of the market share of products which either bear the highest category of EU energy label within their class or are certified by the EU Ecolabel, the Euro-leaf organic logo or the German Blue Angel. The EU energy label primarily addresses energy consumption and greenhouse gas emissions, while the other three ecolabels also take into account other threats to the environment such as pesticide use and harmful wastewater. The indicator is intended to show whether environmentally friendly product variants are replacing conventional ones in the market. Only a selection of product groups are examined, in part because limited data are available on turnover for products bearing sustainability labels. This also makes it possible to avoid certain products being counted more than once.

The indicator encompasses consumption in the fields of home life, mobility and nutrition. Household appliances such as refrigerators, washing machines, televisions and vacuum cleaners are assessed, as are light bulbs, foodstuffs, sanitary paper, detergents and cars. Since the markets for the individual product groups are of different sizes, the market shares are weighted according to the total turnover of the market in question. This is intended to prevent the indicator being distorted by products which have high shares of small niche markets. Furthermore, this means expenditure on environmentally friendly products can be considered in relation to the total expenditure of private households.




It is not possible to weight the market shares according to the market relevance of the respective product groups because the environmental labels address different categories (energy consumption, greenhouse gas emissions, material demand) that cannot be balanced against one another. This also makes it impossible to set out the environmental footprint, or comprehensive evaluation taking in several environmental categories, of each product group. Moreover, the indicator only covers goods newly brought into circulation in relation to the market as a whole. It thereby gives no indication as to whether the enhanced efficiency of an appliance results in a change in consumer behaviour and perhaps to an increase in consumption – the rebound effect. It also describes the market share on the basis of turnover. Given the price differences between products with and without the relevant ecolabels, this means no conclusions can be drawn about their numbers. It follows that a change in the indicator value might have been caused by price alterations within a product group.

Between 2012 and 2018, the market share of products certified by publicly managed ecolabelling schemes increased from 3.6% to 7.5%. This is equivalent to a turnover of EUR 23.8 billion in 2018. The indicator value sank in 2017 and 2018 relative to the previous year, which is not the desired direction of travel. Unless the trend is reversed and the market share is considerably increased, Germany will fall short of the 2030 target.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

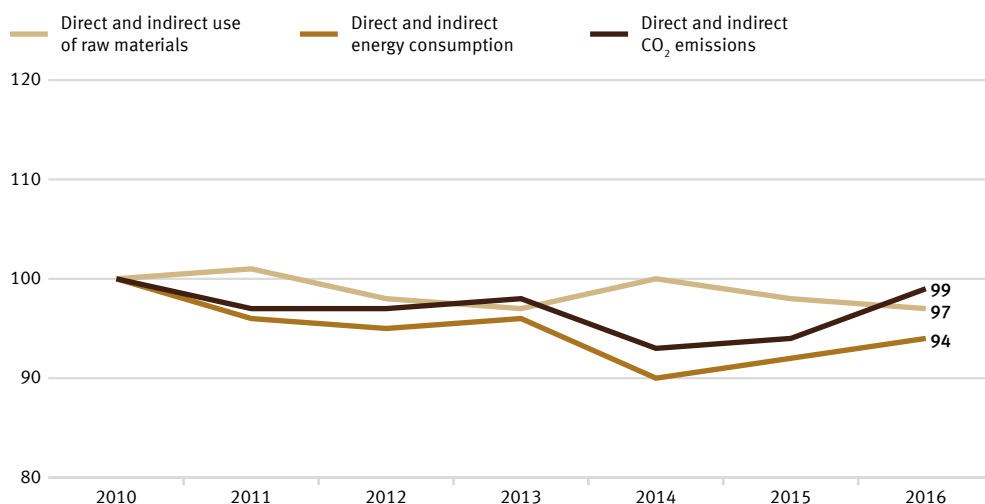
Sustainable consumption – *Making consumption environmentally and socially compatible*

12.1.b Global environmental impact by private household consumption

a) Use of raw materials  b) Energy consumption  c) CO₂ emissions 

Global environmental impact by private household consumption

2010 = 100



Provisional data for 2016; not directly comparable with previous years due to methodological changes.

Source: Federal Statistical Office

Definition of the indicator

The impact caused to the environment around the world by private household consumption is shown here by three indicators. They are domestic and foreign energy consumption, emissions of carbon dioxide (CO₂) and the use of raw materials in connection with the production and use of all goods destined for the consumption of private households in Germany.

Targets and intention of the German Government

Through their spending habits, private households are responsible for a significant proportion of an economy's consumption of resources. That consumption occurs not only within the country in question but also indirectly includes the consumption which is involved in the production of imported goods. The indicator therefore provides information about the impact being done to the environment on a global scale as a result of private household consumption. Reducing energy consumption, for example, will conserve resources both domestically and abroad and prevent environmentally harmful carbon dioxide emissions. The intention of the German Government is to continuously cut the environmental impact that occurs in connection with private household consumption in all three areas.

Content and development of the indicator

The spending habits of private households affect the environment in various ways. This indicator reflects three of the factors behind this impact, namely energy, CO₂ emissions and the use of raw materials. The relevant data are collated in the environmental economic accounts of a range of governmental and non-governmental sources.

Resources may be consumed by households directly or indirectly. Direct consumption might be the use of gas for heating, fuel for transport or food to eat. Resources are also tied up or consumed at every stage of the process of manufacturing and transporting consumer goods both within Germany and abroad. All of that counts as indirect consumption by German private households when they buy and use those goods. Both types of consumption are included in the present indicator, the environmental impact represented in terms of energy, raw materials and CO₂.

The use of raw materials, energy consumption and CO₂ emissions are closely interconnected. To use coal, oil and gas – material resources – in power plants and boilers to produce electricity and heat is simultaneously to consume energy. As a rule, the burning of fuels also results in the emission of CO₂.

However, the use of raw materials is not restricted to fuels. This is clear from the time series in the graph: while the data for energy consumption and emissions follow a fluctuating but generally downwards trend, the change in the use of raw materials is less marked. That factor is made up both of abiotic resources, which include other mineral resources like sand and salts as well as fuels, and of renewable resources like the products of farming and forestry. While the use of abiotic resources is steadily shrinking, there are greater fluctuations in the area of agricultural products. This resulted in a slight overall reduction of 3% between 2010 and 2016.

In contrast, energy consumption went down by 6% during the same period. Energy loss incurred during the generation of electricity and district heat for consumption by private households is counted as indirect consumption. Energy consumption can be split according to the different fields in which it occurs, namely home life, transport, food, other products and services. At around 3,402 petajoules in total, home life accounted for the largest proportion, 36% of private household consumption, in 2016.

A similar trend can be seen in CO₂ emissions. The vast majority of emissions are generated indirectly, during the manufacturing process of consumer goods in Germany and abroad, rather than during the actual consumption of the goods. The total CO₂ emissions caused by private household consumption in 2016 amounted to 667 million tonnes. The ratio of direct to indirect emissions was around 1:2. Between 2010 and 2016, direct CO₂ emissions fell by 6%, while the emissions footprint of consumer goods fell by 1%. The last five years, on the other hand, show no reduction but a slight increase in emissions.

This indicator can be usefully cross-referenced with indicator 8.1 on raw material input productivity.

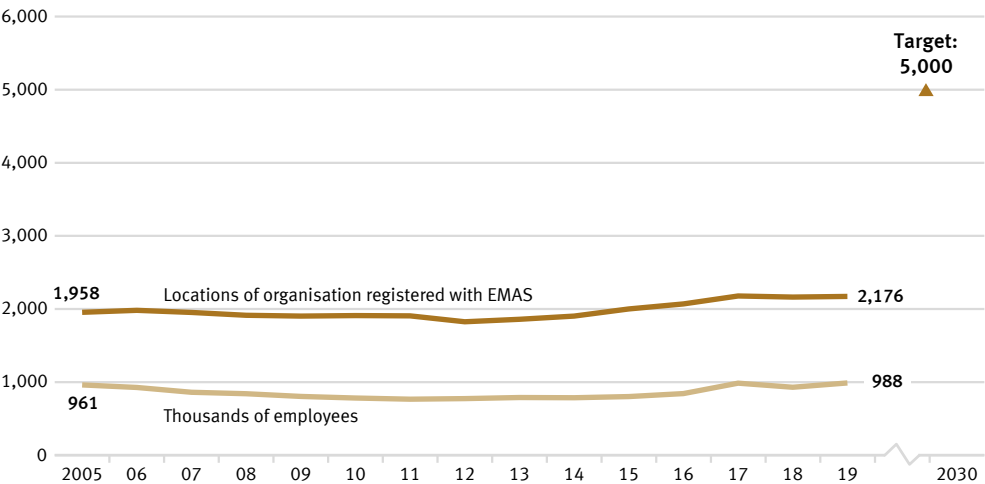
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Sustainable production – *Steadily increasing the proportion of sustainable production*

12.2 EMAS eco-management



Use of EMAS eco-management system in Germany
Number of locations of organisations registered in Germany, and employees



EMAS = Eco-Management and Audit Scheme
Data from 2012 onwards revised by the Association of German Chambers of Commerce and Industry, which also revised the staff numbers data for 2013, 2016 and 2017
Source: Association of German Chambers of Commerce and Industry

Definition of the indicator

The indicator shows the number of locations in Germany registered with EMAS, the Eco-Management and Audit Scheme, for German as well as foreign organisations.

Targets and intention of the German Government

Climate change, the energy transition and scarcity of resources are presenting companies with new challenges that are forcing them to reconfigure their business processes, structures and products along environmentally responsible and resource-saving lines. EMAS offers a strategy for organisations to pursue systematic environmental protection, with the ultimate aim of steadily improving their locations’ environmental performance. The goal is therefore to identify a total of 5,000 organisation premises for registration with EMAS by 2030.

Content and development of the indicator

EMAS is a voluntary instrument of the European Union that helps organisations of any size and in any sector to continuously improve their environmental performance. Having EMAS certification does not automatically mean that organisations or their products are more environmentally friendly than comparable organisations and products. EMAS involves a reporting obligation requiring organisations to submit environmental statements. These statements include reporting on the main environmental impacts of the organisation in question as well as data pertaining to energy and material efficiency, emissions, water, waste and use of land/biodiversity. Organisations have to update their environmental statements annually, with the exception introduced in 2010 that SMEs can apply to do so every two years instead. The environmental statement, which is public, and various additional internal documents are inspected by independent, licensed environmental verifiers. The verification must be repeated on a regular basis, no less than every three years. Organisations that pass the verification process and have no breaches of environmental regulations or complaints to answer for are added to the EMAS register. The German EMAS Advisory Board¹ is responsible for quality assurance. EMAS organisations and locations are registered by the responsible chambers of industry and commerce and stored in a publicly accessible database at the Association of German Chambers of Commerce and Industry.

In terms of methodology, it should be noted that the EMAS register shows the number of registrations. Participating organisations are free to include several locations under a single organisation registration (corporate registration) or to have their locations registered individually. Some organisations have had their sites abroad registered in Germany. These are present in the EMAS register, but they are not included in the number of EMAS locations recorded here.

In 2019, there were 2,176 EMAS locations registered in Germany. This equates to an increase of 11% compared with 2005. Considered over the last five years, the indicator has been gradually moving in the direction of the target. Nevertheless, if that trend continues unchanged, the goal for 2030 will not be achieved.

The registered organisations employed a total of 988,401 people in 2019. This equates to a decline of 2.8% compared with 2005.

The 2,176 EMAS locations on the register in 2019 belong to 1,150 German organisations and one organisation headquartered abroad. The number of German organisations had shrunk by 22.9% since 2005. Furthermore, those organisations were very well spread throughout the country. The majority were based in Baden-Württemberg (347) and Bavaria (288), followed by North Rhine-Westphalia (105). In contrast, there were just two registered organisations in Mecklenburg-Western Pomerania. Divided by sector, the distribution in 2019 was as follows: 38.3% of the German organisations represented the manufacturing industry, 9.4% miscellaneous services, 8.0% the education sector and 7.6% the hospitality industry. It should be noted that some of the organisations belong to more than one sector.

¹ The EMAS Advisory Board is an independent advisory body of the Federal Ministry for the Environment, Nature conservation and Nuclear safety.

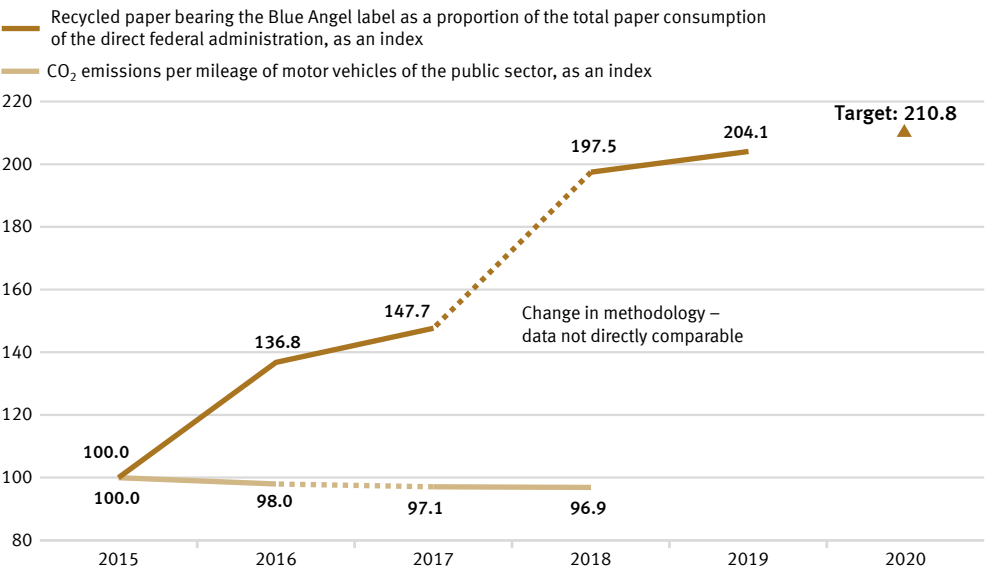
12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Sustainable procurement – Giving shape to the public sector's exemplary role in sustainable procurement

12.3.a, b Sustainable procurement

- a) Paper with Blue Angel certification as a proportion of the direct federal administration’s total paper consumption
- b) CO₂ emissions of motor vehicles of the public sector mileage

Sustainable public procurement
2015 = 100



Provisional data for 2019 recycled and total paper use.
Sources: Competence Center for Sustainable Procurement, Institute for Energy and Environmental Research, German Environment Agency, Federal Statistical Office

Definition of indicators

These indicators show sustainability in procurement through the examples of paper and the CO₂ emissions of motor vehicles. Each is depicted as an index using 2015 as its base year.

Indicator 12.3.a measures what proportion of total paper procured for the direct federal administration is certified with the Blue Angel ecolabel.

Indicator 12.3.b shows the CO₂ emissions of publicly owned vehicles in relation to the distances they travel.

Targets and intention of the German Government

Sustainable procurement is a very complex topic. Product-specific indicators are examined here as examples. While the proportion of paper bearing the Blue Angel ecolabel is supposed to reach 95% of the direct federal administration's total paper use by 2020, the ratio of CO₂ emissions to distance travelled is supposed to continue sinking. The public sector accounts for a considerable share of demand for products and services. It is therefore aimed that establishing sustainable development as a guiding principle of public procurement and reinforcing sustainability criteria within public procurement will serve as a lever to increase provision of sustainable products. The German Government's aim is to strengthen sustainability across public procurement generally.

Content and development of the indicators

Paper with Blue Angel certification as a proportion of the direct federal administration's total paper consumption

The data used to calculate the proportion of Blue Angel-certified paper in the direct federal administration's total paper consumption are collated through the monitoring of the Programme of Sustainability Measures being conducted by the Federal Chancellery and supported by the Centre of Excellence for Sustainable Procurement at the Procurement Office of the Federal Ministry of the Interior. The Blue Angel is an ecolabel for environmentally friendly products and services. When awarded to paper, it means that 100% of the paper fibres were recovered from wastepaper and that no harmful chemicals or bleaching agents were used in the production-process.

According to the preliminary data, the proportion of Blue Angel-certified paper rose by around 104% between 2015 and 2019. In 2015, 45% of all the paper used by the direct federal administration bore the Blue Angel label; that figure had risen to 92% by 2019. This equates to an increase of 104.1% (or an index value of 204.1). The indicator is thus in line with the target set in the Programme of Sustainability Measures to raise the use of paper with the Blue Angel label to 95% by 2020. Total paper consumption, after rising by 11.5% to 993.4 million sheets of paper in 2016, shrank again in 2019, according to the (provisional) data, resulting in a 13.6% reduction in total paper consumption between 2015 and 2019.

When comparing the data over time, it should be noted that there was a change in methodology in 2018 regarding the definition of paper. Since the 2018 reporting year, only non-coloured A4-sized printer and copier paper has been included in the data. The reduction in total paper use can in part be traced to this methodological change.

More generally, it should be noted that the use of Blue Angel-certified paper has limited relevance in terms of sustainable procurement overall, as paper accounts for a small proportion of the total financial volumes involved in procurement for the public sector.

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

CO₂ emissions of motor vehicles Of the public sector mileage

The data on publicly owned vehicles are provided by the environmental economic accounts compiled by the Federal Statistical Office using the TREMOD (Transport Emissions Estimation Model) database at the Institute for Energy and Environmental Research. The public sector comprises the federal government, the Länder and municipalities, the police, the Federal Border Police and the fire services.

Because of the small number of data points and a methodological change affecting the TREMOD database in 2016, it is not possible to assess the trend. The definitions of vehicles have been modified, which is reflected in the data on vehicle fleets. There have also been alterations in the outcomes for distance travelled, energy consumed and emissions in the environmental economic accounts.

If, instead of looking at publicly owned vehicles, one focuses on vehicles owned by the direct federal administration, average CO₂ emissions amounted to 203.3 grams per kilometre travelled in 2019. There was a methodological change in the statistics of the German Environment Agency as well.

The direct federal administration encompasses federal government's own central and subordinate authorities, which are legally dependent. The data on CO₂ emissions per kilometre travelled for vehicles owned by the direct federal administration are provided by German Environment Agency. As for the data on publicly owned vehicles, the direct federal administration figures count all passenger vehicles weighing up to 3.5 tonnes but not light commercial vehicles within that class.

Between 2015 and 2017, the proportion of vehicles newly acquired for the direct federal administration that produced emissions lower than 50 grams per kilometre rose from 2.6% to 4.1% of all newly purchased vehicles. That share fell back to 3.3% in 2018. The provisional data show it falling further in 2019, to 2.4%.

The indicator under consideration here relates only to the environmental aspect of sustainability. Moreover, it only covers the CO₂ emissions released during the vehicles' operation. Looking at their entire life-cycle costs, there are more greenhouse-gas emissions, occurring during the processes of manufacturing and waste disposal, which would have to be taken into account for a conclusive indicator. In addition, the sustainability of electric vehicles depends on whether the electricity powering them comes from conventional or renewable sources.



13 CLIMATE ACTION

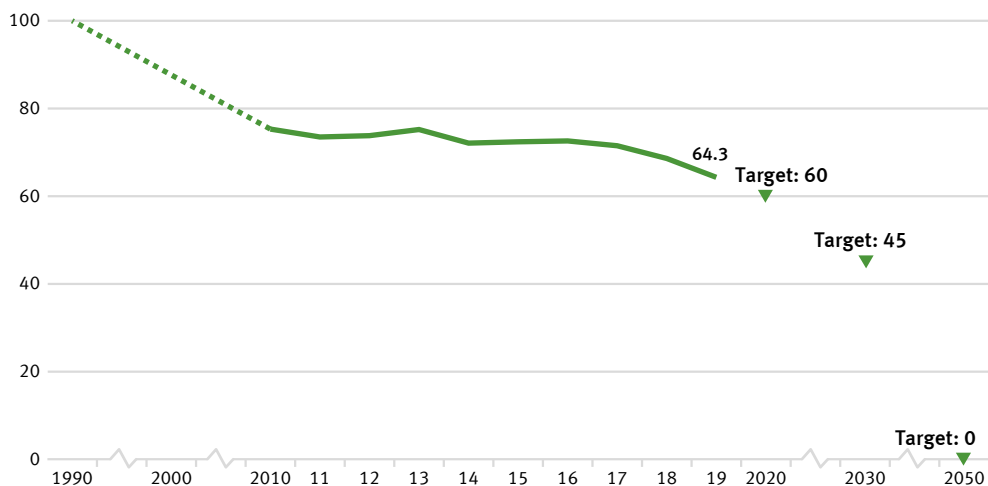
Climate protection – *Reducing greenhouse gases*

13.1.a Greenhouse gas emissions



Greenhouse gas emissions

1990 = 100



2019 provisional near real-time forecast.

Greenhouse gases = carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs)

Source: German Environment Agency

Definition of the indicator

The indicator shows emissions of the following greenhouse gases (substances or substance groups) in CO₂ equivalents: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆).

Targets and intention of the German Government

The global average temperature on the surface of the Earth is continuously rising due to the increasing concentration of carbon dioxide and other greenhouse gases in the atmosphere, which is already having a detectable impact on the climate system today. The German Government therefore aims to lower greenhouse gas emissions in Germany by at least 40% compared with 1990 by 2020 and by at least 55% by 2030. The intention is to achieve greenhouse gas neutrality by 2050.



Content and development of the indicator

So that the various greenhouse gases can be collated into a single index, they are each expressed in CO₂ equivalents, which means that their mass is converted into the amount of CO₂ that would have an equivalent effect on global warming. However, this cumulative reporting obscures the development of each greenhouse gas on its own, as a negative trend in one can be balanced out by the positive trend in another.

The data are provided annually by the German Environment Agency as part of the reporting required under the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. The measuring and reporting of emissions is subject to a comprehensive quality-management regime.

The emissions are calculated in accordance with the territoriality or production principle. The largest emitters of greenhouse gases and air pollutants within Germany were therefore identified, and the quantity of their emissions under certain circumstances was investigated. A specific emissions factor derived from those findings was then multiplied by the emitter's activity data to arrive at the overall quantity of emissions.

It should be noted that, in accordance with the Kyoto Protocol, the indicator does not show carbon dioxide emissions arising from land use, land-use change and forestry (LULUCF). Maritime shipping and international aviation are also excluded from the calculation.

Looking at developments between 2015 and 2019, it is clear that the indicator has not progressed in a stable manner. In 2015 and 2016, greenhouse-gas emissions rose slightly, by 0.3 and 0.2 percentage points respectively. Since 2017, however, they have sunk noticeably, by 1.2 percentage points in 2017 and 2.9 percentage points in 2018. Over the long term, the projected figures for 2019 from the German Environment Agency show a total reduction of 35.7% compared with 1990. If the trend seen over the last five reporting years continues, the target for 2020 – a reduction of 40% compared with 1990 – is unlikely to be reached.

By far the greatest share of total greenhouse-gas emissions in 2019 was carbon dioxide, at 87.7%, compared with 84.1% in 1990. Most recently, methane accounted for 6.2% of the total, with nitrous oxide on 4.3%, HFCs on 1.3% and sulphur hexafluoride on 0.5% (the latter two being figures for 2017). By far the largest proportion of CO₂ emissions arise from the generation of electricity and heat. Methane and nitrous oxide are emitted primarily by agricultural production.

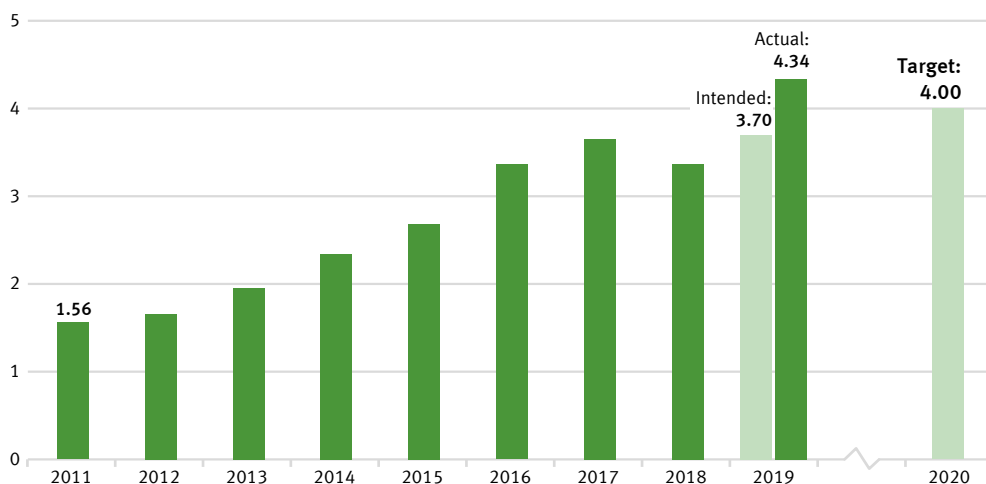
13 CLIMATE ACTION

Climate protection – *Contribution to international climate finance*

13.1.b International climate finance for the reduction of greenhouse gases and adaptation to climate change



German payments chiefly to developing and emerging countries for climate finance
In EUR billion



Source: Federal Ministry for Economic Cooperation and Development

Definition of the indicator

This indicator covers the financing of measures to reduce greenhouse gases, adapt to climate change and/or take climate-related action to preserve biodiversity and protect forests (specifically, projects for the conservation and sustainable management of forests as well as reforestation within the REDD+ framework). The measures chiefly take place in developing and emerging countries and are financed using German budgetary funds (including grant elements of development loans).

Targets and intention of the German Government

The German Government's aim is to raise its contribution to international climate finance to EUR 4 billion from public funds and grant elements of development loans by 2020, thereby doubling the target value for 2014, which was EUR 2 billion. In the decisions contained in the Addendum to the Paris Agreement, the industrialised countries reaffirmed their 2009 commitment to collectively provide USD 100 billion from public funds and from private sources mobilised by public funds, every year from 2020 to 2025, for work to mitigate and adapt to climate change in developing countries.



Content and development of the indicator

The data for this indicator are derived from reporting carried out under the EU Regulation on a mechanism for monitoring greenhouse gas emissions. The source of the annually collected data is the Federal Ministry for Economic Cooperation and Development, which also reports in this context on climate finance from other federal ministries. In the case of bilateral climate finance, expenditure is calculated on the basis of funds allocated; in the case of multilateral climate finance and contributions to energy and climate funds, it is calculated on the basis of funds actually paid. The indicator also includes climate finance that is attributed to donors pro rata on the basis of their contributions to multilateral funds managed by development banks. As climate finance primarily benefits developing countries, it is considered to be part of official development expenditure (see indicator 17.1).

In 2019, Germany committed or provided EUR 4.34 billion in public funds for international climate finance for the reduction of greenhouse gases and adaptation to climate change. Compared with the previous year, when climate finance amounted to EUR 3.37 billion, this represents an increase of 29%. The target for 2020 – to reach EUR 4 billion – was thus met a year early. In 2019, 44% of climate finance went to fund projects to reduce emissions, while 25% went towards adaptation to climate change. The remaining 31% was used to finance horizontal measures. As the horizontal measures serve both the reduction and adaptation efforts, the final split in 2019, as in previous years, shows more funds being used for emissions reduction (59%) than for adaptation (41%).

14% of climate finance, or EUR 588 million, was provided through multilateral channels in 2019. EUR 248 million of that can be attributed to Germany on the basis of the climate-related shares of Germany's contributions to multilateral development banks, the Global Environment Facility and the International Fund for Agricultural Development. Germany provides the remaining EUR 340 million through multilateral institutions and contributions to international climate funds.

In addition to official climate finance from public funds, Kreditanstalt für Wiederaufbau (KfW) and DEG (Deutsche Investitions- und Entwicklungsgesellschaft) also provide climate-related loans with funds from the market. These represent mobilised public climate finance and are not included in the indicator. In 2019, the resources mobilised in this way amounted to approximately EUR 2.47 billion, compared with EUR 3.25 billion the previous year. Here too, more funding went towards emissions reduction (86%) than adaptation (14%).

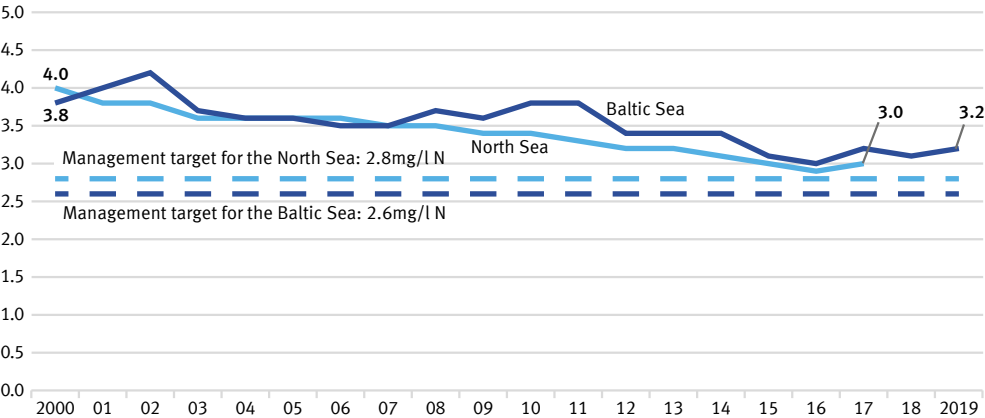
14 LIFE BELOW WATER

Protecting the oceans – *Protecting and sustainably using oceans and marine resources*

14.1.a Nitrogen inputs via the inflows into the North and Baltic Seas

North Sea  Baltic Sea 

Total nitrogen concentration in the North and Baltic Seas
Concentration in mg/l (five-year moving average, weighted for discharge volume)



Source: German Environment Agency (as reported by the Länder and by river basin commissions)
Due to differences in reporting periods, data are available for Baltic Sea inflows up to 2019 and for North Sea inflows up to 2017.

Definition of indicators

The indicators show the five-year moving average, weighted for discharge volume, of nitrogen (N) concentrations in milligrams (mg) per litre (l) of water discharging from rivers to the North and Baltic Seas.¹

Targets and intention of the German Government

High concentrations of nitrogen in the seas can lead to eutrophication effects such as oxygen depletion and the subsequent loss of biodiversity and destruction of fishing grounds. Nitrogen inputs should therefore be below 2.8 mg of nitrogen per litre of discharge for rivers flowing into the North Sea and below 2.6 mg per litre for the rivers flowing into the Baltic Sea. This aligns with the management targets of the Ordinance on the Protection of Surface Waters (*Oberflächengewässerverordnung*), which were agreed in implementation of the Water Framework Directive, as well as with those of the Marine Strategy Framework Directive and the Baltic Sea Action Plan.

¹ Regarding the North Sea, these are the following rivers: Eider, Elbe, Ems, Weser, Rhein, Treene, Aarlauf, Bongsieler Kanal and Miele. As far as the Baltic Sea is concerned, these are the following rivers: Peene, Trave, Warnow, Langballigau, Füsinger Au, Koeseler Au, Schwentine, Kos-sau, Goddesdorfer Au, Oldenburger Graben, Aalbeck, Schwartau, Lippingau, Hagenauer Au, Barthe, Duvenbaek, Hellbach, Maurine, Recknitz, Ryck, Stepenitz, Uecker, Wallensteingraben and Zarow.



Content and development of indicators

One of the main causes of nitrogen inputs reaching the North and Baltic Seas via inflows is nitrogen surplus in agriculture, which is measured in indicator 2.1.a. Like nitrogen, phosphorus also leads to eutrophication. Phosphorus pollution in rivers is examined separately, in indicator 6.1.a.

The calculations for this indicator use monitoring data on nitrogen concentrations and on the discharge volumes of small and major rivers flowing into the North and Baltic Seas, which the German Environment Agency collates as reported by the Länder and by river basin commissions. Data are also included for smaller rivers which do not flow directly into the North or Baltic Sea but are tributaries to larger rivers. In these cases, the data for each river are taken from its last monitoring site before the confluence. The Rhine is also included in the figures, even though its estuary is not in Germany. The data for the Rhine were recorded at the point where it leaves Germany (monitoring site at Bimmen, Kleve).

The nitrogen concentrations for each river are weighted for discharge volume, so that major rivers which discharge large quantities of water have a greater influence on the average than smaller ones. To prevent the graph being distorted by single extreme events like floods or droughts, which can result in anomalously very high or very low nitrogen inputs, the values are depicted as a five-year moving average.

The average nitrogen concentration for all North and Baltic Sea inflows, weighted for discharge volume, has followed a downward trend since the beginning of the time series, with the reduction in concentration more marked for the North Sea than the Baltic. The 2013-2017 average for the North Sea inflows was a concentration of 3.0 mg/l. For rivers flowing into the Baltic Sea, the average concentration for 2015-2019 was 3.2 mg/l. To achieve good quality, as defined by the Ordinance on the Protection of Surface Waters, however, each river by itself has to meet the management target.

Of the three major inflows into the Baltic Sea, the Peene, the Trave and the Warnow, only the latter had already reached the management target by 2015-2019. Nevertheless, all three rivers showed a clear reduction in concentration across the five-year averages. That reduction was most marked in the Trave. In some of the smaller Baltic Sea inflows, concentrations of nitrogen are still several times higher than the management target, with values of up to 6.1 mg/l.

Among the North Sea inflows, only the Rhine met the management target in 2013-2017. The five-year average was on the way down for concentrations in all the major North Sea inflows. In smaller rivers flowing into the North Sea, the nitrogen concentrations in 2013-2017 ranged from 2.9 to 3.6 mg/l. In conclusion, the management targets are not being permanent and nationwide fulfilled for the North or the Baltic Sea.

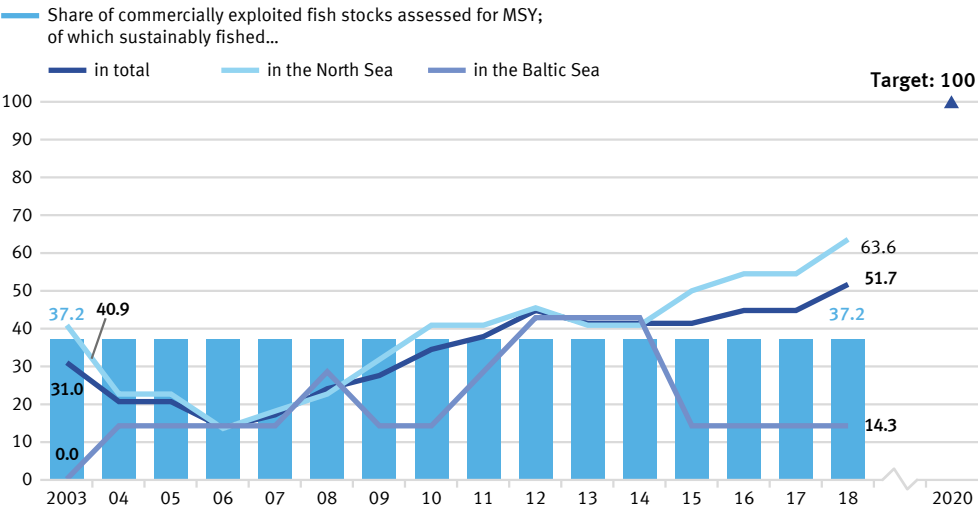
Protecting the oceans – *Protecting and sustainably using oceans and marine resources*

14.1.b Share of sustainably fished fish stocks of fish in the North Sea and Baltic Sea



Share of fish stocks assessed for MSY in the North and Baltic Seas which are sustainably fished

In %



Source: European Commission

Definition of the indicator

The indicator shows what share of all the commercially exploited fish populations in the North and Baltic Seas are sustainably fished –managed in such a way as to provide the Maximum Sustainable Yield (MSY).

Targets and intention of the German Government

Biodiversity is fundamental to all human life. Only if natural capital – like the fish stocks in the North and Baltic Seas, for example – is protected and maintained can it continue to provide future generations with critical ecosystem services.

The aim of the indicator is to describe the extent to which the target defined in the Regulation on the Common Fisheries Policy has been achieved. That target is for commercially exploited fish stocks to be sustainably managed in accordance with the MSY approach by 2020.



Content and development of the indicator

Not all fish stocks are inspected with reference to their sustainable management. Therefore, the number of fish populations that are sustainably managed using the MSY approach should always be viewed in relation to the totality of fish stocks. Although it would be desirable to expand the inspection to include as many stocks as possible, the high cost of these inspections means that the prospect of recording all stocks, even those that are economically less relevant and fished less extensively, is unrealistic.

Based on current estimates, a total of 58 fish stocks in the North Sea and 20 in the Baltic Sea are commercially exploited. The number of stocks inspected in accordance with the MSY approach is currently seven for the Baltic Sea; for the North Sea, a total of 22 stocks are taken into account. This means only slightly over a third of all managed stocks are fully analysed for sustainable management. All other populations, for which insufficient data were available for an inspection according to the MSY model, are not included in this indicator.

Stocks are considered to be sustainably managed if the actual catch per year and fish stock does not exceed the scientifically recommended amount based on the MSY approach or meets the requirements of a long-term management plan deemed to be sustainable according to the MSY approach. In this context, a fish stock is defined as an independently reproducing population of a specific species of fish. One species can therefore have multiple stocks, and different guideline values for catch quantities can be in place for each stock. As a rule, each stock is assigned a guideline value according to its previous development.

The guideline values for the managed stocks are calculated by the International Council for the Exploration of the Sea (ICES).

The annual calculation of sustainable catch quantities according to the MSY approach is based on stochastic predictions, which use calculations relating to the stocks' historical development. Information about quantities of fish landed is based on reported catches. Random samples taken from those catches provide insights into the demographic parameters of the stock, such as age and size. Scientific surveys conducted on research ships independently of the fishing industry are another important source of information about the health of fish stocks.

The share of sustainably fished stocks among all the stocks investigated according to the MSY approach was 51.7% for the North and Baltic Seas together in 2018. That share was 63.6% for the North Sea and 14.3% for the Baltic Sea. Looking at the development between 2013 and 2018, the overall trajectory is positive.

It is difficult to assess this indicator, as it is influenced not only by the actual development of the stocks but also by the choice of stocks for inspection. As the exact constellation of data sources varies from year to year, any comparison between different years becomes complicated. In addition, the recommended catch quantities apply internationally and can be fulfilled only indirectly by the efforts of a single country.

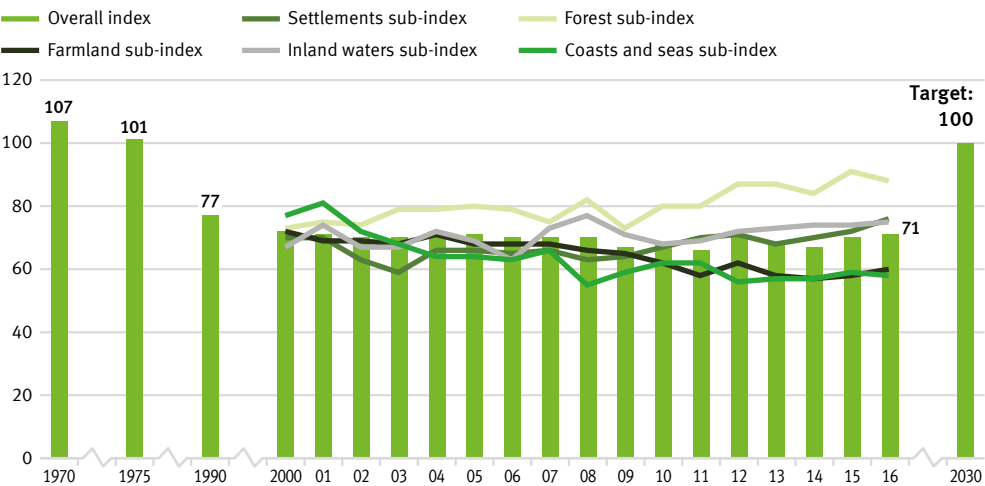
15 LIFE ON LAND

Biodiversity – Conserving species – Protecting habitats

15.1 Biodiversity and landscape quality	118



Population of representative bird species in different main habitats and landscape types
2030 = 100



The sub-indicator for the Alps is currently left out of the whole data set. The historical values for 1970 and 1975 are reconstructed.
Source: Federal Agency for Nature Conservation

Definition of the indicator

The indicator shows the development of population numbers for 51 selected bird species in the form of an index.

Targets and intention of the German Government

Having a wide variety of animal and plant species is a fundamental prerequisite for a healthy natural environment and an important foundation for human life. To preserve biodiversity and simultaneously safeguard quality of life for humans, the provisional goal of the German Government is an index value of 100 by 2030 – a target that was originally meant to be achieved by 2015. This target value is currently being reviewed as part of a research project and may be amended in future on the basis of new findings.



Content and development of the indicator

Other species besides birds rely on landscapes with intact, sustainably used habitats, which means that the indicator also indirectly reflects the development of many other species in the landscape and the sustainability of land use.

The calculations for this indicator are based on changes in the populations of 51 bird species, which together represent the most important types of landscape and habitat in Germany: ten species each for the sub-indicators farmland, settlements, inland waters, and coasts and seas, as well as eleven species for forests. The Alpine landscape is not currently taken into account, because of uncertainty of data.

The population size of each species is calculated annually from the results of bird-monitoring programmes by the Federation of German Avifaunists in cooperation with the Federal Agency for Nature Conservation and is expressed in relation to the target population size. The target value for each species is defined by a panel of experts. The historical values for 1970 and 1975 are reconstructed.

Each sub-indicator represents the arithmetic mean of the degrees of success achieved across the 10 or 11 selected avian species. The overall indicator is derived from a weighted summation of the sub-indicators. The weighting relates to the proportion of German territory which each main habitat or landscape type covers. On a provisional basis, the target values for the sub-indicators and the overall indicator have been applied unchanged to the 2030 target year.

In 1990, the indicator for biodiversity and landscape quality was significantly lower than the reconstructed values for 1970 and 1975. The indicator value stagnated over the last ten reporting years (2006-2016), reaching 70.5% of the target value in 2016 compared with 70.2% in 2006. If this trend continues, the goal for 2030 will not be achieved.

During the same period, however, the sub-indicators for the various types of habitat did not follow uniform trajectories. The farmland and coasts and seas sub-indicators fell during the last ten reporting years, to 60.5% and 58.0% of their target values in 2016 respectively. The equivalent values in 2006 were 68.0% for farmland and 63.2% for coasts and seas.

In contrast, the forest, settlement and inland-waters sub-indicators moved in a positive direction over the last ten reporting years. The forest sub-indicator reached 87.5% of its target value in 2016, compared with 78.6% in 2006. The settlement sub-indicator rose from 65.1% in 2006 to 75.5% in 2016. The figure for inland waters was 75.0% of the target value in 2016, compared with 63.1% in 2006.

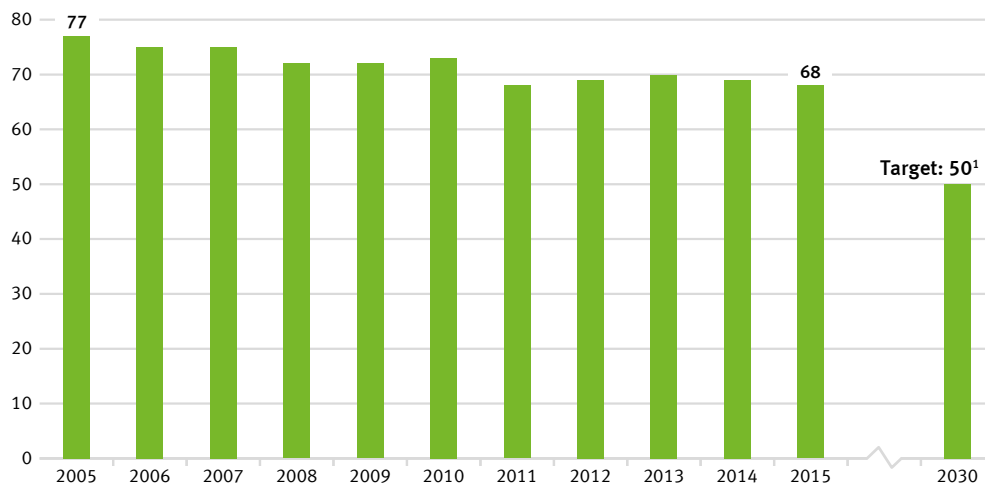
Ecosystems – *Protecting ecosystems, conserving ecosystem services and preserving habitats*

15.2 Eutrophication of ecosystems



Ecosystems where critical loads for eutrophication are exceeded due to nitrogen input

Proportion of sensitive ecosystems assessed in %



¹ The target of 50% equates to a 35% reduction in the proportion of land compared with 2005.

Source: German Environment Agency

Definition of the indicator

The indicator depicts the area of sensitive ecosystems where critical ecological loads have been exceeded due to atmospheric nitrogen inputs, as a proportion of the total area of sensitive ecosystems assessed.

Targets and intention of the German Government

Critical ecological loads are a measure of the sensitivity of an ecosystem to inputs of a pollutant. If the input of airborne pollutants are below those critical loads, current scientific knowledge suggests that the structure and function of an ecosystem will not suffer harmful effects. Almost half of all the ferns and flowering plants that are included on the red list in Germany are endangered by nitrogen inputs. The aim is to reduce the share of land that is subject to elevated inputs of nitrogen by 35% by 2030 compared with 2005. This means reducing that share to 50% of the area of all the sensitive ecosystems assessed.



Content and development of the indicator

Nitrogen, which escapes into the atmosphere bonded in ammonia and nitrogen oxides, can be introduced into ecosystems in gaseous form, dissolved in rain, or as a component of particulate matter. Emissions of ammonia and nitrogen oxides are depicted as part of indicator 3.2.a on emissions of air pollutants, and developments in that area directly affect the eutrophication of ecosystems. The sensitive ecosystems covered in the calculations for this indicator are forests, natural grassland, wetlands, marshes and heathland.

Excessive inputs of nitrogen compounds from the air into land ecosystems can result in nutrient imbalances. The alterations in nutrient availability can lead, for example, to changes in the species composition of an ecosystem, with organisms which prefer nitrogen-poor locations being driven out in favour of nitrogen-loving species. Meanwhile, many plants can be rendered vulnerable to frost, drought and pests by changes in nutrient availability. The effects of excessive nitrogen inputs often take several years to manifest themselves. Likewise, the positive effects of reduced inputs will become apparent only after an extended period.

For the purposes of evaluating nitrogen inputs, ecosystem-specific critical loads are determined which represent the saturation points below which, based on the latest knowledge available, the structures, functions and biological communities of an ecosystem remain protected. In total, around 11 million hectares, almost one third of the entire land mass of Germany, are assessed in this way.

In 2015, the critical loads for harmful nitrogen inputs were exceeded on 68% of the area of all the sensitive ecosystems assessed in Germany. Excesses were particularly high in parts of northern Germany, where agricultural activity releases large quantities of reactive nitrogen compounds.

Between 2005 and 2011, the proportion of areas in which critical loads for nitrogen were exceeded was reduced by nine percentage points. The indicator rose again slightly in the two subsequent years before returning to the 2011 level by 2015. The share of land where nitrogen was in excess of the critical load has thus not fallen any further since 2011.

The calculations for this indicator are produced by the German Environment Agency and derived from two data sets. The first of these is the critical-load data set, which the German Environment Agency provides for the purposes of international reporting under the aegis of the Geneva Convention on Long-Range Transboundary Air Pollution (CLRTAP). The tools used to determine that data set include the soil overview map of Germany, the map showing average annual rates of percolation into the soil, the map of land-use distribution and climatological data for Germany. The second data set comprises a time series of nitrogen inputs in Germany and was compiled as part of the PINETI III (Pollutant INput and EcosysTem Impact) project.

15 LIFE ON LAND

Ecosystems – Preventing deforestation and protecting soils worldwide

15.3.a, b Preservation or restoration of forests under REDD+ and investment in international soil protection

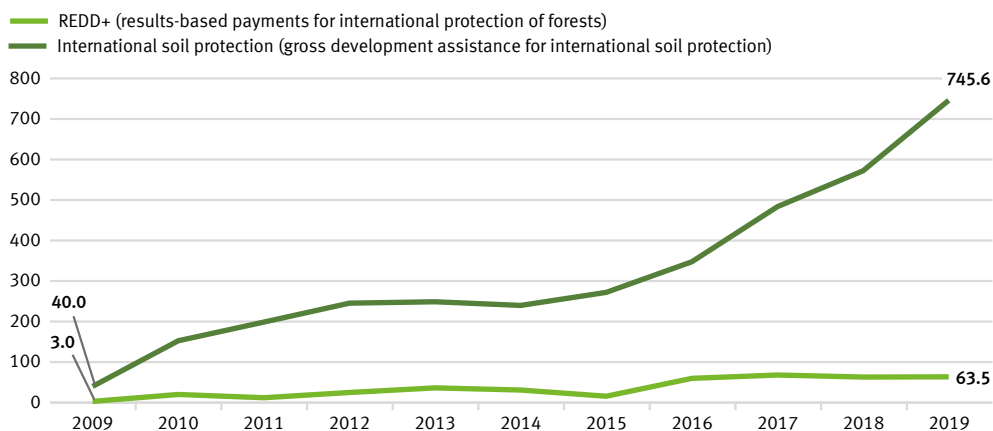
a) REDD+ rulebook



b) International soil protection



Payments to developing and emerging countries for the verified preservation and/or restoration of forests under the REDD+ rulebook and gross development assistance for international soil protection
in EUR million



Financial contributions before 2013 were made in anticipation of the REDD+ rulebook

Source: Federal Statistical Office, Federal Ministry for Economic Cooperation and Development

Definition of indicators

Indicator 15.3.a shows the results-based payments by Germany to developing and emerging countries for the verified preservation or restoration of forests under the REDD+ rulebook. Indicator 15.3.b covers Germany's gross bilateral development expenditure in connection with the implementation of the UN Convention to Combat Desertification (UNCCD) in developing and emerging countries.

Targets and intention of the German Government

Preventing deforestation and forest degradation (damage), managing forests sustainably, restoring forests and creating new woodland all directly and indirectly help to maintain biodiversity, improve soil, water and air quality, reduce soil erosion, cut CO₂ emissions, sequester carbon, and safeguard important prospects of development and income-generation for forest-rich countries. The aim is to keep increasing payments under the REDD+ rulebook until 2030. Healthy soils are an essential natural resource that is extremely difficult if not impossible to renew. They play a pivotal role in food production, the mitigation of the effects of frequent and extreme weather events, the conservation of biodiversity and the provision of essential



ecosystem services. The goal is therefore to continuously increase Germany's contribution to international soil protection until 2030. At the international level, combating desertification is one of the topics of the three Rio Conventions, alongside biodiversity and climate change.

Content and development of the indicators

Indicator 15.3.a is based on the rulebook for reducing emissions from deforestation and forest degradation, or REDD+. REDD+ is an international concept which financially rewards governments and local communities in developing countries for reducing deforestation and thereby demonstrably cutting emissions. Contributions are paid in line with the scale of the emissions reduction measured or the amount of additional carbon sequestered. The data sources for the indicator are the financial reports compiled by the Federal Ministry for Economic Cooperation and Development and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. The data have been collected annually since 2008. Duplicate counting is avoided by means of the mandatory establishment of a register.

The overall trend is positive. During the 2009-2019 reporting period, payments rose from EUR 3.0 million to EUR 63.5 million. The years 2011 and 2015 both saw a fall in payments. Of the funds paid out in 2019, EUR 50 million (78.7%) went to the multilateral Forest Carbon Partnership Facility (FCPF) and EUR 13.5 million (21.3%) to the bilateral REDD Early Movers Programme. No payments were made to the Amazon Fund for Forest Conservation and Climate in 2018 and 2019.

The indicator depicts part of Germany's official development expenditure on the preservation, sustainable management and restoration of forests. Germany also supports the FCPF Readiness Fund and other programmes. Altogether, total spending for international forest conservation for 2019 amounted to EUR 660.4 million.

The data source for indicator 15.3.b is the statistics on German official development assistance which are compiled by the Federal Statistical Office on behalf of the Federal Ministry for Economic Cooperation and Development. Relevant projects are any which Target to combat desertification or to mitigate the effects of droughts by preventing or reducing soil degradation, restoring degraded land or recultivating desert regions. However, the amounts paid give no indication as to the actual development of soil quality.

Gross development expenditure to combat desertification worldwide rose strongly in the reporting period starting in 2009. The indicator has developed positively with regard to the target set. Gross expenditure was most recently recorded at EUR 745.6 million for 2019, an 18-fold increase on the equivalent figure for 2009. A similar trend is discernible in the funds committed, which were most recently recorded at EUR 896.2 million.

Development spending under the REDD+ rulebook and in the context of the UNCCD is part of climate finance (indicator 13.1.b) and of official development assistance (indicator 17.1).

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

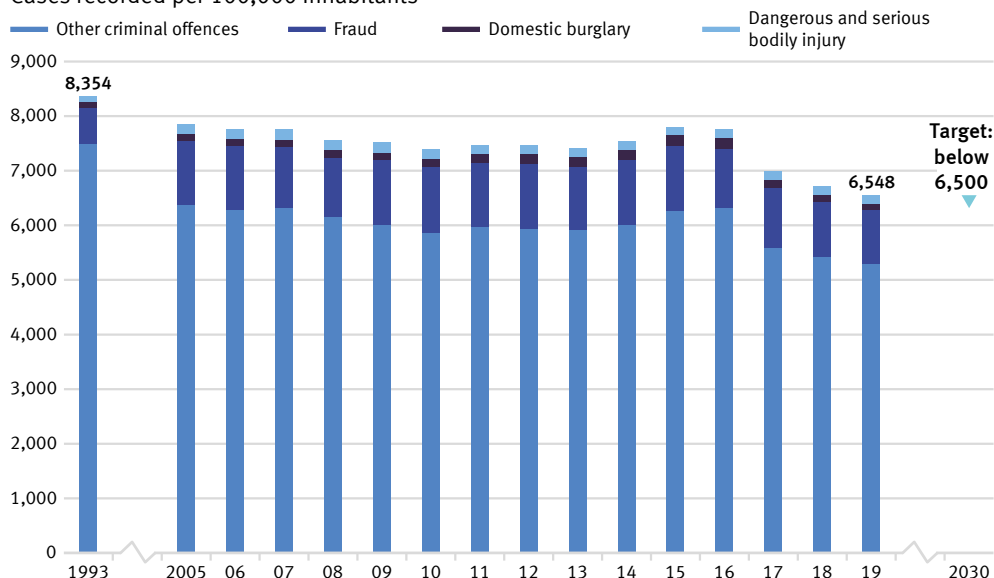
Crime – Further increasing personal security

16.1 Criminal offences



Criminal offences

Cases recorded per 100,000 inhabitants



According to the Federal Criminal Police Office, the population numbers relate to the previous year.

Source: Federal Criminal Police Office, Federal Statistical Office

Definition of the indicator

The indicator shows the number of criminal offences reported to the police per 100,000 inhabitants.

Targets and intention of the German Government

A safe environment in which people can live without fear of lawlessness and crime is an essential prerequisite for sustainable development. The target is therefore to bring the number of recorded criminal offences per 100,000 inhabitants down to less than 6,500 by 2030.

Content and development of the indicator

The indicator covers all criminal offences recorded in the Police Crime Statistics. These are criminal offences reported to and fully processed by the police, except offences against the security of the state, traffic offences and administrative offences.



Criminal offences committed outside the Federal Republic of Germany are not included, nor are offences that are not within the remit of the police, such as financial and tax offences, or are reported directly to and processed by the public prosecution office, such as offences relating to false testimony in court.

The Police Crime Statistics publications are compiled annually based on the data available from the Land Criminal Police Offices and the Federal Criminal Police Office. To calculate the number of criminal offences per 100,000 inhabitants, (extrapolated) population figures based on the 2011 census are used for the entire time series. This methodology allows comparisons over time to be made from 1993 onwards. It should be noted that this results in discrepancies in relation to the Police Crime Statistics data published prior to 2013.

Changes in the Police Crime Statistics do not always reflect actual changes, as the statistics cover only that proportion of criminal activity that officially comes to the attention of the police. Since there is no statistical data on offences which go unreported, such crimes cannot be reflected in the Police Crime Statistics. However, the proportion of reported versus unreported crime was investigated in 2012 and 2017 by means of the German Victim Survey. For the offences dealt with in the survey, no statistically significant change in reporting rates was found between 2012 and 2017.

The number of offences was 6,548 per 100,000 inhabitants in 2019. If the trend seen in recent years continues, the target value of fewer than 6,500 offences set for 2030 will be achieved. The indicator fell by 21.6% between 1993 and 2019. This trajectory, however, has not been continuous. For instance, it increased from 2000 to 2004, before entering a slight decline which continued until 2010. The large number of people who entered Germany as refugees and asylum-seekers from 2015 on is also reflected in the Police Crime Statistics, with violation of the legislation concerning foreigners (e.g. illegal entry) soaring by 211.8% in 2016 compared with 2014. Such offences had fallen drastically by 2019, though, when they made up only 3% of all criminal offences. Even when violations of the legislation concerning foreigners are accounted for, the total number of criminal offences registered by the police was lower in 2019 than in previous years.

In 2019, the total number of criminal offences registered by the police was 5.4 million. Of these, 1.6% involved domestic burglary, 15.3% involved fraud and 2.4% involved dangerous and serious bodily injury. Between 2014 and 2019, the incidence of domestic burglary fell by 42.7% and fraud fell by 14%, while cases of dangerous and serious bodily injury rose by 5.8%. The success rate for solving cases was 57.5% of all offences registered by the police in 2019, roughly the same as in the previous year. There were significant differences, however, depending on the type of criminal offence. For domestic burglary, for example, the rate of cases solved was only 17.4%. By contrast, 66.6% of fraud offences and 82.9% of cases of serious and grievous bodily harm cases were cleared up. The comparatively low success rate for domestic burglary is related to a high rate of reporting combined with the comparatively infrequent existence of solid leads pointing to the perpetrators. This is in sharp contrast to cases of fraud and bodily injury. These crimes have high clear-up rates because, in most cases, the identity of the suspect becomes known to the police as the crime is reported.

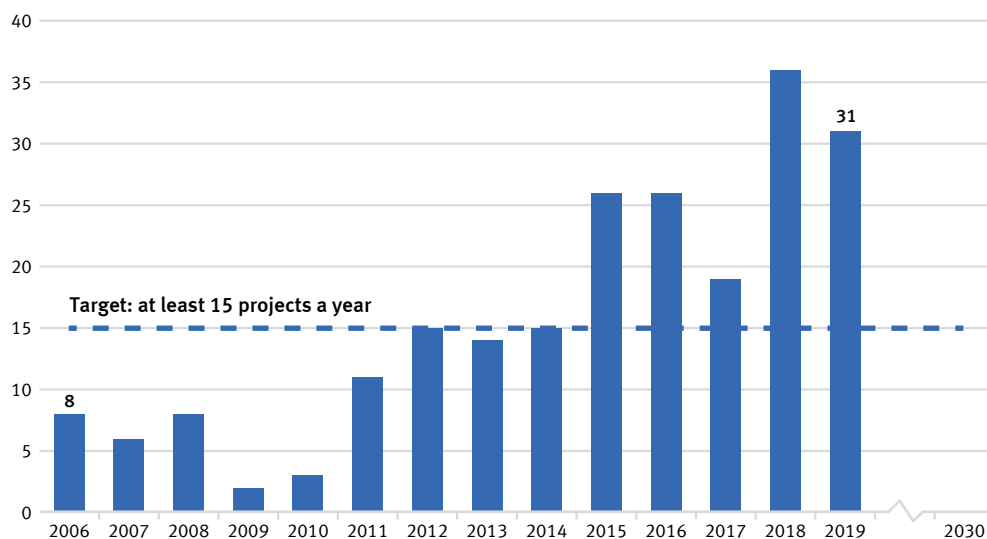
16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Peace and security – *Taking practical action to combat proliferation, especially of small arms*

16.2 Number of projects to secure, register and destroy small arms and light weapons carried out by Germany in affected regions of the world



Number of projects to secure, register and destroy small arms and light weapons carried out by Germany in affected regions of the world



Source: Federal Foreign Office

Definition of the indicator

The indicator shows the number of projects to secure, register and destroy small arms and light weapons (SALW) carried out in Africa, Eastern and South-Eastern Europe, Latin America and Asia with German financial support.

Targets and intention of the German Government

There can be no sustainable development without peace and no peace without sustainable development – as emphasised in the preamble to the 2030 Agenda for Sustainable Development. With the measures covered by this indicator, Germany contributes to peace-keeping in a specific and tangible way. The goal is for Germany to carry out at least 15 projects to secure, register and destroy SALW each year.

Content and development of the indicator

The data for the indicator come from a special evaluation by the Federal Foreign Office. This special evaluation found that the number of projects run per year rose from 8 in 2006 to 31 in 2019. According to the evaluation, the goal of Germany involving itself through at least 15 projects annually was already achieved for the first time in 2012. With the exception of 2013, that target was also reached or even exceeded in the years that followed. The regional focuses of Germany's involvement were in East and West Africa, the Western Balkans and Ukraine. Other projects were supported in Latin America and the Caribbean. It is possible that projects with run-times longer than one year were counted more than once.

The projects reported are not all financed exclusively by the Federal Foreign Office but may also receive third-party funds. The indicator therefore includes those projects only partially funded from the public purse. Notably, the number of projects carried out says nothing about their scale or their level of success. Clearly formulated and communicated criteria are essential, moreover, for a project to be unequivocally categorised as in line with the indicator's aims. The German Government's Annual Disarmament Report contains a list of projects with the objective of SALW control, alongside their sources of funding. Their number differs from those reported for this indicator. One reason for this may be the particular focus of individual projects, which affects whether they are taken into account. This means that the indicator depicts more than the extent of state involvement in these projects.

In accordance with the guidelines on statistical reporting issued by its Development Assistance Committee, the Organisation for Economic Co-operation and Development (OECD) also publishes detailed figures on projects for reintegration and SALW control (CRS Purpose Code 15240). There are some discrepancies here too, which may arise from a project, though its objective is SALW control, being part of a larger project with a focus which precludes its inclusion in this category.

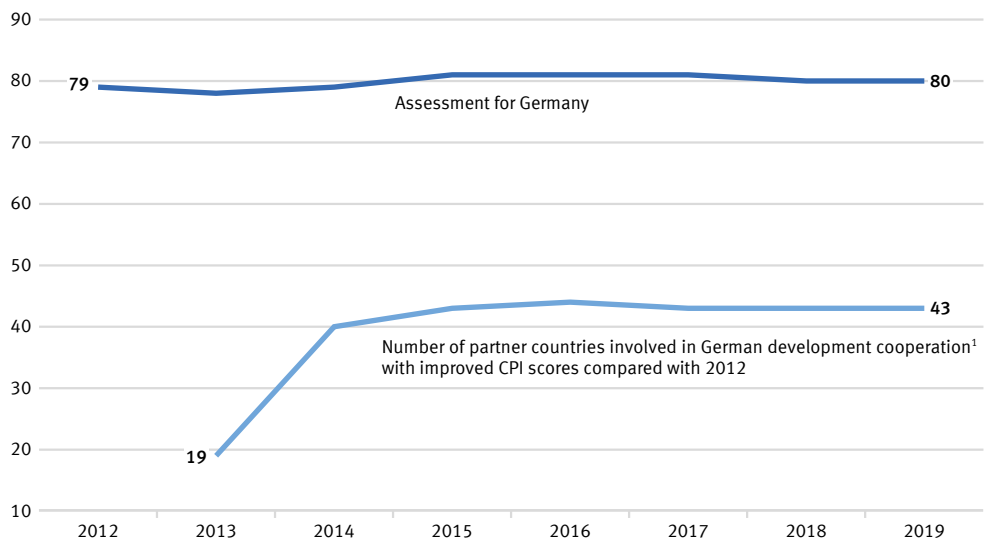
If the indicator were based on the number of projects counted in the above-mentioned OECD category, the target of at least 15 projects would have been reached in 2006 and every year since 2016. The target value would not have been achieved in the intervening years. In 2019, the OECD counted 22 projects. However, those projects also included measures for reintegrating former combatants from armed groups into society. Without such reintegration projects, the number of project exclusively or chiefly intended to combat SALW would be lower.

Good governance – Combating corruption

16.3.a, b Corruption Perceptions Index (CPI) in Germany and in partner countries in the German development cooperation

a) CPI Germany ☀️ b) Partner countries ☀️

Corruption Perceptions Index



¹ Including South Sudan

Source: Transparency International, Federal Ministry for Economic Cooperation and Development

Definition of indicators

The indicators show Germany's score in the Corruption Perceptions Index (CPI) maintained by Transparency International (16.3.a) as well as the number of partner countries involved in German development cooperation whose CPI scores have improved compared with 2012 (16.3.b). CPI scores reflect the extent to which a country's public sector is perceived to be corrupt.

Targets and intention of the German Government

The intention is to further improve the CPI score for Germany by 2030. In addition, the CPI scores of the majority of partner countries involved in German development cooperation are also to be improved. The base year in each case is 2012.



Content and development of the indicators

The CPI is a composite indicator that is based on various expert and corporate surveys regarding the perception of corruption in the public sector. Depending on the survey, underlying definitions of corruption may differ, and the sources used for calculations may change over time. The index includes all countries for which at least three selected surveys are available. As such, the CPI is the most comprehensive synoptic study on perceived public sector corruption.

In its analysis of the CPI, the Joint Research Centre of the European Commission points out that interpretation of the findings should take into account whether a change is statistically significant and that the outcomes in this indicator should be treated with caution even where this is the case.

Germany's score improved from 79 in 2012 to 80 in 2019. That is one point down from its score in 2017, which leaves Germany ranked in tenth place on the index. In this case, the change compared with 2012 cannot be considered statistically significant (at a significance level of 5%).

The Federal Statistical Office also gathers information on corruption as part of its satisfaction survey on public services. According to that survey, 4.7% of the population formed the impression during their interaction with public institutions in 2019 that public-service employees were susceptible to corruption. In the corresponding survey of companies, 4.0% of businesses had the impression that public-service employees were open to corruption.

The Police Crime Statistics record all criminal matters that become known to the police. In 2019, these included 913 cases of corruptibility, bribery, or acceptance or granting of advantages in the public sector. The Police Crime Statistics also list cases of corruptibility and bribery in commercial practice as well as what are referred to as offences associated with corruption, such as fraud and breach of trust, falsification of documents, anti-competitive agreements during tendering procedures, obstruction of justice, false certification by officials and breach of official secrecy.

Turning to German development cooperation, a total of 43 of the 85 partner countries evaluated in the CPI improved in 2019 compared with 2012. The number of partner countries developing in a positive direction increased in each year of the reporting period until 2016. It declined slightly in 2017 and stagnated thereafter. However, 20 partner countries involved in German development cooperation showed a statistically significant improvement (at a significance level of 5%) in 2019 over 2012. For comparison, six partner countries reported a significant improvement in 2014.

Development cooperation – *Supporting sustainable development*

17.1 Official development assistance as a proportion of gross national income

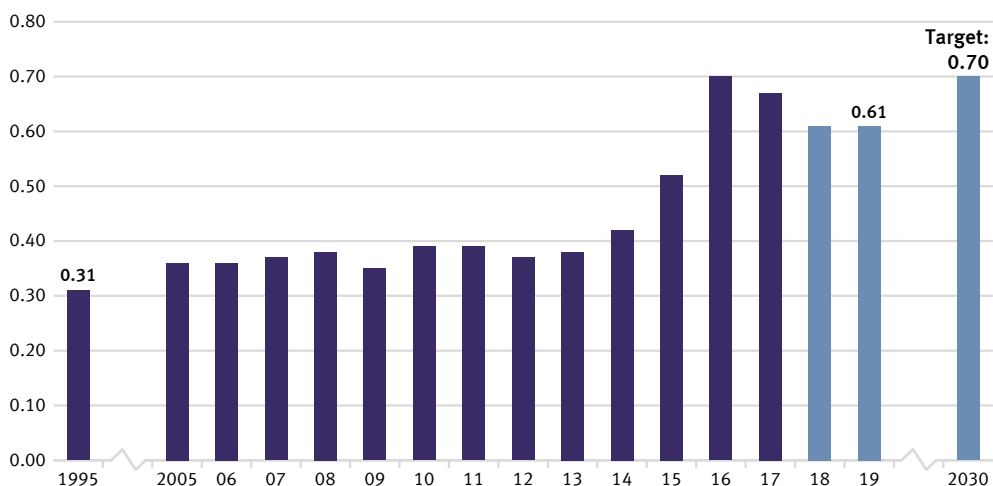


Official development assistance as a share of gross national income

In %

— Calculated as net expenditure

— Calculated in grant equivalents



Provisional data for 2019.

Source: Federal Statistical Office, Federal Ministry for Economic Cooperation and Development, Organisation for Economic Co-operation and Development

Definition of the indicator

The indicator shows public expenditure on official development assistance (ODA) as a percentage of gross national income (GNI). Since 2018, it has been calculated using the grant-equivalent method.

Targets and intention of the German Government

Through their development cooperation, donor countries play a role in reducing global poverty, preventing humanitarian need, safeguarding peace, achieving democracy, making globalisation fair and protecting the environment. To live up to that responsibility, the German Government has committed itself to the target, originally set by the UN General Assembly in 1970, of raising its ODA expenditure to 0.7% of its GNI. For the indicator maintained in the German Sustainable Development Strategy, the aim is to reach that target by the year 2030.



Content and development of the indicator

The data on which the indicator is based are the statistics on German official development assistance which are compiled by the Federal Statistical Office on behalf of the Federal Ministry for Economic Cooperation and Development. Whether a flow is counted as ODA is determined by guidelines issued by the OECD Development Assistance Committee (DAC). ODA comprises public funds spent in order to advance the economic and social development of developing countries. It primarily includes expenditure for financial and technical cooperation with developing countries, humanitarian aid and development-cooperation contributions to multilateral institutions such as the United Nations, the European Union, the World Bank or regional development banks. Under certain conditions, spending on peace missions, debt relief and certain items of development expenditure in the donor country – such as tuition costs for students from developing countries, domestic spending on refugees and funding for development-related research – can also be counted as ODA.

The DAC also defines the list of developing countries eligible for ODA. This includes the least developed countries (LDCs) as well as other countries with low and medium per capita GNI. As a rule, the list is updated every three years. Changes in the indicator may therefore be the result of one or more countries being added to or removed from the list.

In 2018, there was a change in the way ODA loans are evaluated, in that the previous net-flows principle was replaced by the grant-equivalent method. In this method, only the grant element of an ODA loan, once calculated, is counted as ODA. The intention behind the new methodology is to make ODA grants and ODA loans comparable.

As calculated using the new method, Germany's ODA came to EUR 21.6 billion in 2019, slightly higher than the EUR 21.2 billion recorded for 2018. In both years, ODA accounted for 0.61% of Germany's GNI. For comparison, net ODA spending (using the evaluation method that was standard until 2017) came to around EUR 21.5 billion in 2019. This represented a 1% drop from the previous year's figure of EUR 21.8 billion.

On the international scale, in 2019 Germany was once again the second-largest contributor in absolute terms, after the United States and ahead of the UK (provisional figures). Germany's ODA: GNI ratio of 0.61% was higher than the average for EU members of the DAC, which was 0.48% according to the provisional figures. Germany had the sixth-highest ODA:GNI ratio among the 29 members of the DAC. According to the provisional figures for 2019, the international target of 0.7% was met by five DAC countries: Luxembourg, Norway, Sweden, Denmark and the UK.

In addition to official development cooperation, private funds are also provided by such organisations as churches, foundations and associations. These chiefly take the form of contributions and donations. This private development cooperation, which does not affect the ODA figures, amounted to EUR 1.36 billion in 2019, the equivalent of a 0.04% share of GNI. Private direct investment in developing countries came to EUR 10.2 billion in 2019, according to the preliminary data.

17 PARTNERSHIPS FOR THE GOALS

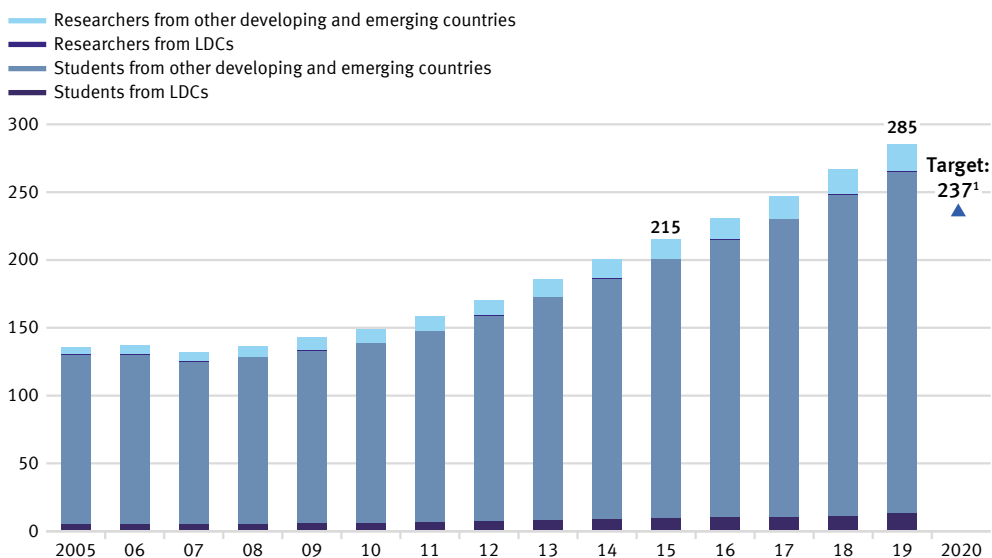
Knowledge transfer, especially in technical areas – *Sharing knowledge internationally*

17.2 Number of students and researchers from developing countries and LDC, per year



Students and researchers in Germany from developing and emerging countries

In thousand



Provisional data for 2019.

¹ The target for 2020 corresponds to a 10% increase in the number of students and researchers compared to 2015.

LDCs: least developed countries

Source: Federal Statistical Office

Definition of the indicator

The indicator records the number of students and researchers from developing and emerging countries each year or semester. The number of students and researchers from the least developed countries (LDCs) is shown separately.

Targets and intention of the German Government

Knowledge is a key driver of sustainable development, not only at the national level but also on the global scale. Germany's efforts to strengthen international knowledge-sharing are important in this context. For this reason, the aim of the German Government is to increase the total number of students and researchers from developing and emerging countries by 10% from 2015 to 2020 and to keep the number stable at that level thereafter.



Content and development of the indicator

The data for the indicator are official student statistics and the statistics on university personnel collated by the Federal Statistical Office. Data from the Federal Statistical Office both are complete counts based on the administrative data maintained by Germany's institutions of higher education. The indicator includes all students enrolled in the winter semester starting in the relevant year. To obtain that statistic, all the higher-education institutions access the required data via their administration programs on the day set for the survey. The number of researchers is recorded on the reporting date of 1 December. Researchers in this context are defined as full-time and part-time academic staff at German institutions of higher education (excluding undergraduate assistants). PhD candidates who are enrolled as students at an institution of higher education and simultaneously employed as academic staff can result in duplicate entries in the indicator.

The total number of all students and researchers from developing and emerging countries at German institutions of higher education in 2019 was 285,000. At 92.7%, students accounted for by far the larger share of the total indicator value.

In the 2019/20 winter semester, 264,555 students from developing and emerging countries were enrolled in German institutions of higher education. This corresponds to 9% of all enrolled students. The number of students from developing and emerging countries has increased steadily from the 134,462 recorded in 2005. The only decline recorded was in 2007. The figure for the 2019/20 winter semester represented a 6.6% increase on the approximately 250,000 students recorded in the 2018/19 winter semester. In winter semester 2019/20, a total of 13,067 students came from LDCs – 13.4% more than the previous year.

Of the students from developing and emerging countries, 44,490 came from China, 38,902 from Turkey and 25,149 from India. In total, 42.0% of them were female. Whereas the European developing and emerging countries send roughly equal numbers of women and men to study in Germany (54.0%), less than a quarter of students from Oceania are women (23.5%). The proportion of women among students from LDCs was slightly more than a quarter (27.1%).

In 2019, around 21,000 researchers from developing and emerging countries were members of academic staff at German institutions of higher education. They accounted for 5.1% of all academic staff at German institutions of higher education. The proportion of people from developing and emerging countries was thus markedly smaller among researchers than among students. Their numbers increased by 9.3% compared to the previous year and have more than tripled since 2005. A total of 681 researchers came from LDCs in 2019 (0.2% of all academic staff). The equivalent figure for the previous year was 687, so there was a slight reduction.

The target of raising the number of students and researchers from developing and emerging countries by 10% compared to the 215,000 recorded for 2015 was already achieved in 2017.

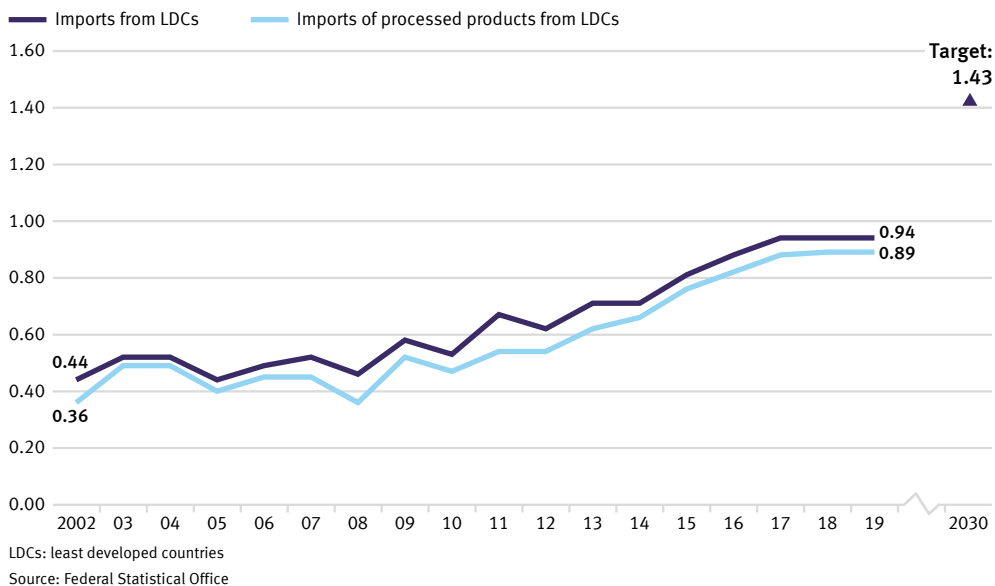
Opening markets – *Improving trade opportunities for developing countries*

17.3 Imports from least developed countries



Imports from least developed countries

Share of total imports to Germany in %



Definition of the indicator

The indicator shows what share of imports to Germany come from the least developed countries (LDCs), measured in EUR.

Targets and intention of the German Government

For global sustainable development to succeed, it is important to improve the trading opportunities available to developing and emerging countries. They need an open and fair trading system that will allow them to offer raw materials as well as processed products on the world market. The German Government has therefore set itself the target of doubling the proportion of its imports that come from LDCs between 2014 and 2030.



Content and development of the indicator

Information about imports to Germany is compiled from the foreign-trade statistics of the Federal Statistical Office. The type of the goods imported is recorded in detail in addition to their country of origin, value and weight. The service sector is not included in the foreign-trade statistics.

The various countries' classification as LDCs is taken from the list of ODA recipients maintained by the OECD's Development Assistance Committee (DAC). The indicator uses the list of LDCs valid according to the DAC for each particular reporting years. If the status of a country changes, this will have an impact on the indicator even if the value of imports from that country remains unchanged. However, changes in countries' status have scarcely affected the development of the indicator in the period shown.

The issue of reimports means that the possibility of duplicate entries in the numerator and denominator of the indicator cannot be ruled out. The fact that the imports from LDCs are viewed in relation to all German imports must also be taken into account. The consequence is that the value of the indicator depends not only on the absolute quantity of imports from LDCs but also on the value of all imports.

Alongside Germany's total imports from LDCs, the indicator also shows what share is made up of processed products. The intention here is to address the question, at least to some extent, as to whether Germany mainly uses LDCs as sources of basic materials for industrially produced goods or whether the LDCs themselves have a stake in the manufacturing process and the associated value creation. These include all goods not classified as raw materials in the classification according to product groups of the food and industrial economy (EGW). The term thus does not encompass products extracted from nature and not or hardly processed, such as petroleum, ores, timber in the rough or vegetable textile fibres. Conversely, cereals, vegetables, live animals, meat and milk are classified as processed products.

Imports from LDCs accounted for 0.94% of all imports to Germany in 2019 and were valued at EUR 10.4 billion. This equates to an increase of 116% compared with 2002, when that share was just 0.44%. However, the positive trend only goes back to 2008. The share of imports of processed products from LDCs rose even more sharply between 2002 and 2019 (+151%). It reached 0.89% of total imports to Germany in 2019 – compared to 0.36% in 2002 – which equates to a value of around EUR 9.9 billion. That share has stagnated in the last three reporting years. Nonetheless, if the increase over the last five years continues, is it to be expected that the benchmark will be reached.

Closer analysis of the various countries of origin reveals that almost three quarters of Germany's imports from LDCs in 2019 came from Bangladesh (57%) or Cambodia (16%). If one looks not only at the LDCs but at all developing and emerging countries, their share of total imports to Germany in 2019 was 21.8%, and processed products from those countries accounted for 20.11% (up from 13.67% and 12.17% respectively in 2002). Imports from LDCs, both in terms of all goods and in terms of processed goods, thus account for a rather small share of imports from developing and emerging countries. As is shown above, however, their share of Germany's total imports has increased more dramatically over time. Not only among developing and emerging countries but also more generally, China plays the most major role. Of all German imports in 2019, 9.97% came from China alone, with processed goods making up 9.94%.

INDICATOR STATUS SUMMARY

As means of providing at-a-glance information on the status of the sustainability indicators, in the report every indicator is assigned, if calculable, one of four possible “weather symbols”. This symbol is neither a political appraisal nor a forecast. Instead the symbols provide a first impression of developments, but do not replace a study of the texts with its background information and analyses. The manner, in which the symbols are assigned to the particular indicator, depends on the formulation of the respective target.

Indicators with absolute or relative target values

In most of the cases an indicator is supposed to reach a concrete absolute or relative target value by a target year (for example indicator 3.1.a). In the case of such a target formulation, firstly the average annual change over the last five years is calculated by means of the last six data points. This value is assumed for the prospective annual development up to the target year. Building on this development, a hypothetical target value is calculated and compared to the predefined target value of the indicator. Based upon the resulting difference between these two values, the indicators are assigned one of the following symbols:



If development continues, the target value would be met or the difference between the target value and the current value would be less than 5%;



If the trend continues, the indicator will foreseeably miss its target by at least 5% and at most 20% of the difference between the target value and the current value;



The indicator is developing in the desired direction toward the target, but if the trend continuous the target value will be missed by more than 20% of the difference between the target value and the current value;



The distance to the target is continuously high or is increasing. Thus, the indicator does not develop in the desired direction;

In exceptional cases, the above-mentioned calculation of the average change can be performed with four or five data points. If less than four suitable annual values are available, the calculation is not performed.

Indicators with target intervals

If the target is not an exact value, but a target interval that is predefined (for example indicator 11.1.a) the weakest of the targets, arising in the target interval, is adopted. If several target values are predefined for one indicator, that are to be reached in varying years (for example indicator 7.2.a), the status is determined by using the respectively next prospective target year.

Indicators with constant target each year

If a target value or a threshold is not to be reached in future, but every year (for example indicator 6.2), two information are combined for the evaluation: primarily the last achieved value as well as subordinately the average change over the last five years.

- If a target value or an even better value was reached in the last year and the average trend does not indicate towards a development in the wrong direction, a sun is pictured.
- If a target value or an even better value was reached in the last year, but the average trend indicates towards a development in the wrong direction, a sun is pictured which is, however, partially hidden by a cloud.
- If the target value has not been reached, but the average development points in the desired direction of the target, only a cloud is shown.
- If the target value is missed and the indicator has developed in the wrong direction on average of the recent changes, a thunderstorm is illustrated.

This procedure is used as well if an indicator is supposed to reach a concrete target value by an exact target year, but has reached the goal already or, if the target year coincides with the last reporting year as the standard procedure cannot provide for reliable statements concerning the development.

Indicators with directional targets without specific target values

In the case that only the direction of the supposed development is given for an indicator, but not a concrete target value (for example indicator 15.3.a), two information are combined for the evaluation: primarily the average change over the last five years as well as subordinately the last annual change.

- If both, the average as well as the last annual change point in the right direction, the symbol shown is a sun.
- If the average development is going in the right direction, but the last year was characterised by a trend towards the wrong direction or no change at all, the sun is complemented by a cloud.
- Vice versa, if the average value points towards the wrong direction or stagnates, but the last year appears as a turning point in the desired direction, a cloud is depicted.
- If neither the average value nor the last change are developing in the right direction, the shown symbol is a thunderstorm.

















Indicators with several target values
























If several targets are defined for one indicator, that are to be reached at the same time (for example indicator 10.1), the development is evaluated for each target. The most negative individual assessment is then decisive for the weather symbol assigned to the indicator.

Time-comparison of evaluations

















The synoptic table also provides information about the evaluation of an indicator in previous years. This indicates whether a weather symbol for an indicator was rather stable or volatile in the past years.
























INDICATOR STATUS SUMMARY

No.	Indicators	Targets	Evaluation in previous years				Current evaluation
1 No poverty							
Poverty - Limiting poverty							
1.1.a	Material deprivation	Keep the proportion of persons who are materially deprived considerably below the EU28 level by 2030	2015 	2016 	2017 	2018 	
1.1.b	Severe material deprivation	Keep the proportion of persons who are severely materially deprived considerably below the EU28 level by 2030	2016 	2017 	2018 	2019 	
2 Zero hunger							
Farming - Environmentally sound production in our cultivated landscapes							
2.1.a	Nitrogen surplus in agriculture	Reduction of the nitrogen surpluses of the overall balance for Germany to 70 kilograms per hectare of utilised agricultural area on an annual average between 2028 and 2032	2013 	2014 	2015 	2016 	
2.1.b	Organic farming	Increase the proportion of organically farmed agricultural land to 20 % by 2030	2016 	2017 	2018 	2019 	
Food security - Realising the right to food worldwide							
2.2	Support for good governance in attaining appropriate nutrition worldwide	Funds disbursed for the application of the guidelines and recommendations of the UN Committee on World Food Security to be increased appropriately as a percentage of total spending on food security by 2030	No evaluation possible				

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
3 Good health and well-being						
Health and nutrition - <i>Living healthy longer</i>						
3.1.a	Premature mortality (women)	To be reduced to 100 deaths per 100,000 inhabitants (women) by 2030	2015 	2016 	2017 	2018 
3.1.b	Premature mortality (men)	To be reduced to 190 deaths per 100,000 inhabitants (men) by 2030	2015 	2016 	2017 	2018 
3.1.c	Smoking rate among adolescents	Reduction to 7 % by 2030	2015 	2016 	2018 	2019 
3.1.d	Smoking rate among adults	Reduction to 19 % by 2030	No evaluation possible			2017 
3.1.e	Obesity rate among children	Increase to be permanently halted	No evaluation possible			
	Obesity rate among adolescents	Increase to be permanently halted	No evaluation possible			
3.1.f	Obesity rate among adults	Increase to be permanently halted	No evaluation possible			2017 
Air pollution - <i>Keeping the environment healthy</i>						
3.2.a	Emissions of air pollutants	Reduction of emissions to 55 % of 2005 level (unweighted average of the five pollutants) by 2030	2015 	2016 	2017 	2018 
3.2.b	Share of the population with excessive exposure to PM ₁₀	WHO particulate matter guideline value of 20 micrograms/cubic metre for PM ₁₀ to be adhered to as widely as possible by 2030	2015 	2016 	2017 	2018 
Global health - <i>Strengthening the global health architecture</i>						
3.3	Germany's contribution to global pandemic prevention and response	Expenditure to be increased by 2030	No evaluation possible			2020 


































INDICATOR STATUS SUMMARY

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
4 Quality education						
Education - <i>Continuously improving education and vocational training</i>						
4.1.a	Early school leavers	Reduce the proportion to 9.5 % by 2030	2016 	2017 	2018 	2019 
4.1.b	Persons with a tertiary or post-secondary non-tertiary level of education	Increase the proportion to 55 % by 2030	2016 	2017 	2018 	2019 
Prospects for families - <i>Improving the compatibility of work and family life</i>						
4.2.a	All-day care provision for 0 to 2-year-old children	Increase to 35 % by 2030	2017 	2018 	2019 	2020 
4.2.b	All-day care provision for 3 to 5-year-old children	Increase to 60 % by 2020 and 70 % by 2030	2017 	2018 	2019 	2020 

















No.	Indicators	Targets	Evaluation in previous years			Current evaluation
5 Gender equality						
Equality - Promoting equality and a partnership-based division of responsibilities						
5.1.a	Gender pay gap	Reduce the gap to 10 % by 2020, maintained until 2030	2016 	2017 	2018 	2019 
5.1.b	Women in management positions in business	30 % women in supervisory boards of listed and fully co-determined companies by 2030	No evaluation possible			2020 
5.1.c	Women in management positions in the federal civil service	Equal-opportunity participation of women and men in civil service management positions by 2025	2014 	2015 	2017 	2019 
5.1.d	Proportion of fathers receiving parental allowance	65 % by 2030	2014 	2015 	2016 	2017 
Equality - Strengthening the economic participation of women globally						
5.1.e	Vocational qualification of women and girls through German development cooperation	To be increased gradually by a third by 2030 compared to 2015 as the base year	No evaluation possible			
6 Clean Water and sanitation						
Water quality - Reduction of substance pollution in water						
6.1.a	Phosphorous in flowing waters	Not exceeding benchmark values for specific types of water bodies at all monitoring points by 2030	2015 	2016 	2017 	2018 
6.1.b	Nitrate in groundwater	Compliance with the nitrate threshold value of 50 mg/l at all monitoring points by 2030	2015 	2016 	2017 	2018 
Drinking water and sanitation - Better access to drinking water and sanitation worldwide, higher (safer) quality						
6.2	Development cooperation for drinking water and sanitation	Give 10 million people access to water each year till 2030	No evaluation possible		2017 	2018 





























INDICATOR STATUS SUMMARY

No.	Indicators	Targets	Evaluation in previous years				Current evaluation
Drinking water and sanitation - <i>Better access to drinking water and sanitation worldwide, higher (safer) quality</i>							
6.2.a	Number of people gaining first-time or upgraded access to drinking water owing to German support	6 million people per year by 2030					No evaluation possible
6.2.b	Number of people gaining first-time or improved access to sanitation owing to German support	4 million people per year by 2030					No evaluation possible
7 Affordable and clean energy							
Resource conservation - <i>Using resources economically and efficiently</i>							
7.1.a	Final energy productivity	Increase by 2.1 % per year from 2008 to 2050	2016	2017	2018	2019	
7.1.b	Primary energy consumption	Reduction by 20 % by 2020, by 30 % by 2030, and by 50 % by 2050, all compared to 2008	2016	2017	2018	2019	
Renewable energies - <i>Strengthening a sustainable energy supply</i>							
7.2.a	Share of renewable energies in gross final energy consumption	Increase to 18 % by 2020, to 30 % by 2030, to 45 % by 2040 and to 60 % by 2050	2016	2017	2018	2019	
7.2.b	Share of electricity from renewable sources in electricity consumption	Increase to at least 35 % by 2020, and 65 % by 2030, and greenhouse gas neutrality of electricity generated and consumed in Germany by 2050	2016	2017	2018	2019	













No.	Indicators	Targets	Evaluation in previous years			Current evaluation
8 Decent work and economic growth						
Resource conservation - <i>Using resources economically and efficiently</i>						
8.1	Raw material input productivity	Trend of the years 2000-2010 to be maintained until 2030	2013 	2014 	2015 	2016 
Government debt - <i>Consolidating public finances - Creating intergenerational equity</i>						
8.2.a	Government deficit	Annual government deficit less than 3 % of GDP to be maintained until 2030	2016 	2017 	2018 	2019 
8.2.b	Structural deficit	Structurally balanced government budget, general government structural deficit must not exceed 0.5 % of GDP to be maintained until 2030	2016 	2017 	2018 	2019 
8.2.c	Government debt	Ratio of government debt to GDP must not exceed 60 % to be maintained until 2030	2016 	2017 	2018 	2019 
Provision for future economic stability - <i>Creating favourable investment conditions - Securing long-term prosperity</i>						
8.3	Gross fixed capital formation in relation to GDP	Appropriate development of the ratio, to be maintained until 2030	2016 	2017 	2018 	2019 
Economic performance - <i>Combining greater economic output with environmental and social responsibility</i>						
8.4	Gross domestic product per capita	Steady and appropriate economic growth	2016 	2017 	2018 	2019 
Employment - <i>Boosting employment levels</i>						
8.5.a	Employment rate, total (20 to 64-year-olds)	Increase to 78 % by 2030	2016 	2017 	2018 	2019 
8.5.b	Employment rate, older people (60 to 64-year-olds)	Increase to 60 % by 2030	2016 	2017 	2018 	2019 
Global supply chains - <i>Enabling decent work worldwide</i>						
8.6	Members of the Textiles Partnership	Significantly increase by 2030	No evaluation possible			2019 





















INDICATOR STATUS SUMMARY

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
9 Industry, innovation and infrastructure						
Innovation - <i>Shaping the future sustainably with new solutions</i>						
9.1.a	Private and public expenditure on research and development	At least 3.5 % of GDP per year by 2025	2015	2016	2017	2018
						
9.1.b	Rollout of broadband - share of households with access to gigabit broadband services	Universal gigabit network Roll-out by 2025	No evaluation possible			
10 Reduced inequalities						
Equal educational opportunities - <i>Improving educational success of foreigners in German schools</i>						
10.1	Foreign school graduates	Increase the proportion of foreign school leavers with at least a secondary general school certificate by 2030	2016	2017	2018	2019
						
		Bring their proportion into line with that of German school leavers by 2030	2016	2017	2018	2019
						
Distributive justice - <i>Preventing excessive inequality within Germany</i>						
10.2	Gini coefficient of income after social transfers	Gini coefficient of income after social transfers to be below the EU28 figure by 2030	2016	2017	2018	2019
						

























No.	Indicators	Targets	Evaluation in previous years			Current evaluation
11 Sustainable cities and communities						
Land use - Using land sustainably						
11.1.a	Expansion of settle- ment and transport area	Reduction to under 30 ha on average per day by 2030	2015 	2016 	2017 	2018 
11.1.b	Loss of open space area	Reduce the loss of per capita open space area	2015 	2016 	2017 	2018 
11.1.c	Density of settlements	No reduction in the density of settlements	2015 	2016 	2017 	2018 
Mobility - Guaranteeing mobility - Protecting the environment						
11.2.a	Final energy consumption in goods transport	Reduction by 15 to 20 % by 2030	2015 	2016 	2017 	2018 
11.2.b	Final energy consumption in passenger transport	Reduction by 15 to 20 % by 2030	2015 	2016 	2017 	2018 
11.2.c	Accessibility of medium-sized and large cities by public transport	Reduction of average travel time by public transport	No evaluation possible			
Housing - Affordable housing for all						
11.3	Housing cost overload	Reduce the proportion of people who are overburdened to 13 % by 2030	2016 	2017 	2018 	2019 
Cultural heritage - Improving access to cultural heritage						
11.4	Number of objects in the German Digital Library	Increase in the number of objects in the network of the German Digital Library to 50 million by 2030	2017 	2018 	2019 	2020 


















INDICATOR STATUS SUMMARY

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
12 Responsible consumption and production						
Sustainable consumption - Making consumption environmentally and socially compatible						
12.1.a	Market share of products certified by publicly managed eco-labelling schemes	Increase the market share to 34 % by 2030	No evaluation possible	2017	2018	
						
12.1.b	Global environmental impact by private household consumption					
12.1.ba	Use of raw materials	Steady reduction	No evaluation possible	2015	2016	
						
12.1.bb	Energy consumption	Steady reduction	No evaluation possible	2015	2016	
						
12.1.bc	CO ₂ emissions	Steady reduction	No evaluation possible	2015	2016	
						
Sustainable production - Steadily increasing the proportion of sustainable production						
12.2	EMAS eco-management	5,000 locations of organisations by 2030	2016	2017	2018	2019
						
Sustainable procurement - Giving shape to the public sector's exemplary role in sustainable procurement						
12.3.a	Paper with Blue Angel certification as a proportion of the direct federal administration's total paper consumption	Increase the proportion to 95% by 2020	No evaluation possible			
12.3.b	CO ₂ emissions of motor vehicles of the public sector mileage	Significantly reduce	No evaluation possible			

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
13 Climate action						
Climate protection - <i>Reducing greenhouse gases</i>						
13.1.a	Greenhouse gas emissions	Reduce by at least 40 % by 2020, by at least 55 % by 2030 - in each case compared with 1990; greenhouse gas neutrality to be achieved by 2050	2016 	2017 	2018 	2019 
Climate protection - <i>Contribution to international climate finance</i>						
13.1.b	International climate finance for the reduction of greenhouse gases and adaption to climate change	Double finance by 2020 compared to 2014	2016 	2017 	2018 	2019 
14 Life below water						
Protecting the oceans - <i>Protecting and sustainably using oceans and marine resources</i>						
14.1.a	Nitrogen input in costal and marine waters					
14.1.aa	Nitrogen inputs via the inflows into Baltic Seas	Adherence to good quality in accordance with the Ordinance on the Protection of Surface Waters (Oberflächengewässerverordnung) (annual averages for total nitrogen in rivers flowing into the Baltic may not exceed 2.6 mg/l)	2016 	2017 	2018 	2019 
14.1.ab	Nitrogen inputs via the inflows into North Seas	Adherence to good quality in accordance with the Ordinance on the Protection of Surface Waters (annual averages for total nitrogen in rivers flowing into the North Sea may not exceed 2.8 mg/l)	2014 	2015 	2016 	2017 
14.1.b	Share of sustainably fished stocks of fish in the North and Baltic Sea	All fish stocks used for commercial purposes to be sustainably managed in accordance with the Maximum Sustainable Yield (MSY) approach by 2020	2015 	2016 	2017 	2018 

INDICATOR STATUS SUMMARY

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
15 Life on land						
Biodiversity - Conserving species - Protecting habitats						
15.1	Biodiversity and landscape quality	Reach the index value of 100 by 2030	2013 	2014 	2015 	2016 
Ecosystems - Protecting ecosystems, conserving ecosystem services and preserving habitats						
15.2	Eutrophication of ecosystems	Reduction by 35 % by 2030 compared to 2005	2012 	2013 	2014 	2015 
Ecosystems - Preventing deforestation and protecting soils worldwide						
15.3.a	Preservation or restoration of forests under REDD+	Increase payments by 2030	2016 	2017 	2018 	2019 
15.3.b	Investment in international soil protection	Increase payments by 2030	2016 	2017 	2018 	2019 
16 Peace, justice and strong institutions						
Crime - Further increasing personal security						
16.1	Criminal offences	Reduce the number of criminal offences recorded per 100,000 inhabitants to less than 6,500 by 2030	2016 	2017 	2018 	2019 
Peace and security - Taking practical action to combat proliferation, especially of small arms						
16.2	Number of projects to secure, register and destroy small arms and light weapons carried out by Germany in affected regions of the world	At least 15 projects per year by 2030	2016 	2017 	2018 	2019 

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
Good governance - Combating corruption						
16.3.a	Corruption Perception Index (CPI) in Germany	Improvement by 2030, compared to 2012	No evaluation possible	2017 	2018 	2019 
16.3.b	CPI in partner countries of German development cooperation	Improvement by 2030, compared to 2012	No evaluation possible		2018 	2019 
17 Partnerships for the goals						
Development cooperation - Supporting sustainable development						
17.1	Official development assistance as a proportion of gross national income (GNI)	Increase the proportion to 0.7 % of gross national income by 2030	No evaluation possible			
17.1	Expenditure for official development assistance as a proportion of gross national income (GNI)	Increase the proportion to 0.7 % of GNI by 2030	2014 	2015 	2016 	2017 
Knowledge transfer, especially in technical areas - Sharing knowledge internationally						
17.2	Number of students and researchers from developing countries and LDC, per year	Increase the number by 10 % by 2020, then stabilise	2016 	2017 	2018 	2019 
Opening markets - Improving trade opportunities for developing countries						
17.3	Imports from least developed countries (LDCs)	Increase the proportion by 100 % by 2030; compared to 2014	2016 	2017 	2018 	2019 

1 No poverty								
Poverty – Limiting poverty								
No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		in %						
1.1.a	Material deprivation							
	Materielly deprived persons Germany	11.6	11.3	10.7	9.7	9.1	7.8	6.8
	Materielly deprived persons EU-28	19.5	18.5	17.0	15.7	14.5	13.1	...
1.1.b	Severe material deprivation							
	Severely materially deprived persons Germany	5.4	5.0	4.4	3.7	3.4	3.1	2.6
	Severely materially deprived persons EU-28	9.6	8.9	8.1	7.5	6.6	5.9	5.5

... = Figure will be available later.
Sources: Federal Statistical Office, Eurostat

2 Zero hunger								
Farming – Environmentally sound production in our cultivated landscapes								
No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		Kilograms per hectare						
2.1.a	Nitrogen surplus in agriculture							
	Moving five-year average ¹	93.7	96.1	94.5	94.3	93.3	...	...
	Calculated annual values ²	91.7	94.1	85.3	102.6	99.0	90.6	89.1

1 Moving five-year average shown for each middle year.
2 Provisional data for 2018.
... = Figure will be available later.
Sources: Institute for Crop and Soil Science, Julius Kühn Institute and Institute of Landscape Ecology and Resources Management, University of Giessen

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Percentage of total utilised agricultural land						
2.1.b	Organic farming							
	Organically farmed agricultural land							
	Data from the Federal Statistical Office	6.0	6.2	6.3	6.8	6.8	7.3	7.8
	Data from the Federal Ministry of Food and Agriculture	6.3	6.3	6.5	7.5	8.2	9.1	9.7

Sources: Federal Statistical Office, Federal Ministry of Food and Agriculture

Food security – Realising globally the right of food

No.	Indicator	2016	2018
		Percentage of total spending on food security devoted to good governance	
2.2	Support for good governance in attaining appropriate nutrition worldwide		
	Disbursement made primarily to developing and emerging countries to support good governance in the context of efforts to promote food security	16.7	18.3

Sources: Federal Ministry for Economic Cooperation and Development, Federal Ministry of Food and Agriculture

3 Good health and well-being

Health and nutrition – Living healthy longer

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		Deaths per 100,000 population below the age of 70 ¹						
	Premature mortality							
3.1.a	Women	153	156	149	153	152	149	151
3.1.b	Men	292	292	281	288	284	276	279

¹ Age-standardised figures based on the old European standard population (excluding those less than one year old).

Source: Federal Statistical Office

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		As a % of all persons in each age group						
	Smoking rate							
3.1.c	Adolescent smokers (ages 12 to 17)							
	Girls	.	10	8	7	.	7	6
	Boys	.	9	8	5	.	7	5
		.	11	8	10	.	7	6
3.1.d	Adult smokers (age 15 and above)							
	Women	25	.	.	.	22	.	.
	Men	20	.	.	.	19	.	.
		29	.	.	.	26	.	.

. = Numerical value unknown or not be disclosed.

Sources: Federal Centre for Health Education, Federal Statistical Office

DATA ANNEX

No.	Indicator	2003 – 2006	2014 – 2017
		in %	
3.1.e	Obesity rate among children and adolescents		
	Overweight and obese 3 to 10-year-olds	12.9	12.3
	Overweight	7.7	8.4
	Obesity	5.2	3.9
	Overweight and obese 11 to 17-year-olds	18.1	18.7
	Overweight	9.8	10.7
	Obesity	8.3	8.0

The definition of overweight and obesity is not based on fixed thresholds but on percentiles.
Age-standardised figures based on population estimate for 31 December 2015.

Source: Robert Koch Institute

NO.	Indicator	2005	2009	2013	2017
		As a % of all adults			
3.1.f	Obesity rate among adults¹				
	Share of adults suffering from obesity				
	Total	12.5	13.3	14.1	14.8
	Women	11.8	12.4	12.8	13.0
	Men	13.0	14.2	15.4	16.4

1 Age-standardised figures based on the new European standard population.

Source: Federal Statistical Office

Air pollution – Keeping the environment healthy

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		2005 = 100						
3.2.a	Emissions of air pollutants¹							
	All air pollutants	87.1	86.3	83.3	82.4	79.8	78.4	75.3
	SO ₂	77.9	75.4	71.1	70.4	65.2	63.2	60.5
	NO _x	87.7	87.7	84.9	83.1	81.3	78.3	73.0
	NH ₃	102.6	105.1	105.3	106.7	105.3	103.8	99.2
	NM VOC	84.6	81.7	79.1	77.1	76.7	77.1	75.4
	PM _{2.5}	82.9	81.4	76.1	74.8	70.5	69.7	68.5

1 SO₂, NO_x, NH₃, NM VOC and PM_{2.5} average index of measured values.

Source: German Environment Agency

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		Population, in million						
3.2.b	Share of the population with excessive exposure to PM₁₀							
	Exposure to particulate matter (PM ₁₀) exceeding the WHO benchmark of 20 µg per m ³ of air as an annual average	12.5	17.2	11.9	5.0	3.8	2.5	2.9

Sources: German Environment Agency, World Health Organization

Global health – Strengthening the global health architecture

No.	Indicator	2015	2016	2017	2018	2019	2020
		in EUR million					
3.3	Germany's contribution to global pandemic prevention and response						
	Expenditure and commitments for global pandemic prevention and response						
	Pandemic prevention and response	137.9	151.4	220.8	260.7	272.5	353.1
	Seperate amount devoted to curbing the COVID-19 pandemic	.	.	.	.	.	635.2

All data are provisional.

. = Numerical value unknown or not be disclosed.

Sources: Federal Foreign Office, Federal Ministry of Education and Research, Federal Ministry of Health, Federal Ministry for Economic Cooperation and Development

4 Quality education

Education – Continuously improving education and vocational training

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Percentage of all 18 to 24-year-olds						
4.1.a	Early school leavers	9.8	9.5	9.8	10.3	10.1	10.3	10.3
	Female	9.3	9.0	9.5	9.6	9.0	9.1	8.7
	Male	10.3	10.0	10.1	11.0	11.1	11.4	11.8
4.1.b	Persons with a tertiary or post-secondary non-tertiary level of education							
		Percentage of all 18 to 24-year-olds						
	30 to 34-year-olds with a tertiary or other post-secondary academic or vocational qualification							
	Total	44.5	45.7	46.8	47.9	48.8	49.8	50.5
	Female	46.8	48.4	50.5	51.3	52.6	53.8	54.4
	Male	42.2	42.9	43.1	44.6	45.2	46.0	46.8
	With tertiary qualification	33.1	31.4	32.3	33.1	34.0	34.9	35.5

Source: Federal Statistical Office

Prospects for families – Improving the compatibility of work and family life

No.	Indicator	2014	2015	2016	2017	2018	2019	2020
		Percentage of all children in the same age group						
	All-day care provision for children							
	Children in all-day care in child daycare centres ¹							
4.2.a	Ages 0 to 2	15.3	15.9	16.2	16.2	16.5	16.9	17.1
4.2.b	Ages 3 to 5	41.4	43.7	44.5	45.3	45.9	46.9	47.6

1 Care period of more than seven hours in child daycare centres, excluding home-based care.

Source: Federal Statistical Office

5 Gender equality

Equality – Promoting equal and a partnership-based division of responsibilities

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		in %						
5.1.a	Gender pay gap							
	Difference between average gross hourly earnings for women and men	22	22	22	21	20	20	19

The data for years 2015 to 2019 have been revised.

Source: Federal Statistical Office

No.	Indicator	2015	2016	2017	2018	2019	2020
		Percentage of women, in %					
5.1.b	Women in management positions in business						
	On supervisory boards of listed and fully co-determined companies	21.3	23.8	28.1	30.9	33.9	35.2

Women on supervisory boards of 104 listed companies. - Figures as at in January each year.

Source: Frauen in Aufsichtsräten e.V.

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Percentage of women, in %						
5.1.c	Women in management positions in the federal civil service	30.6	32.1	33.6	.	35.2	.	37.6

Women in management positions in the federal civil service: figures as at 30 June each year, provisional data for 2019.

. = Numerical value unknown or not be disclosed.

Source: Federal Statistical Office

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		in %						

5.1.d Proportion of fathers receiving parental allowance

Proportion of children whose fathers receive parental allowance	28.0	30.0	32.6	34.8	36.9	38.8	40.4
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Year = child's year of birth. - Parental allowance plus and partnership bonus introduced on 1 July 2015.

Source: Federal Statistical Office

Equality – Strengthening the economic participation of women globally

No.	Indicator	2015	2018
		in thousand	

5.1.e Vocational qualification of women and girls through German development cooperation

Women and girls reached by the vocational qualification measures through German development assistance	355	863
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Sources: Federal Ministry for Economic Cooperation and Development, Centrum für Evaluation GmbH, Deutsche Gesellschaft für internationale Zusammenarbeit GmbH

6 Clean water and sanitation

Water quality – Reducing of substance pollution in water

No.	Indicator	2012	2013	2014	2015	2016	2017	2018

6.1.a Phosphorous in flowing waters

Percentage of monitoring points at which the benchmark values for good ecological status for the total phosphorous in flowing waters is not exceeded	35.7	36.1	34.8	30.6	37.1	35.5	44.1
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Source: German Environment Agency on the basis of data from the German Working Group on Water Issues of the Länder and the Federal Government

No.	Indicator	2012	2013	2014	2015	2016	2017	2018

6.1.b Nitrate in groundwater

Percentage of monitoring points at which the threshold ¹ is not exceeded	81.0	81.4	81.8	81.0	81.8	83.1	82.7
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1 Basis: EEA monitoring network: the threshold is an annual average of 50 milligrams nitrate per litre of groundwater.

Sources: German Environment Agency and Länder Initiative for a Core Set of Indicators, on the basis of data from the German Working Group on Water Issues of the Länder and the Federal Government

Drinking water and sanitation – Better access to drinking water and sanitation worldwide, higher (safer) quality

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Number of people reached, in million						
	Development cooperation for access to drinking water and sanitation							
	Access to drinking water and sanitation worldwide with German support							
6.2.a	Access to drinking water	.	.	.	.	.	.	14.3
6.2.b	Access to sanitation	.	.	.	.	.	.	6.1
	Access to drinking water and sanitation	11.6	31.0	11.0	14.3	28.6	60.3	.

. = Numerical value unknown or not be disclosed.

Source: Kreditanstalt für Wiederaufbau

7 Affordable and clean energy

Resource conservation – Using resources economically and efficiently

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		2008 = 100						
7.1.a	Final energy productivity	102.8	110.8	110.0	110.3	111.5	115.9	115.4
7.1.b	Primary energy consumption	96.1	91.7	92.2	93.8	94.0	91.3	88.9

Provisional data for 2019.

Sources: Federal Statistical Office, Energy Balance Association

Renewable energies – Strengthening a sustainable energy supply

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		in %						
7.2.a	Generation of renewable energies as a share of gross final energy consumption	13.8	14.3	15.2	14.9	16.0	16.8	17.7
		As a % of gross electricity consumption						
7.2.b	Electricity from renewable energy sources	25.1	27.4	31.5	31.6	36.0	37.8	42.0

Provisional data for 2018 and 2019.

Sources: Working Group on Renewable Energies Statistics, Federal Ministry for Economic Affairs and Energy, data as at December 2020

8 Decent work and economic growth

Resource conservation – Using resources economically and efficiently

No.	Indicator	2000	2011	2012	2013	2014	2015	2016 ¹
		2000 = 100						
8.1	Raw material input productivity ²	100	117	124	123	127	134	135
	Raw material input for consumption, investment and exports	100	108	102	104	104	101	103
	Value of consumption, investment and exports (price-adjusted)	100	126	126	128	131	135	139

1 Provisional data.

2 The raw material input productivity is defined as the (price-adjusted) value of goods and services for final consumption, investments and exports in relation to the mass of raw material used for final consumption, investment and exports.

Source: Federal Statistical Office

Government debt – Consolidating public finances – Creating intergenerational equity

No.	Indicator	2013	2014	2015	2016	2017	2018 ¹	2019 ¹
Government deficit, structural deficit								
		Percentage of gross domestic product (at current prices)						
8.2.a	Financial balance	0.0	0.6	1.0	1.2	1.4	1.8	1.5
8.2.b	Structural financial balance	0.6	0.9	1.1	0.9	0.6	0.8	0.6
		year-on-year change in %						
	Gross domestic product (price-adjusted) ²	0.4	2.2	1.5	2.2	2.6	1.3	0.6

1 Provisional data.

2 Previous year's prices chain-linked, 2015 = 100.

Sources: Federal Statistical Office, updated: August 2020; Federal Ministry of Finance, data as at October 2020

No.	Indicator	2013	2014	2015	2016	2017	2018 ¹	2019 ¹
		Ratio to gross domestic product at current prices, in %						
8.2.c	Government debt	78.7	75.6	72.3	69.3	65.1	61.8	59.6

1 Provisional data.

Sources: Federal Statistical Office; German Bundesbank, data as at October 2020

Provision for future economic stability – Creating favourable investment conditions – Securing long-term prosperity

No.	Indicator	2013	2014	2015	2016	2017	2018 ¹	2019 ¹
		As a percentage of gross domestic product at current prices						
8.3	Gross fixed capital formation in relation to GDP							
	Gross fixed capital formation	19.9	20.0	20.0	20.3	20.4	21.1	21.7

1 Provisional data.

Sources: Federal Statistical Office, data as at September 2020

Economic performance – Combining greater economic output with environmental and social responsibility

No.	Indicator	2013	2014	2015	2016	2017	2018 ¹	2019 ¹
		price-adjusted ² , in EUR thousand						
8.4	Gross domestic product per capita	36.2	36.8	37.0	37.6	38.4	38.8	38.9

¹ Provisional data.

² Previous years' prices chain-linked, reference year 2015.

Source: Federal Statistical Office, data as at September 2020

Employment – Boosting employment levels

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Persons in employment as a percentage of the population in the same age group						
	Employment rate							
8.5.a	Ages 20 to 64, total	77.3	77.7	78.0	78.6	79.2	79.9	80.6
	Women	72.5	73.1	73.6	74.5	75.2	75.8	76.6
	Men	82.1	82.2	82.3	82.7	83.1	83.9	84.6
8.5.b	Ages 60 to 64, total	50.0	52.6	53.3	56.0	58.4	60.3	61.8
	Women	42.8	46.2	47.9	50.8	53.3	55.4	57.1
	Men	57.7	59.4	59.1	61.5	63.7	65.4	66.6

Source: Federal Statistical Office, Eurostat

Global supply chains – Enabling decent work worldwide

No.	Indicator	Q4 2014	Q4 2015	Q4 2016	Q4 2017	Q4 2018	Q4 2019
		Number auf members					
8.6	Members of the Textiles Partnership						
	Partnership for Sustainable Textiles	59	172	188	147	128	124

Source: Deutsche Gesellschaft für internationale Zusammenarbeit GmbH

9 Industry, innovation and infrastructure

Innovation – Shaping the future sustainably with new solutions

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		Expenditure as % of gross domestic product						
9.1.a	Private and public expenditure on research and development	2.9	2.8	2.9	2.9	2.9	3.1	3.1

Figures for 2017 and 2018 partially estimated.

Source: Federal Statistical Office

No.	Indicator	End of 2015	End of 2016	End of 2017	End of 2018	Mid 2019	End of 2019	Mid 2020
		≥ 1,000 Mbps, as a % of households						
9.1.b	Rollout of broadband							
	Broadband availability in Germany							
	All wired technologies	.	.	.	27.3	34.1	43.2	55.9
	Fully fibre-optic networks (FTTB/H)	6.7	7.1	8.0	9.0	10.5	11.8	13.8
	Cable television (CATV)	.	.	.	23.7	29.3	37.8	50.2

. = Numerical value unknown or not be disclosed.

Source: Broadband Atlas of the Federal Ministry of Transport and Digital Infrastructure

10 Reduced inequalities

Equal educational opportunities – Improving educational success of foreigners in German schools

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		As a percentage of all foreign school leavers						
10.1	Foreign school graduates	89.3	88.1	88.2	85.8	81.8	81.8	82.4
	Foreign female school graduates	91.1	89.4	90.3	89.1	86.4	85.6	85.8
	Foreign male school graduates	87.6	86.8	86.2	82.9	78.0	78.8	79.5
		As a percentage of all German school leavers						
	German school graduates	95.4	95.1	95.0	95.1	94.8	94.6	94.5

Source: Federal Statistical Office

Distributive justice – Preventing excessive inequality within Germany

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Gini coefficient						
10.2	Gini coefficient of income after social transfers							
	Equivalised disposable income							
	Germany	0.30	0.31	0.30	0.30	0.29	0.31	0.30
	EU-28	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	Equivalised income before social transfers ¹							
	Germany	0.36	0.37	0.36	0.36	0.35	0.37	0.35
	Market income -							
	Germany	0.51	0.50	0.50	0.51	0.50	...	...
	Wealth							
	Germany	.	0.76	.	.	0.74	.	.
	Eurozone	.	0.69	.	.	0.70	.	.

¹ Pensions not included in social benefits.

... = Figure will be available later. . = Numerical value unknown or not be disclosed.

Sources: Federal Statistical Office, Eurostat, Deutsche Bundesbank, European Central Bank, German Institute for Economic Research

11 Sustainable cities and communities

Land use – Using land sustainably

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		in hectares per day						
11.1.a	Expansion of settlement and transport area							
	Four-year moving average ¹	74	73	69	66	62	58	56
	Annual value	69	71	63	61	51	55	58
	Transport area	11	19	23	10	/	8	16
	Residential building, industrial, commercial land	40	29	22	40	/	32	32
	Areas for sport, leisure and recreation, cemeteries	18	23	18	12	/	15	10

The data for assessing settlement and transport land is taken from the official survey of land. Since 2016, the survey has been based on ALKIS, the official land register information system. As a result, the possibilities of comparison with previous years are limited and it is more difficult to calculate the extent of changes. The settlement and transport land covered after the switch largely encompasses the same categories of land use as before.

1 The four-year moving average is determined, in each case, by the development of the settlement and transport area in the relevant year and the preceding three years.

/ = No figure due to limited reliability.

Source: Federal Statistical Office

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		Four-year moving average, in square metres per year						
11.1.b	Loss of open space area							
	Changes in open space area per capita							
	Total	– 3.8	– 3.6	– 3.7	– 2.9	/	– 2.8	– 2.8
	Non-rural areas	– 1.2	– 1.2	– 1.1	– 1.0	/	– 0.6	– 0.6
	Rural areas	– 5.7	– 5.5	– 5.7	– 4.3	/	– 4.4	– 4.5

A change in the data underpinning this indicator took effect on 31 December 2016, with a new land-use classification system being used from then on. This meant that no change could be recorded between 2015 and 2016. Comparisons over time are not possible without caveats.

/ = No figure due to limited reliability.

Sources: Federal Statistical Office, Federal Institute for Research on Building, Urban Affairs and Spatial Development, Johann Heinrich von Thünen Institute

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		2000 = 100						
11.1.c	Density of settlements							
	Inhabitants per square kilometre of settlement or transport area							
	Total	91	90	90	91	91	91	91
	Non-rural areas	97	97	98	99	99	99	99
	Rural areas	88	87	87	87	87	87	86

Sources: Federal Statistical Office, Federal Institute for Research on Building, Urban Affairs and Spatial Development, Johann Heinrich von Thünen Institute

Mobility – Guaranteeing mobility - Protecting the environment

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		2005 = 100						
11.2.a	Final energy consumption in goods transport							
	Final energy consumption for the transport of goods	100.5	101.4	101.7	102.8	103.9	105.3	106.2
	Good transport performance	106.8	109.7	111.4	114.5	117.5	120.1	122.0
	Energy consumption per tonne-kilometre	94.1	92.4	91.3	89.8	88.4	87.6	87.0
11.2.b	Final energy consumption in passenger transport							
	Passenger transport performance	98.9	98.8	99.8	98.9	99.6	99.7	99.1
	Energy consumption per passenger-kilometre	104.5	104.8	106.2	107.1	108.2	109.0	109.0
	Energy consumption per passenger-kilometre	94.7	94.3	93.9	92.3	92.0	91.4	90.9

Sources: Institute for Energy and Environmental Research, Federal Statistical Office

No.	Indicator	2012	2016	2018
		in minutes		
11.2.c	Accessibility of medium-sized and large cities by public transport			
	Travel times by public transport to the nearest medium-sized or major city			
	for the medium-sized and major cities of the year in question	23.5	22.4	21.9
	for the medium-sized and major cities of 2012	23.5	22.8	22.5

Source: Federal Institute for Research on Building, Urban Affairs and Spatial Development

Housing – Affordable housing for all

No.	Indicator	2013	2014	2015 ¹	2016	2017	2018	2019 ²
		in %						
11.3	Housing cost overload							
	Proportion of people living in households where more than 40 % of disposable income is spent on housing	16.4	15.9	15.6	15.8	14.5	14.2	13.9

1 Revised data.

2 Provisional data.

Source: Federal Statistical Office

Cultural heritage – Improving access to cultural heritage

No.	Indicator	2014	2015	2016	2017	2018	2019	2020
		in million						
11.4	Number of objects in the German Digital Library							
	All objects	11.2	18.2	20.4	23.7	24.2	32.1	33.0
	Objects with digitised media	.	5.4	6.5	7.9	7.9	11.3	11.3

Comment: The annual value is the 4th quarter value. - 2020 = data as at first half of the year.

. = Numerical value unknown or not be disclosed.

Source: Federal Government Commissioner for Culture and the Media

12 Responsible consumption and production

Responsible consumption – Making consumption environmentally and socially compatible

No.	Indicator	2012	2013	2014	2015	2016	2017	2018 ¹
		in %						
12.1.a	Market share of products certified by publicly managed sustainability-labelling schemes							
		3.6	4.4	5.9	7.6	8.6	8.3	7.5

1 Provisional data.

Sources: Gesellschaft für Konsumforschung, Federal Motor Transport Authority, Agricultural Market Information Company, Organic Food Production Alliance, Verkehrsclub Deutschland e. V., German Environment Agency

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		2010 = 100						
12.1.b	Global environmental impact by private household consumption							
	Direct and indirect use of raw materials	100	101	98	97	100	98	97
	Direct and indirect energy consumption	100	96	95	96	90	92	94
	Direct and indirect CO ₂ emissions	100	97	97	98	93	94	99

Provisional data for 2016; not directly comparable with previous years due to methodological changes.

Source: Federal Statistical Office

Responsible production – Increasing the proportion of sustainable production continuously

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Number of locations of organisations registered in Germany, and employees						
12.2	EMAS eco-management							
	Use of EMAS eco-management system in Germany							
	Locations of organisation registered with EMAS (number)	1,862	1,906	2,004	2,073	2,182	2,167	2,176
	Thousands of employees	788	785	801	842	985	929	988

Data from 2012 onwards revised by the Association of German Chambers of Commerce and Industry, which also revised the staff numbers data for 2013, 2016 and 2017.

Source: Association of German Chambers of Commerce and Industry

Sustainable procurement – Giving shape to the public sector's exemplary role in sustainable procurement

No.	Indicator	2015	2016	2017	2018	2019
		2015 = 100				
Sustainable public procurement						
12.3.a	Recycled paper bearing the Blue Angel label as a proportion of the total paper consumption of the direct federal administration	100	136.8	147.7	197.5	204.1
12.3.b	CO ₂ emissions per mileage of motor vehicles of the public sector ¹	100	98.0	97.1	96.9	...

Provisional data for 2019 recycled paper and total paper use.

¹ Motor vehicles of the public sector include all passenger cars and light commercial vehicles up to a weight of 3.5 tonnes. The public sector comprises the federal level, the Länder, municipalities and associations of municipalities, the police, the Federal Border Guard, fire protection and fire brigades.

... = Figure will be available later.

Sources: Competence Center for Sustainable Procurement, German Institute for Energy and Environmental Research, German Environment Agency, Federal Statistical Office

13 Climate action

Climate protection – Reducing greenhouse gases

No.	Indicator	2013	2014	2015	2016	2017	2018	2019 ¹
		1990 = 100						
13.1.a	Greenhouse gas emissions ²	75.2	72.1	72.4	72.6	71.5	68.6	64.3

¹ Provisional near real-time forecast.

² Greenhouse gases = carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulphur hexafluoride (SF₆), nitrogen trifluoride (NF₃), hydrofluorocarbons (HFC) and perfluorocarbons (PFC).

Source: German Environment Agency

Climate protection – Contribution to international climate finance

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		in EUR billion						
13.1.b	International climate finance for the reduction of greenhouse gases and adaptation to climate change							
	German payments chiefly to developing and emerging countries for climate finance	1.95	2.34	2.68	3.36	3.65	3.37	4.34

Source: Federal Ministry for Economic Cooperation and Development

14 Life below water

Protecting the oceans – *Protecting and sustainably using oceans and marine resources*

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		concentration in milligrams per litre (five-year moving average, weighted for discharge volume)						

14.1.a Nitrogen inputs via the inflows into the North and Baltic Seas

Total nitrogen concentration in the ...								
Baltic Sea ¹	3.4	3.4	3.1	3.0	3.2	3.1	3.2	
North Sea ²	3.2	3.1	3.0	2.9	3.0	...	...

1 Inflowing rivers are Peene, Trave, Warnow, Langballigau, Füsinger Au, Koseler Au, Schwentine, Kossau, Goddesdorfer Au, Oldenburger Graben, Schwartau, Lippingau, Hagenauer Au, Barthe, Duvenbaek, Hellbach, Maurine, Recknitz, Ryck, Stepenitz, Uecker, Wallensteingraben and Zarnow.

2 Inflowing rivers are Eider, Elbe, Ems, Weser, Rhein, Treene, Aarlauf, Bongsieler Kanal and Miele.

Due to differences in reporting periods, data are available for Baltic Sea inflows up to 2019 and for North Sea inflows up to 2017.

... = Figure will be available later.

Source: German Environment Agency (as reported by the Länder and by river basin commissions)

No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		in %						

14.1.b Share of sustainably fished stocks of fish in the North and Baltic Sea

Share of fish stocks assessed for MSY in the North and the Baltic Seas which sustainably fished

Share of commercially exploited fish stocks assessed for MSY	37.2	37.2	37.2	37.2	37.2	37.2	37.2	
of which:								
sustainably fished								
in total	44.8	41.4	41.4	41.4	44.8	44.8	51.7	
in the North Sea	45.5	40.9	40.9	50.0	54.5	54.5	63.6	
in the Baltic Sea	42.9	42.9	42.9	14.3	14.3	14.3	14.3	

Source: European Commission

15 Life on land

Biodiversity – Conserving species – Protecting habitats

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		2030 = 100						
15.1	Biodiversity and landscape quality							
	Population of representative bird species in different main habitats and landscape types							
	Overall index	68.0	66.2	70.4	67.8	67.0	69.8	70.5
	Forest sub-index	79.5	80.2	87.0	87.1	84.3	90.8	87.5
	Settlement sub-index	66.5	70.5	70.7	67.5	69.6	72.2	75.5
	Farmland sub-index	62.4	57.6	62.0	57.6	57.0	58.0	60.5
	Inland waters sub-index	68.2	69.5	72.1	73.0	73.6	74.0	75.0
	Coasts and seas sub-index	62.2	62.5	56.2	56.6	56.6	59.0	58.0
	Alps sub-index	/	/	/	/	/	/	/

For some bird species in the habitats of inland water and coast and seas, value for individual years have been extrapolated.

/ = Data series currently suspended due to limited reliability of the figures.

Source: Federal Agency for Nature Conservation

Ecosystems – Protecting ecosystems, conserving ecosystems services and preserving habitats

No.	Indicator	2010	2011	2012	2013	2014	2015
		Proportion of sensitive ecosystems assessed in %					
15.2	Eutrophication of ecosystems						
	Ecosystems where critical loads for eutrophication are exceeded due to nitrogen input	73	68	69	70	69	68

Source: German Environment Agency

Ecosystems – Preventing deforestation and protecting soils worldwide

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		in EUR million						
	Preservation or restoration of forests under REDD+ and investment in international soil protection							
	Payments to developing and emerging countries for the verified preservation and/or restoration of forests under the REDD+ rulebook and gross developing assistance for international soil protection							
15.3.a	REDD+ (results-based payments for international protection of forests)	36.3	31.0	15.7	59.8	68.0	63.0	63.5
15.3.b	International soil protection (gross development assistance for international soil protection)	248.7	239.7	271.9	347.4	483.4	571.8	745.6

Sources: Federal Statistical Office, Federal Ministry for Economic Cooperation and Development

16 Peace, justice and strong institutions

Crime – Further increasing personal security

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Cases recorded per 100,000 inhabitants						
16.1	Criminal offences							
	Total	7,404	7,530	7,797	7,755	6,982	6,710	6,548
	including:							
	Other criminal offences	5,894	5,987	6,244	6,306	5,572	5,412	5,280
	Fraud	1,165	1,200	1,190	1,094	1,103	1,016	1,003
	Domestic burglary	186	188	206	184	141	118	105
	Dangerous and serious bodily injury	159	156	157	170	166	165	160

According to the Federal Criminal Police Office, the population numbers relate to the previous year.

Sources: Federal Criminal Police Office, Federal Statistical Office

Peace and security – Taking practical action to combat proliferation, especially of small arms

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
16.2	Number of projects to secure, register and destroy small arms and light weapons carried out by Germany in affected regions of the world							
		14	15	26	26	19	36	31

Source: Federal Foreign Office

Good governance – Combating corruption

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
	Corruption Perceptions Index (100 corresponds to "no perception of corruption")							
16.3.a	Assessment for Germany	78	79	81	81	81	80	80
16.3.b	Number of partner countries involved in German development cooperation ¹ with improved CPI scores compared with 2012	19	40	43	44	43	43	43

¹ Including South Sudan.

Sources: Transparency International, Federal Ministry for Economic Cooperation and Development

17 Partnerships for the goals

Development cooperation – Supporting sustainable development

No.	Indicator	2013	2014	2015	2016 ¹	2017	2018	2019 ²
		in %						
17.1	Official development assistance as a proportion of gross national income							
	Calculated as net expenditure	0.38	0.42	0.52	0.70	0.67	.	.
	Calculated in grant equivalents	.	.	.	.	.	0.61	0.61

1 The target of 0,7 % of gross national income was not entirely fulfilled. The percentage share was 0.699.

2 Provisional data.

. = Numerical value unknown or not be disclosed.

Sources: Federal Statistical Office, Federal ministry for Economic Cooperation and Development, Organisation for Economic Co-operation and Development

Knowledge transfer, especially in technical areas – Sharing knowledge internationally

No.	Indicator	2013	2014	2015	2016	2017	2018	2019 ¹
		in thousand						
17.2	Number of students and researchers from developing countries and LDC, per year							
	Students and researchers from developing and emerging countries	185.8	200.3	215.3	230.7	247.4	267.3	285.5
	Students from LDCs	8.3	9.2	9.7	10.1	10.6	11.5	13.1
	Students from other developing and emerging countries	164.1	176.8	190.4	204.7	219.3	236.6	251.5
	Researchers from LDCs	0.5	0.5	0.5	0.6	0.6	0.7	0.7
	Researchers from other developing and emerging countries	12.9	13.8	14.6	15.3	16.9	18.4	20.2

LDCs: least developed countries.

1 Provisional data.

Source: Federal Statistical Office

Opening markets – Improving trade opportunities for developing countries

No.	Indicator	2013	2014	2015	2016	2017	2018	2019
		Share of total imports to Germany in %						
17.3	Imports from LDCs	0.71	0.71	0.81	0.88	0.94	0.94	0.94
	Imports of processed products from LDCs	0.62	0.66	0.76	0.82	0.88	0.89	0.89

LDCs: least developed countries.

Source: Federal Statistical Office



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