SUSTAINABLE DEVELOPMENT IN GERMANY

Indicator Report 2018

1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS	SUSTAINABLE DEVELOPMENT GOALS		

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Sustainable action means using available resources in a way that they meet the needs of today's generation without compromising the opportunities of future generations. The original, purely economic and exclusively material resource-based concept of sustainability has long broadened so that its meaning is much more holistic today. Moreover, sustainability does not stop at our borders. Sustainable action also means always keeping in mind the effects our actions will have on others. Therefore, sustainability today encompasses all economic, social and ecological aspects of our own ability to meet the challenges of the future and that of all people worldwide.

Acting sustainably requires not only good will but also all relevant information. In Germany as well as internationally, the Federal Statistical Office is an important stakeholder and recognised partner in the provision of such information. In cooperation with statistical offices around the world, we have not only developed the 244 relevant indicators which are used to measure at the global level the progress of the United Nations Plan of Action to transform our world for the people, the planet and prosperity – the Agenda 2030. When the German Sustainability Strategy was updated by the Federal Cabinet in November 2018, the Federal Statistical Office was tasked to underpin the German contribution to the concrete measurement of these global indicators with its own data from official statistics and to coordinate the integration of data from other authorities.

The Federal Statistical Office is in an excellent position to do so. We are not only recognised and valued for our neutrality, objectivity and scientific independence. Every two years since 2006, the Federal Statistical Office has published an indicator report on behalf of the Federal Government. The report is prepared in a professionally independent way and shows what progress Germany is making on its national path towards a future that is fair to its grandchildren.

The present Indicator Report 2018 is already the seventh of these reports. Once again, we illustrate the distance already covered, the way still to go and how fast Germany is progressing on its way to achieving the politically agreed targets, the achievement of which should help to make Germany more sustainable and thus fit for the future.

Dr. Georg Thiel
President of the Federal Statistical Office

The present seventh indicator report produced under the leadership of the Federal Statistical Office presents the development of the indicators of the German Sustainability Strategy. The target values to be achieved, the indicators, their data base, calculations and graphic representation have been determined by the Federal Government. As regards the structure of the German Sustainability Strategy and the selection of indicators, the Federal Government follows the content of the United Nations Agenda 2030 and the associated 17 goals for sustainable development (Sustainable Development Goals, SGDs). At least one indicator has therefore been included in the strategy for each of the 17 goals under the relevant topic.

In the following, each indicator of the German Sustainability Strategy is presented individually or together with a closely related indicator in a consistent format. The development of the indicator is visualised in a chart. The indicator is described in a three-part text. In the first section of each text, the respective indicator is briefly defined. In the following section, the politically determined target value is given, if necessary translated into a statistically assessed target value, and the political intention behind the selection of this indicator is explained. In a third section the content and development of the indicator are explained. Here it is described in detail what the indicator represents and what statements can be made on the basis of its values and their change. Moreover, the development of the indicator over time is described and put into a statistical context. All relevant information on the indicator and its development over time are thus presented in a well-structured and easily understandable manner on the respective double pages.

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 (for explanations see page 124 ff.). Weather symbols for the previous years also allow an assessment of how stable the "weather condition" has been so far. Nevertheless, the weather symbols just give a first idea of how the indicator is developing. They do not replace the explanatory texts with their background information.

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

CONTENTS

CONTENTS

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
Percentage shares

2017 Estimated values for EU-28.
Sources: Federal Statistical Office, Eurostat

Definition of the indicators

Material deprivation describes the lack of specific consumer goods and the involuntary foregoing of discretionary consumption for financial reasons. The two indicators represent the proportion of people out of the total population who are deemed to suffer either material deprivation (1.1.a) or severe material deprivation (1.1.b). The designation of (severe) material deprivation applies to all people whose household meets at least three (severely materially deprived: at least four) of nine defined criteria reflecting the financial restrictions of the household.

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Target and intention of the indicators

The indicator "material deprivation" also is part of the extensive reporting on poverty and wealth conducted by the Federal Government. By identifying individual deficiencies, it aims to act as a substitute for illustrating living conditions threatened by poverty. Therefore both, the percentage of persons who are materially as well as severely materially deprived, should stay below the level within the European Union.

Content and progress of the indicators

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

The indicators show the respective proportion of the population for which according to a self-assessment involuntary foregoing or deficiencies in several areas apply for financial reasons. The selected survey variables are expenditures based on a lifestyle that is considered appropriate, desirable or even necessary in Europe. These nine criteria used to characterise "material deprivation" are standardised across all countries in which EU-SILC is conducted, thereby allowing Europe-wide comparisons.

Specifically, the nine criteria cover: 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 difficulty, paying rent, mortgage or utility bills on time, ensuring adequate heating in the residence, eating meat, fish or an equivalent vegetarian meal every second day, spending one week's holidays per year outside the actual residence or meeting unplanned expenditures of a specific amount (poverty threshold of the previous year; 2017: 1,000 euros) from one's own financial resources.

Material deprivation is associated with the problem of social exclusion because participation in social life is jeopardised by the lack of financial means. The "severe material deprivation" indicator is also part of the "poverty or social exclusion" indicator, which is used to measure one of the five core objectives of the Europe 2020 strategy (combating poverty and social exclusion).

In 2017, 9.1 % of the population in Germany were classified as materially deprived, while 3.4 % were affected by severe material deprivation. The corresponding values were 11.1 % and 4.5 % in 2010 and slightly higher in some subsequent years, resulting in a slight decline over time, similar to the EU as a whole. However, the average values for persons in the EU are significantly higher than the respective values for Germany. For instance, the proportion of the materially deprived EU population in 2017 was 14.7 % according to the estimates of the Statistical Office of the European Union (Eurostat) and was therefore more than 50 % higher than in Germany. A total of 6.7 % of the EU population were considered as severely materially deprived persons. This rate is 97 % higher than the respective value in Germany. However, both the share of materially deprived and that of severely materially deprived people decrease more rapidly in the EU than in Germany. Consequently, it can be expected that the German and the European rates will converge if this development continues.
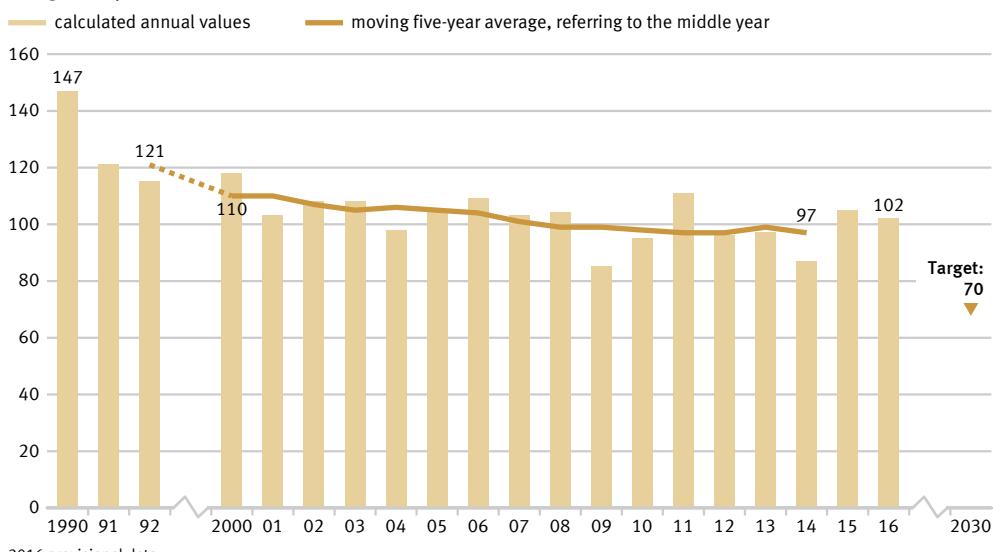
Farming – *Environmentally sound production in our cultivated landscapes*

2.1.a Nitrogen surplus in agriculture

Nitrogen surplus on utilised agricultural areas
Kilograms per hectare

calculated annual values — moving five-year average, referring to the middle year

2016 provisional data.

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 agricultural sector, calculated as nitrogen input minus removal of nitrogen, in kilograms per hectare of utilised agricultural area.

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Target and intention of the indicator

Excess nitrogen input into the environment causes pollution of groundwater and surface water, the oversupply of nutrients (eutrophication) in inland waters, lakes and onshore ecosystems, the generation of greenhouse gases and acidifying atmospheric pollutants, each with negative consequences for the climate, biodiversity and landscape quality. For the period 2028 to 2032, a reduction of the nitrogen surpluses of the overall balance for Germany to 70 kilograms per hectare of utilised agricultural area on an annual average should be achieved.

Content and progress of the indicator

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. The calculation takes into account nitrogen inputs by fertilisers, from biological nitrogen fixation, by atmospheric inputs which are not emitted by agriculture, by seed and planting material as well as imported and domestically produced feedstuff. Nitrogen removal results from plant and animal market products.

In 2016, fertilisers were the most important component of nitrogen input in the overall balance, accounting for 55.1 % (107 kilograms of nitrogen per hectare and year). Domestic feedstuff contributed 22.4 % (43 kg/ha) to nitrogen input, foreign feedstuff 12.1 % (23 kg/ha), the biological nitrogen fixation 6.6 % (13 kg/ha), the non-agricultural emissions 2.0 % (4 kg/ha) and seed and planting material 0.7 % (1 kg/ha). While the nitrogen input was reduced by about 9 % between 1990 and 2016, the nitrogen removal increased considerably more (by 41 %) between 1990 and 2016. In 2016, almost three quarters of the nitrogen removal from agriculture was accounted for by plant products and one quarter by animal market products.

The total balance of the indicator is calculated based on the concept of the "Hoftor-Bilanz" (farmgate balance), thus nitrogen flows within the operational cycle are not taken into account. The relevant time series for the indicator is based on the moving five-year average of the total balances of the relevant year as well as the two preceding and subsequent years. Thereby, yearly meteorological and market fluctuations, which cannot be influenced by farms, are balanced. The indicator does not provide an interpretation regarding the regional distribution of nitrogen surpluses. Even if the average value, defined as a national target for Germany, is not reached, regional nitrogen surpluses can be considerably higher than 70 kg per hectare and year.

During the period from 1992 to 2014, the nitrogen balance fell from 121 to 97 kg per hectare and year (– 19.5 %). Following the major reduction in nitrogen surpluses at the beginning of the time series, the nitrogen surplus fell by only 0.9 % between 2010 and 2014. If this trend continues, decreasing the nitrogen surplus to 70 kg/ha of utilised agricultural area on annual average between 2028 and 2032 may not be possible.

The significant reduction of the nitrogen surplus in the early 1990s resulted from diminished use of fertilisers and falling numbers of livestock in the new Länder. The marginal decline of the indicator in the remaining course of the time series is based on a minor reduction in mineral fertiliser use and improved harvest yields resulting from technical advances in plant production and breeding (more efficient nitrogen fertilisation, variety spectrum) combined with the simultaneous expansion in the cultivation of high-yield crop types (maize, wheat) as well as improved feed conversion by livestock.

The indicator reveals a direct connection to the indicators 3.2.a "Emissions of air pollutants", 6.1.b "Nitrate in groundwater", 14.1.a "Nitrogen input to the North and the Baltic Sea through German inflows" and 15.2 "Eutrophication of ecosystems".
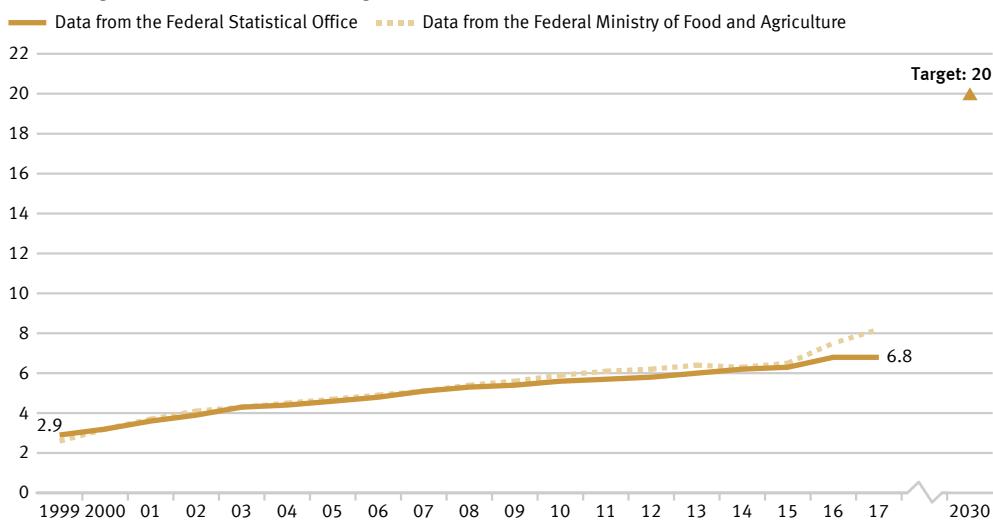
Farming – *Environmentally sound production in our cultivated landscapes*

2.1.b Organic farming

Organically farmed agricultural land
Percentage share of total utilised agricultural land

— Data from the Federal Statistical Office   ···· Data from the Federal Ministry of Food and Agriculture

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

Definition of the indicator

The indicator shows the share of total utilised agricultural area in Germany that is cultivated by organically managed farms subject to the control system regulated 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.

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Target and intention of the indicator

Organic farming preserves and protects natural resources to a particularly high degree. It has a range of positive effects upon nature, climate and the environment, and provides for the production of high quality food. For this reason, the proportion of organically farmed agricultural land should be 20 % by 2030.

Content and progress of the indicator

Data on organic farming are 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 amount of organically farmed land. The reference value for the proportional computation is the amount of utilised agricultural area determined annually as part of the land use survey. The utilised agricultural area includes all areas and sub-areas used for agricultural or horticultural purposes. Building and farmyard areas of agricultural holdings are therefore not included in the reference value.

The data collected by the BMEL include 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 a year. All reports for a current year are accumulated no later than the reporting date. The data from the BMEL contain slightly higher values. Amongst others, this is due to the fact that areas without a cut-off threshold are related to all areas with a cut-off threshold. This means that very small areas are also included in the numerator when calculating the proportion, whereas only areas above a certain minimum size are taken into account in the denominator.

According to data from the Federal Statistical Office, the share of organically farmed land increased from 2.9 % to 6.8 % between 1999 and 2017. As a result, in 2017 this amounted to an area of 1.14 million hectares. The data from the BMEL indicate a slightly higher share of organically farmed land in total agricultural land due to the methodology employed. Consequently, the value for 2017 was 8.2 % or 1.37 million hectares.

In recent years the amount of organically farmed land has increased further, but the annual percentage increase has eased, even stagnating between 2016 and 2017. If the trend continues at the level recorded, the target of reaching 20 % of organically farmed agricultural land by 2030 will not be met.

Germany's organically farmed land was used as follows in 2017: 55.9 % as permanent pasture, 42.5 % for arable land and 1.6 % for other land. In contrast, the main focus of agriculture as a whole was on arable land (70.5 %), while the share of permanent pasture was 28.3 % and other land accounted for 1.2 % of the total utilised agricultural area. According to the results of the 2016 farm structure survey, Bavaria held the largest share of organically farmed land among all Länder (around 23 %), followed by Brandenburg (12 %) and Baden-Württemberg (just under 12 %). The conversion to organic farming is promoted to varying degrees by the individual Länder.

According to Eurostat statistics, a total area of 11.9 million hectares was organically farmed in the states of the EU-28 in 2016. In regards to the total utilised agricultural area in individual EU countries, the highest share of organic farming land was recorded in Austria (21.2 %), followed by Sweden (18.3 %), Estonia (18.0 %), Italy (14.2 %) and the Czech Republic (14.0 %).
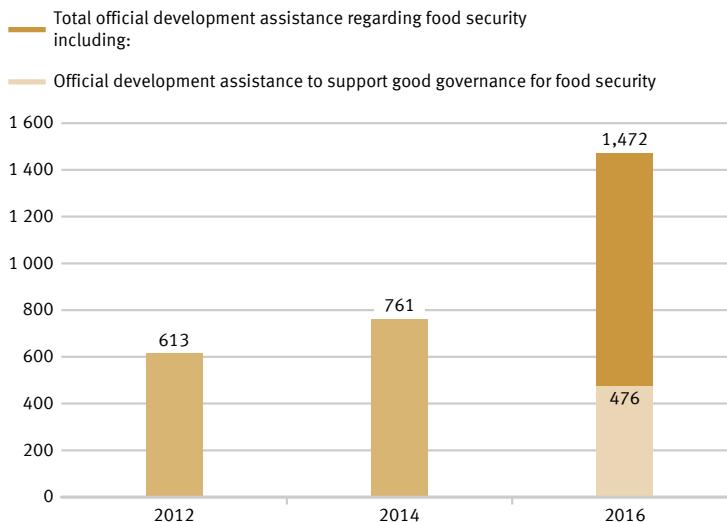
Food security – *Realising globally the right to food*

2.2 Support for good governance in attaining appropriate nutrition globally

Disbursements mainly to developing and newly industrialising countries to support good governance for food security
Millions of euros

▬ Total official development assistance regarding food security including:

▬ Official development assistance to support good governance for food security

For 2012 and 2014, the proportion of official development expenditure to support good governance for food security is unknown.

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

Definition of the indicator

The indicator measures the percentage share of disbursed funds in total expenditure on food security that is used for the implementation of relevant international norms and recommendations for the realisation of the right to food (defined by the Global Strategic Framework of the United Nations Committee on World Food Security).

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Target and intention of the indicator

The indicator is based on the assumption that supporting the implementation of international guidelines and recommendations for food security will improve nutrition. Thus, a substantial contribution towards fulfilling SDG 2 and towards the realisation of the right to food can be achieved. The share of disbursements used for good governance for food security should be increased adequately by 2030.

Content and progress of the indicator

The data collection for the indicator was conducted by the Federal Ministry of Food and Agriculture and the Federal Ministry for Economic Cooperation and Development. For this, a review of all project and programme documents on undertakings in the field of food security was carried out.

A project is counted if in the target of the impact matrix or project description a) the application of a guideline or recommendation of the Global Strategic Framework for Food Security is specifically mentioned or b) a key element with regard to the content of a guideline or recommendation is a substantial part of the undertaking and at the same time the undertaking aims to strengthen the legal, institutional or political framework. The payments must also be eligible as official development assistance (ODA). The data collected this way have been externally reviewed. This review has shown that a refined definition of governance and refined criteria for data collection are necessary to ensure comparability. Following the first collection for 2016, it is planned to compile the indicator every two years.

With 476 million euros, the governance section represents about one third (32 %) of ODA expenditures in the area of food security. In comparison to the total official development expenditures the governance section as well as the section of food security account only for a small share. A total of 22.4 billion euros in ODA was provided in 2016. Therefore, in the same year, 6.6 % of ODA was allotted to food security and 2.1 % to governance in this area.

The indicator represents a section of Germany's contribution to achieving the SDG 2. Overall, the situation in partner countries of the German Development Cooperation had initially improved significantly in recent years. Based on values from the Food and Agriculture Organization of the United Nations (FAO), the proportion of people suffering from malnutrition in partner countries fell from 19 % to 14 % between 2000 and 2015. More recent numbers are not yet available for individual countries, so that no statement can currently be made on the latest developments in the partner countries of German Development Cooperation.

The situation had also initially improved considerably worldwide: between 2000 and 2015, the proportion of people suffering from starvation fell from 15 % to 11 % of the total population. According to current estimates from the FAO, the proportion of malnourished people has increased worldwide since 2015 and encompassed 821 million in 2017. This corresponded to 11 % of the world population. According to the FAO, the reasons for the current increase in the number of people suffering from starvation are, besides the increased occurrence of extreme weather events and climate change, in particular continuing crises and conflicts.
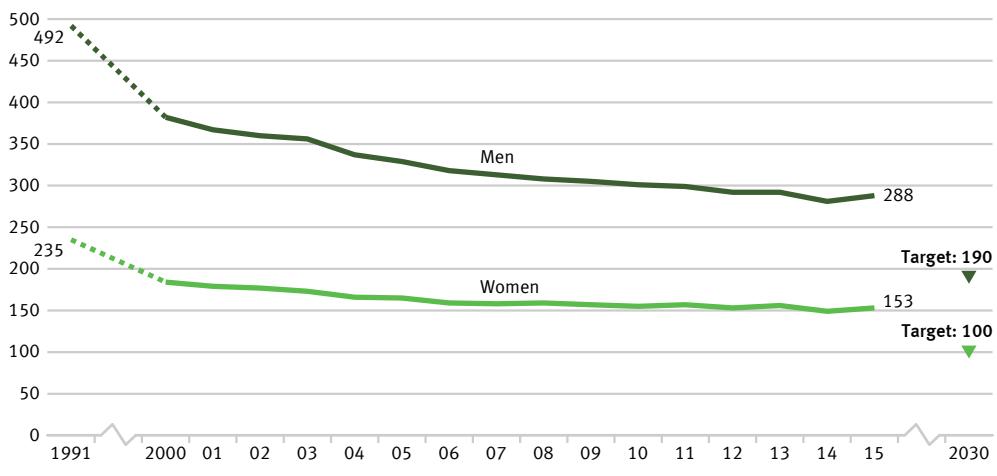
Health and nutrition – *Living healthy longer*

3.1.a, b Premature mortality

a) Women ☁   b) Men ☁

Premature mortality
Deaths per 100,000 population below the age of 70 (excluding those under 1 year of age)

Source: Federal Statistical Office

Definition of the indicators

The indicators comprise deaths among women (3.1 a) and men (3.1 b) in the population below 70 years of age with reference to 100,000 inhabitants of the "old" standardised European population below 70 years (excluding those less than 1 year old).

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Target and intention of the indicators

By 2030, premature mortality among women (3.1.a) should not exceed 100, and for men (3.1.b), it should not exceed 190 deaths per 100,000 inhabitants.

Content and progress of the indicators

The data sources of the indicators are the causes of death statistics and the population statistics produced by the Federal Statistical Office. As part of the causes of death statistics, all official cause of death certificates are recorded and evaluated. The population statistics specify the current population based on the results of the most recent census. The data refer to the "old" standardised European population of 1976. Those under 1 year of age and consequently the infant mortality rate are excluded from the assessment. The indicator is also part of the Federal Health Monitoring information system.

Premature mortality steadily decreased between 1991 and 2015, both for women (– 36%) and for men (– 42%). As a result of this decrease, the gender difference in premature mortality declined, too. In 2015, for example, 153 women and 288 men per 100,000 inhabitants died before they reached the age of 70. If this trend continues unchanged as seen in recent years, the gender-specific targets for 2030 will not be achieved.

In accordance with the steady decrease in premature mortality, the trend for life expectancy in Germany continued developing in a positive direction. 70-year-old women today can expect, statistically, to live another 16.9 years and 70-year-old men another 14.2 years.

Between 2014 and 2016, the average life expectancy was 83.2 years for new-born girls and 78.3 years for boys, which was 0.5 years higher for girls and 0.6 years for boys than the average for the years 2009 to 2011. Differences in life expectancy between the western Länder and the eastern Länder (each excluding Berlin) are to be seen only among new-born boys. In this case, the difference is 1.3 years.

The largest share of all causes of premature mortality in 2015 was malignant neoplasms (37.8%), followed by cardiovascular diseases (21.4%). Deaths due to external causes (such as accidents, poisoning, suicide) accounted for as much as 8.8%. Diseases of the digestive and respiratory tracts contributed 6.9% and 5.5%, respectively, to the causes of death. Since 1991, the shares of malignant neoplasms and diseases of the respiratory tract among all causes of death have increased (by 13.8% and 36.7%, respectively). In contrast, causes such as cardiovascular diseases (– 31.2%), external causes (– 20.2%) and diseases of the digestive tract (– 9.9%) have declined.

Besides factors such as health behaviour (see also indicators 3.1.c, d Smoking rate among adolescents and adults or 3.1.e and 3.1.f Obesity rate among adolescents and adults), medical care also plays an important role in the mortality rate. Expenditure on health care rose to 357 billion euros in 2016 – corresponding to an increase of 12 billion euros, or 3.8%, compared with 2015. This level of spending represented 11.3% of the gross domestic product or 4,330 euros per capita (2015: 4,205 euros).
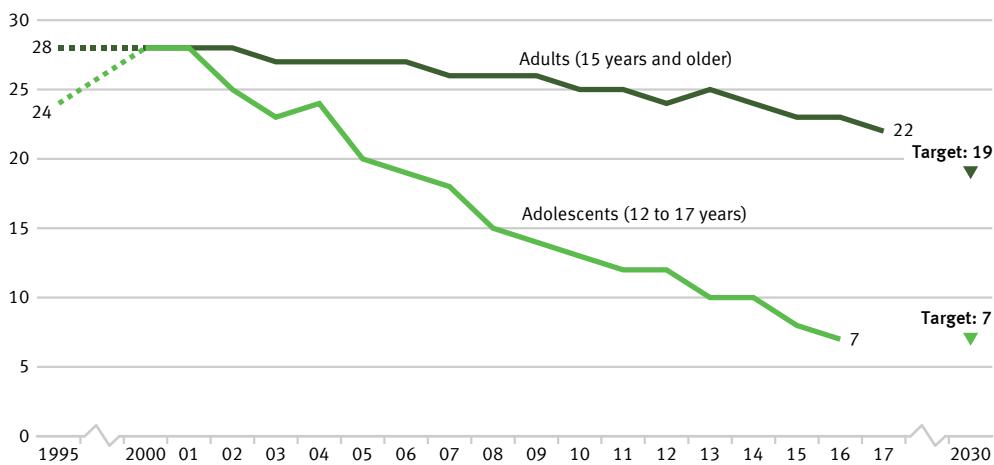
Health and nutrition – *Living healthy longer*

3.1.c, d Smoking rate among adolescents and adults

c) Adolescents 🔆   d) Adults 🔆

Adolescent and adult smokers
Percentage share of all persons in the respective age group

Values interpolated for interim years.

Sources: Federal Statistical Office, Federal Centre for Health Education

Definition of the indicators

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

Target and intention of the indicators

Smoking poses a risk of serious health impairment and premature death, and this risk is not confined to smokers themselves. Non-smokers exposed to tobacco smoke do not just suffer annoyance but can also fall ill from it. The Federal Government is pursuing the goal of reducing the percentage of adolescent smokers to under 7 % by 2030, and that of all smokers aged 15 years and older to 19 %.

Content and progress of the indicators

The data for adolescents have been collected since 1973 (since 1993 also in the new Länder) by the Federal Centre for Health Education through telephone interviews within the scope of surveys of substance consumption conducted among adolescents and young adults. Initially, the survey took place every three to four years and has been conducted almost annually since 2001. Interim years in which no survey was conducted have been interpolated for the time series. In 2016, the random sample used comprised 7,003 adolescents and young adults. For trend analysis, the data are weighted by sex, region and age.

The data for adults are collected every four years as part of the microcensus conducted by the Federal Statistical Office. The interim years without a survey were interpolated for the presentation of the indicator time series. The microcensus is a sample survey covering 1 % of the total population and it 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 those surveyed in 2017.

In the group of adolescents between 12 and 17 years of age, the proportion of smokers initially increased from 24 % (1995) to 28 % (1997 and 2001), but then declined steadily to 7 % by 2016. In this context, there appears to be no difference in smoking behaviour between the genders. If the trend seen in recent years continues, the target value set for 2030 will be achieved in the near future.

In 2017, a total of 22 % of the overall population above the age of 15 indicated that they smoked occasionally or regularly. This compares with a figure of 28 % in the years from 1995 to 1999. This means that the rate for adult smokers had declined only slightly. If the trend based on the average of the last five years continues, the target for this sub-indicator will also be fulfilled.

In 2017, 19 % of all adults aged 15 years or older considered themselves regular smokers, while 4 % smoked occasionally (the deviation in the total is due to rounding). The rate among women (19 %) was significantly lower than for men (26 %). While the proportion of women decreased by 3 percentage points since 1995, the proportion of male smokers decreased by 9 percentage points.

In 2017, 96 % of the smokers surveyed preferred cigarettes. The level of tobacco consumption is important when considering the individual threat to health. Eleven percent of regular cigarette smokers were in the category of heavy smokers (1995: 17 %) with a consumption of more than 20 cigarettes a day, whereas 81 % smoked 5 to 20 cigarettes a day. In this case, there were differences between the genders. Almost one in seven of male regular cigarette smokers was a heavy smoker, but only one in thirteen of the female smokers.

Smoking poses a high and at the same time avoidable risk to health. In 2015, 5.1 % of all deaths (3.4 % among women, 6.8 % among men) could be attributed to typical diseases of smokers (lung, bronchial, laryngeal and tracheal cancer). In 2015, the average age of those who died of lung, bronchial, and tracheal cancers was 70.6 years, that is, seven years below the average age of all deaths (78.4 years). A reduction in the number of smokers would therefore help reduce premature mortality.

Health and nutrition – *Living healthy longer*

3.1.e Obesity rate among adolescents

Share of adolescents suffering from excess weight (11 to 17 years)
Percentage of those surveyed

Excess weight   including: obesity

The comparison between the KiGGS baseline study (2003 to 2006) and the KiGGS Wave 2 (2014 to 2017) is based only metadata and has been agestandardised to the population in 2015.

Source: Robert Koch Institute

Definition of the indicator

The indicator shows the proportion of 11 to 17-year-old adolescents suffering from obesity.

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Target and intention of the indicator

Obesity among adolescents poses a danger to normal development in that age group. Exclusion and withdrawal from society are the consequences and lead to additional health and social problems. A majority of adolescents already classified as obese will continue to suffer from obesity as adults. For this reason, the proportion of obese adolescents in Germany should not be allowed to increase any further.

Content and progress of the indicator

The Body Mass Index (BMI) is a benchmark that is used to measure 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. This calculation does not take age-specific and gender-specific differences into account. Nor does it indicate the individual body mass composition. However, obesity and excess weight among children and adolescents are defined by taking account also of age and gender. In order to determine if people suffer from obesity or excess weight, the individual BMI value is compared with a defined comparison group (reference population). The percentile reference values according to Kromeyer-Hauschild as recommended by the "Arbeitsgemeinschaft Adipositas im Kinder- und Jugendalter" (AGA) are used as a comparative benchmark. According to these values, children and adolescents are considered to be overweight if their BMI value is above the 90th age- and gender-specific percentile of the reference population (› P90). This means that they fall within the range of those 10 % of the reference group with the highest BMI values. A BMI value above the 97th percentile of the reference population (that is, as high as the 3 % of adolescents with the highest BMI values) is classified as obesity (› P97). 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 are gathered by the Robert Koch Institute (RKI). The German Health Interview and Examination Survey for Children and Adolescents (KiGGS – referred to as the KiGGS baseline study) for the period 2003 to 2006 delivered the first nationwide representative results. In 2015, new results for the reporting years 2009 to 2012 were published (KiGGS Wave 1). These results were based on information provided by respondents via telephone rather than on measured data as in the baseline survey. New measurement data are available for the period 2014 to 2017 from the second follow-up survey of the KiGGS study (KiGGS Wave 2). In order to allow the data to be compared in a suitable way, the results were age standardised to the reference date 31 December 2015 of the population update.

For the time period 2014 to 2017, 8.0 % of the adolescents were classified as obese. The proportion of girls was 7.2 % and that of boys 8.7 %. In the period 2003−2006, the proportion of adolescents suffering from obesity was 8.3 %, that is, 8.2 % of the girls and 8.4 % of the boys. Overall, the obesity rate among adolescents was slightly down. While the obesity rate amongst girls decreased by 1.0 percentage point, the rate increased slightly by 0.3 percentage points amongst boys.

The proportion of adolescents suffering from excess weight including obesity (› P90) did not change much compared with the period 2003 – 2006 (increase by 0.6 percentage points to 18.7 %).

Important factors in the development of overweight are dietary and exercise behaviour, which differ – when looking at the results – in terms of socioeconomic status (SES). The results from KiGGS Wave 2 confirm that 3 to 17-year-old children and adolescents with a low socioeconomic status eat unhealthy more often than their peers from socially better-off families and exercise less frequently. The risk of overweight and obesity is about 3 to 4 times higher for children and adolescents with low SES than in the upper status group (about 20 % of the study population).

An opposite phenomenon to overweight is underweight. A BMI value below the 10th percentile of the reference population indicates underweight. The proportion of underweight adolescents has developed in a negative direction over the last few years, increasing from 7.4 % to 8.4 %. In this context, an increase from 7.1 % to 7.5 % can be seen among girls, while the proportion of boys increased even more strongly from 7.7 % to 9.2 %. Overall, more boys than girls are affected by underweight.
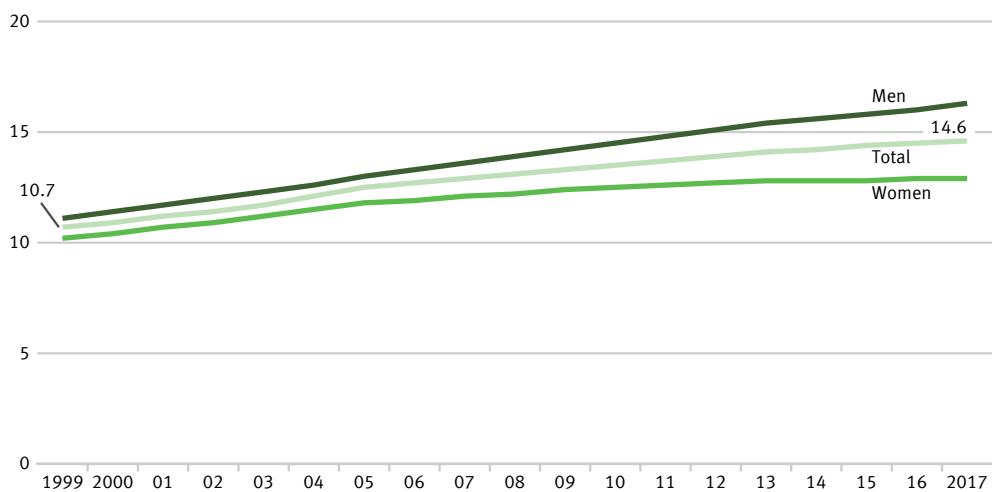
Health and nutrition – *Living healthy longer*

3.1.f Obesity rate among adults

Share of adults suffering from obesity
Percentage of all adults

Data for interim years were interpolated. Age-standardised results based on the new European population.
Source: Federal Statistical Office

Definition of the indicator

The indicator shows the proportion of adults (aged 18 years and older) suffering from obesity in the total adult population.

- -

Target and intention of the indicator

Excess weight plays a crucial role in the emergence of diseases of civilisation, such as cardiovascular diseases, diabetes and joint injuries. Besides its consequences to health, excess weight is a burden on the national economy and has a negative impact on social life. Consequently, the proportion of the population with obesity in Germany should not increase any further.

Content and progress of the indicator

Obesity is determined with the help of the Body Mass Index (BMI), which is calculated by dividing the body weight in kilograms by the square of an individual's height in metres. People with a BMI of 25 and above are classified as "overweight" according to the WHO and those with a BMI of 30 as "obese". The BMI is a benchmark that does not take account of the physique, age- and gender-specific differences as well as the individual body mass composition.

The data used for the indicator are based on the microcensus of the Federal Statistical Office. The sample survey is conducted among 1 % of the total population. The responses to the health questions, which are generally asked every four years, are voluntary. Consequently, the indicator is based on the proportion of the population with a BMI of 30 and higher that also answered the microcensus questions concerning body weight and body size. The corresponding data were standardised relative to the European population of 1990 to allow data from different years and regions to be compared without distortions due to different age structures. Since the questions on health in the microcensus are not asked annually, the interim years in the chart were interpolated.

In 2017, 14.6 % of the population in Germany over the age of 18 were obese. Here, the share of obese men (16.3 %) was higher than the share of obese women (12.9 %). Before, in 1999, the share of obese persons was only 10.7 % of the population. At that time, the proportion of women (10.2 %) affected by obesity was also slightly lower than that of men (11.1 %). Thus, the obesity rate among adults has increased and is developing contrary to the goal envisioned by the German Sustainable Development Strategy. Another 33.9 % of the population aged 18 and over had a BMI of 25 to under 30 in 2017. In total, 48.5 % were considered to be overweight (BMI 25 and over). The proportion of women (38.7 %) was significantly smaller than that of men (57.7 %).

The proportion of adults suffering from obesity increases with age, and the trend reverses only among people at a very advanced age. In 2017, 3.4 % of 18 and 19-year-old women were obese. At the age of 30 to under 35, 10.1 % of the women were obese. The highest proportion of obese women (21.7 %) was found in the age group between 60 and under 65 years of age. The rate of obesity among men was higher among those under 75 than among women of the same age and reached the highest proportions in the age groups 60 to under 65 (24.5 %) and 65 to under 70 (25.3 %). It is interesting to note that the proportion of obese women is higher than the proportion of obese men at older ages – above about 75 years of age. At this age, however, the proportion of men in the population is also considerably lower. As of 31 December 2017, the proportion of men aged 75 and over in the population at this age was only 40 %, while the gender distribution between 50 and 60 years was balanced. This imbalance in old age can be attributed to the higher life expectancy of women or to the fact that men die earlier than women.

Being underweight, i. e. having a BMI lower than 18.5, is the opposite phenomenon to that of obesity. In 2017, the share of women who were underweight (4.0 %) was considerably greater than the share found in men (1.0 %). In fact, 12.1 % of young women between 18 and 19 years of age were underweight, and 8.5 % were still underweight at an age from 20 to under 25.
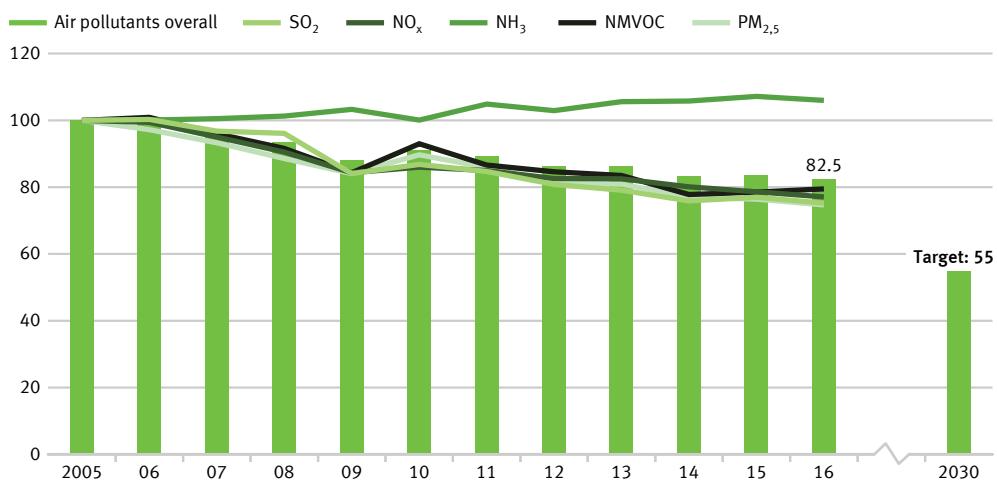
Air pollution – *Keeping the environment healthy*

3.2.a Emissions of air pollutants

Emissions of air pollutants
2005 = 100

━━ Air pollutants overall   ━━ SO$_2$ ━━ NO$_x$ ━━ NH$_3$ ━━ NMVOC   ━━ PM$_{2,5}$

Sulphur dioxide (SO$_2$), nitrogen oxides (NO$_x$), ammonia (NH$_3$), volatile organic compounds (NMVOC) and particulate matter (PM$_{2,5}$), average index of measurements.

Source: German Environment Agency

Definition of the indicator

The indicator presents the mean value of the indices of national emissions for the five air pollutants sulphur dioxide (SO$_2$), nitrogen oxides (NO$_x$), ammonia (NH$_3$), volatile organic compounds (NMVOC) and particulate matter (PM$_{2,5}$).

- -

Target and intention of the indicator

Air pollutants do not only impair human health, but also ecosystems and biodiversity. Therefore, emissions of air pollutants should be reduced by 45 % by 2030 compared to 2005. To represent the development of health-relevant as well as ecosystem pollution, German emissions of SO$_2$, NO$_x$, NH$_3$, NMVOC and PM$_{2,5}$ have been summarised into a single indicator.

Content and progress of the indicator

In accordance with the European Union's National Emission Ceilings (NEC) Directive negotiated at European level, Germany is required to reduce emissions of individual air pollutants by 2030 as follows: SO_2 by 58 %, NO_x by 65 %, NH_3 by 29 %, NMVOC by 28 % and $PM_{2,5}$ by 43 %. On this basis, the German Environment Agency calculated an unweighted arithmetic mean of the individual reductions of the above air pollutants as a joint target value. The individual rates of change of the single air pollutants are offset equally against one another. This means that irrespective of the separate reduction targets under the NEC Directive, increasing emissions of individual pollutants can be compensated for in this indicator by reducing the emissions of other pollutants.

The data are computed annually by the German Environment Agency using various sources. They serve as a basis for the reporting obligation pursuant to the Geneva Convention (CLRTAP) and the NEC Directive. The data are further processed within the context of the Federal Statistical Office's Environmental-Economic Accounts. As a result, emissions are published according to various production sectors and households along with other emitters.

Emissions of air pollutants overall fell by 17.5 % until 2016 from 2005. The indicator thus moved in the intended direction but will not reach the target for 2030 if the development remains the same. Emissions of individual pollutants changed to varying degrees in the period from 2005 to 2016.

Emissions of volatile organic compounds (NMVOC), which are primarily due to the industrial use of solvents, were significantly reduced by 20.5 % during the specified period. Consequently, the targeted reduction of 28 % can be achieved by 2030.

In the specified period emissions of particulate matter ($PM_{2,5}$) have been reduced by 25.3 %. If this annual trend continues, the set reduction target will be reached. At 26.4 %, the largest proportion of $PM_{2,5}$ emissions originated from households and small consumers and was caused in particular by heat generation in 2016. The transport sector accounted for 24.8 % of $PM_{2,5}$ emissions in the same year.

Emissions of nitrogen oxides (NO_x) were reduced by 22.9 % until 2016, hence going in the intended direction. However, the average reduction of the last few years will not be sufficient to achieve the target. In 2016 the main share of nitrogen oxides was emitted mainly by transport and the energy sector.

Emissions of sulphur dioxide (SO_2), which are mainly generated in the energy sector, decreased by 24.8 % in the specified period. Although these emissions went down as intended, the average reduction achieved in recent years will not be sufficient to achieve the set goal.

Following a prolonged period of stagnation, emissions of ammonia increased by a total of 6.0 % between 2005 and 2016, and therefore contrary to the intended direction. The increase can be attributed primarily to the distribution of residues from the fermentation of fuel crops. According to calculations by the German Environment Agency, 95.0 % of all domestic ammonia emissions in 2016 originated from agricultural production, and from livestock farming in particular.
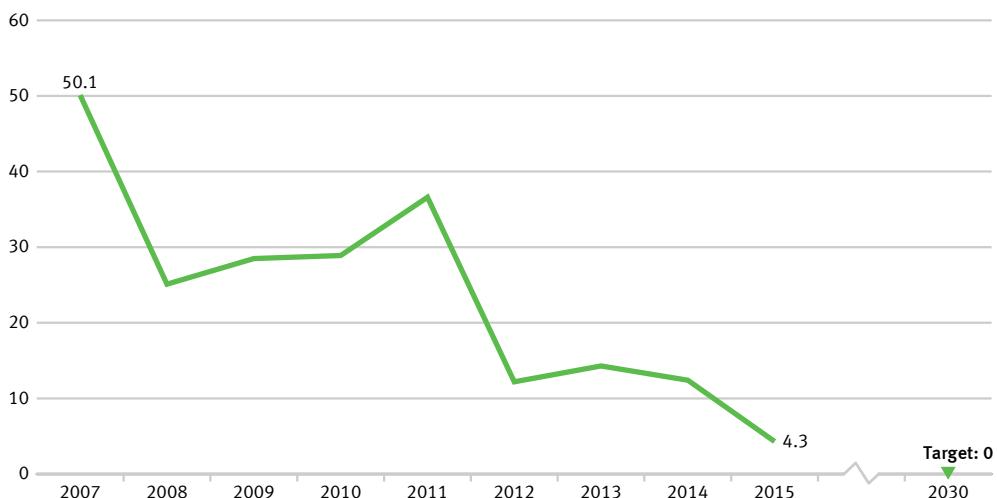
Air pollution – *Keeping the environment healthy*

3.2.b Share of the population with excessive exposure to PM$_{10}$ in Germany

Particulate matter exposure (PM$_{10}$) of at least 20 µg per m^3 of air on average per year
Population, millions

Sources: 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 of more than 20 micrograms (µg) of PM$_{10}$ particulate matter (dust particles with a diameter less than 10 µm) per cubic metre (m³) of air (only background pollution, without local sources).

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Target and intention of the indicator

The inhalation of particulate matter can lead for instance to respiratory diseases (e.g. chronic obstructive pulmonary disease (COPD) or lung cancer) and cardiovascular diseases (e.g. heart attack). To better protect their health, by the year 2030 it should consequently be achieved that nobody will be exposed to an annual mean of more than 20 micrograms (µg) of particulate matter PM$_{10}$ per cubic metre of air at their place of residence (guideline value of the World Health Organization).

Content and progress of the indicator

The particulate matter (PM_{10}) contained in the air is recorded at more than 370 air measurement stations in both metropolitan and rural regions of Germany. However, the computation of this indicator takes account only of those measuring stations that are not exposed to direct particulate matter emissions e.g. from transport, as these map only elevated peak values ("hot spots") rather than general pollution levels. This recorded data which is called background pollution is combined with geographical information to determine the number of persons who are exposed to an average annual particulate matter pollution of more than 20 µg per m³ of air at their place of residence. Since the modelled calculation is based only on measuring stations that are not exposed to direct particular matter emissions from local sources, it may well be assumed that the indicator underestimates the level of pollution.

Rather than indicating nationwide compliance with the guideline value, the indicator merely shows that the value is not exceeded at the population's places of residence. Neither does it give any indication of the exposure level of the population in total nor its variation in the course of the year. In addition, this indicator makes no provision for the separate analysis of pollution caused by finer particulate matter particles ($PM_{2,5}$ and $PM_{0,1}$).

Particulate matter is mainly generated during the combustion processes of fossil fuels such as heating, in industrial plants or road traffic. Besides these primary sources, particulate matter can also be a secondary product of the chemical reaction of air pollutants, e.g. from agriculture.

The last few years have seen a significant reduction in particulate matter pollution caused by PM_{10}. While in 2007 the average pollution exposure of the population was still 20.7 µg per m³ of air, in 2015 it was just 16.5 µg per m³. During the same period, the number of people exposed to an annual average of more than 20 µg PM_{10} per m³ of air at their place of residence has also fallen considerably – from around 50 million people in 2007 to only around 4 million people in 2015. Part of the sharp decline between 2014 and 2015 is presumably due to the fact that there were exceptionally few periods of air stagnation in 2015.

If the average development of the past few years continues, it is likely that the achieved target of exposing the population nationwide to a background particulate matter pollution of less than 20 micrograms per cubic meter of air on an annual average can be sustained.
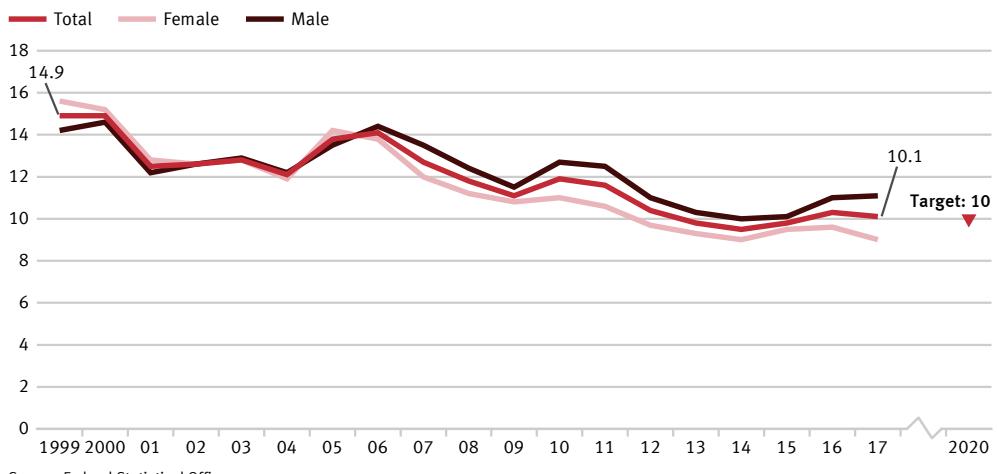
Education – *Continuously improving education and vocational training*

4.1.a Early school leavers (18 to 24-year-olds leaving school without graduation)

Early school leavers (18 to 24-year-olds)
Percentage of all 18 to 24-year-olds

— Total   — Female   — Male

14.9

10.1

Target: 10

1999 2000 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17   2020

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the 18 to 24-year-olds as a proportion of all people in the same age group who currently do not attend any school or an institution of higher education, who are not attending any continuing education/training programmes and who have not completed upper secondary education (ISCED level 3 - university entrance qualification or completed course of vocational training).

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Target and intention of the indicator

The federal educational system and the dual system of vocational training are the cornerstones of future-orientated qualifications for young people in Germany. Failure to complete school or vocational training poses a risk of poverty and places a strain on the social welfare systems.
In line with the "Europe 2020" strategy of the European Union, the German Government has therefore set itself the target of reducing the proportion of early school leavers among all persons in the same age group to below 10 % by 2020.

Content and progress of the indicator

The term "early school leavers" does not refer to the young "high achievers", who obtain a school leaving certificate before the regular period of schooling ends. 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 have obtained a higher education entrance qualification such as "Abitur" or "Fachhochschulreife" (for universities in general or universities of applied sciences), nor have completed vocational training and who are not attending initial and continuing education/ training programmes. This means that even those young people who, for example, have successfully completed "Hauptschule" or "Realschule" (lower secondary education, ISCED level 2) but are no longer participating in the education process are also counted as early school leavers. Moreover, it is not possible to conclude what type of educational institution they last attended and at what time.

The information originates from the microcensus, whose annual sample survey covers 1% of the population. The annual school statistics, which is a coordinated Länder statistics, provides supplementary information also published by the Federal Statistical Office.

In 2017, according to provisional results, the indicator value was 10.1%, i.e. there were a total of 614,000 young people without completed upper secondary education who were not or no longer undergoing (vocational) training or continuing education. The 2020 target has not yet been achieved.

Between 1999 and 2005, the gender-specific indicator values deviated from the total values to varying degrees and in different directions. Since 2006, there have been fewer women than men leaving school early without a certificate of completion. For instance, the figures were 9.0% for women and 11.1% for men in 2017.

According to school statistics, a total of around 52,685 young people (6.6% of the resident population of the same age) left school without a "Hauptschule" certificate in 2016. Compared with 1999, this is a decline of somewhat more than a third. Here, too, the share of young women continues to be considerably lower (4.8%) than that of young men (8.6%).

Among school leavers with a school certificate, 16.9% (134,389) of the resident population of the same age hold a secondary general school certificate, 44.8% (356,812) a school leaving certificate after year 10, 32.5% (287,298) a general university entrance qualification and 0.1% (628) an entrance qualification for universities of applied sciences – all data referring to 2017. Since 1999, two types of certificates have seen particularly large changes over the course of time. Thus, the share of people with a secondary general school certificate fell by 9.2 percentage points, while the share of people with university entrance qualification rose by 7.8 percentage points (both as a proportion of the population of the same age).

Another indicator that relates to this subject matter is 10.1 "Foreign school graduates".
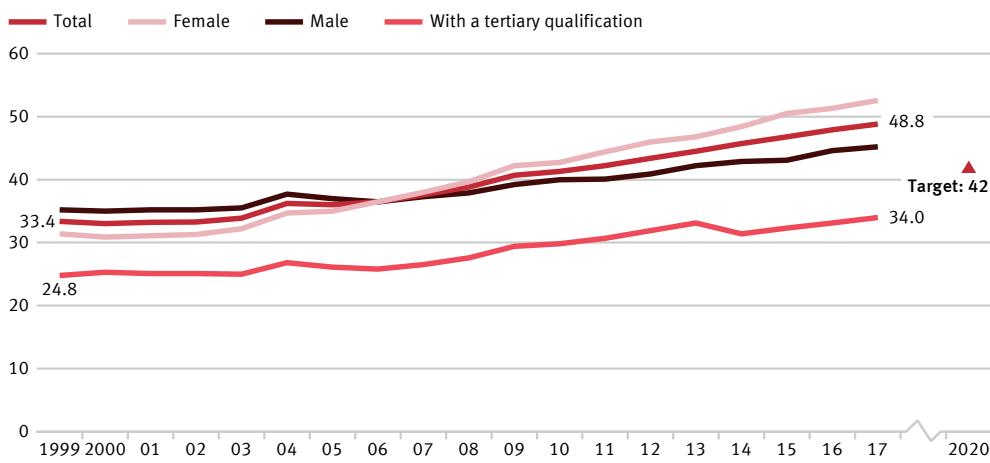
Education – *Continuously improving education and vocational training*

4.1.b 30 to 34-year-olds with a tertiary or post-secondary non-tertiary level of education

30 to 34-year-olds who have completed a programme of tertiary or post-secondary non-tertiary education
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 the International Standard Classification of Education, ISCED, 2011) or a post-secondary non-tertiary certificate (level 4 of the ISCED).

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Target and intention of the indicator

A highly developed economy such as Germany's, in which the service sector and the demand for knowledge and expertise are becoming increasingly important, requires highly qualified workers. For this reason, the value of this indicator should increase to 42 % by 2020. This objective is in line with the goal of the European Union's "Europe 2020" strategy to ensure that 40 % of the 30 to 34-year-olds in the European Union hold a tertiary certificate by 2020.

Content and progress of the indicator

The "International Standard Classification of Education (ISCED)" enables international comparisons of statistics and indicators regarding certificates of education. Certificates that are regarded as equivalent are assigned to the same ISCED levels.

The data for the indicator originate from the microcensus, whose annual sample survey covers 1% of the population. The statistics of higher education provides supplementary information and is also compiled by the Federal Statistical Office.

The name of the indicator is linked to the tradition of the dual education system in Germany. In addition to tertiary degrees from universities, universities of applied sciences, colleges of public administration, vocational and specialised academies as well as master craftsmen's and technicians' certificates, there are post-secondary non-tertiary degrees at upper secondary level which are obtained in parallel or consecutively. These include, for example, the "Abitur" (higher education entrance qualification) at evening schools or at two-year full-time vocational schools, the completion of vocational training after the "Abitur" or a previous vocational training. Therefore, the indicator includes both the tertiary degrees corresponding to levels 5 to 8 of the ISCED as well as the post-secondary non-tertiary degrees corresponding to level 4 of the ISCED.

Starting at 33.4 % in 1999, the indicator increased by 15.5 percentage points to 48.8 % in 2017 and has therefore been above the target value set for 2020 for some years now. This applies both to women (52.6 %) and to men (45.2 %). The ratio of gender-specific proportions has changed over time: in 1999, the value of the indicator was still 3.8 percentage points higher for men than for women. In 2006, the values for both genders were the same. Since 2007, the share of women who have completed a programme of tertiary or post-secondary non-tertiary education has been higher than the share of men.

Many other countries do not offer post-secondary non-tertiary education programmes. Therefore, the European version of the indicator from the "Europe 2020" strategy is more narrowly defined and takes only tertiary degrees (ISCED levels 5-8) into account.

Following a steady increase since 2005, the European indicator reached a total of 39.9 % across the EU-28 states in 2017. If one also uses this more narrowly defined indicator for Germany, the value of 34.0 % obtained for 2017 was more than 5.9 percentage points below the EU value. Furthermore, in 2017, the proportion of women (34.2 %) was slightly higher than that of men (33.8 %; not shown in the chart).

The number of university graduates in Germany totalled 501,734 in 2017. Compared to 1999, this is an increase of 126.3 %. These included 129,646 engineering graduates (206.2 % more than in 1999) and 55,133 graduates of mathematics and the natural sciences (69.4 % more than in 1999).

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

4.2.a, b All-day care provision for children
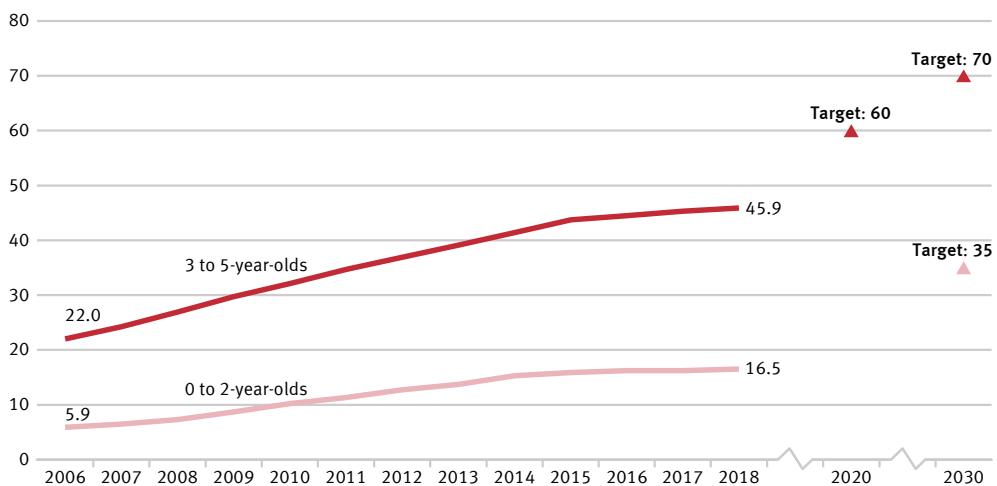
a) 0 to 2-year-olds   b) 3 to 5-year-olds

Children in institutional all-day care
Percentage of all children in the same age group

Childcare provision of more than seven hours in day-care facilities, excluding day care in private homes.
Source: Federal Statistical Office

Definition of the indicators

This indicator shows children in all-day care on the reference date of 1 March as a proportion of all children in the same age group on 31 December of the previous year. All-day childcare is provided for a contractually agreed, continuous care period of more than seven hours per day; day care in private homes and care of pupils are not included. Indicator 4.2.a refers to the group of 0 to 2-year-old children, indicator 4.2.b to the group of 3 to 5-year-old children.

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Target and intention of the indicators

The proportion of 0 to 2-year-old children attending all-day care is to reach at least 35 % (4.2.a) by 2030. For 3 to 5-year-olds (4.2.b), the proportion is to increase to at least 60 % by 2020 and to 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 the needs of today's families improve the compatibility of family life and work. They also make an important contribution to equal opportunities, gender equality and integration.

Content and progress of the indicators

The information of the indicator is provided by the annual statistics on children cared for and persons employed in day care centres, which is compiled by the Federal Statistical Office. The indicators show the proportion of children for whom daily childcare of more than seven hours has been arranged, which may deviate from the actual time spent in childcare. Contractually agreed childcare provision of seven hours and less, which can also improve the compatibility of work and family life, and other types of care, e.g. day care in private homes, are not included. Furthermore, information on childcare services aimed at children aged 6 years and older is also relevant to this topic. Such supplementary information is included, for example, in the data of the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (see the last paragraph).

In 2018, all-day care in day care centres was arranged for 45.9 % of the 3 to 5-year-old children (kindergarten age). For children under 3 years of age (nursery age) this figure was 16.5 %. As a result, children in all-day care as a proportion of all 3 to 5-year-olds has increased by just under 24 percentage points since 2006 and has therefore more than doubled. The full-day care of children below the age of 3 rose by 10.6 percentage points from 2006 to 2018 and has thus almost tripled. Overall, both indicators are developing in the intended direction, with indicator 4.2.b being closer to the target value than indicator 4.2.a.

The total number of children under six years of age receiving all-day care in day care centres in 2018 was 1.4 million; the number of children in part-time care was 1.3 million. Another 61,000 children under six years of age were cared for in private homes by publicly supported childminders. In addition to that, some of the 5-year-olds go to school already.

More than a quarter of the children cared for in day care centres or by publicly supported childminding services had a migrant background, meaning that at least one of the parents was of foreign origin. 50 % of these children were in day care in 2018, compared with 69 % of the children without a migrant background.

With regard to the availability of all-day care provided by facilities, there is a clear gap between the Länder in the east and the Länder in the west of Germany. The highest percentages of 0 to 2-year-olds in all-day care are recorded in the eastern Länder and in Berlin. The values range from 49.2 % in Thuringia to 9.7 % in Baden-Württemberg. For 3 to 5-year-olds, the percentage was also highest in Thuringia at 91.8 % and lowest in Baden-Württemberg at 24.5 % (each 2018).

When it comes to opportunities of care for pupils, pre and after-school care programmes and all-day schools also play a significant role. In 2018, 19,000 children between 5 and 13 years of age were looked after on an all-day basis in care programmes and 483,200 children part-time (lessons are not regarded as childcare). The percentage of pupils attending all-day schools of all pupils in schools of general education was 42.5 % in the 2016/2017 school year. However, this figure includes pupils from all school types and hence includes also pupils who are older than 13 years. In primary schools, 40.1 % of children received all-day care in that school year. In comparison to 2006, the number of all-day school pupils has increased considerably, from almost 1.5 million to 3.1 million (in all schools of general education) and from 400,000 to 1.1 million in the primary schools.
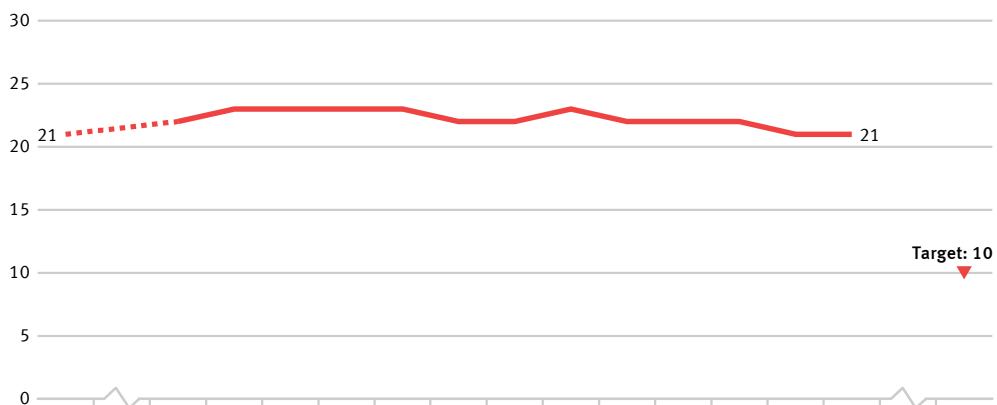
Equality – *Promoting equal opportunities in society*

5.1.a Gender pay gap

Difference between average gross hourly earnings of women and men
Percentage of men's earnings

2015 to 2017 provisional data.
Source: Federal Statistical Office

Definition of the indicator

The indicator shows the difference between the average gross hourly earnings of women and men expressed as a percentage of the average gross hourly earnings of men.

- -

Target and intention of the indicator

Differences in pay between men and women in a modern business-oriented society are a sign of social inequality. A narrowing of pay disparities indicates progress on the road to equality. The Federal Government is therefore pursuing the goal of reducing the pay gap to 10 % by 2020.

Content and progress of the indicator

The indicator presented here shows the unadjusted gender pay gap. Therefore, it only expresses the relative average gross hourly earnings as a ratio without considering the underlying causes, such as qualification, occupation or a different employment history.

The data for the indicator are based on the four-yearly structure of earnings survey conducted by the statistical offices of the Länder as a representative sample survey covering a maximum of 60,000 businesses who are obliged to provide the requested information. Based on these data, results are provided by age, educational attainment, performance group, activity, collective agreement, company size class and economic sector, and the adjusted gender pay gap (GPG) is published. For the interim years, the unadjusted GPG is updated using the rates of change from the quarterly survey of earnings. In the following, the EU definition is used for the adjusted and unadjusted GPG; it excludes employees in "agriculture, forestry and fishing", "public administration and defence; compulsory social security" and in micro-enterprises.

In 2017, the unadjusted gender pay gap was 21 % on average. This means that the average gross hourly earnings of women were by around one fifth lower than those earnings of men. Since 1995 the unadjusted GPG has scarcely changed. Hence, if the trend recorded over the last five years continues, the goal set for 2020 will not be achieved.

On an EU average, the unadjusted GPG was 16 % in 2016. The countries with the smallest differences in unadjusted gross hourly earnings, along with Italy and Romania (5 %), were Belgium and Luxembourg (6 %). Only in Estonia (25 %) and the Czech Republic (22 %) was the unadjusted GPG higher in 2016 than in Germany (21 %).

However, there was no uniform picture for Germany. The unadjusted gender pay gap varied markedly between the Länder: in 2017, the GPG was highest in Baden-Württemberg with 27 %, whereas in Saxony-Anhalt with its overall lower earnings level it was only 2 %.

The factors underlying the GPG can be studied every four years based on the detailed results of the structure of earnings survey. The results for 2014 are currently available. These factors, which determine the differences in earnings, are subject to long-term change processes and therefore relatively stable over time. The main quantifiable reasons underlying the unadjusted GPG are women and men working in different sectors and occupations and the unequal division of job requirements in terms of leadership and qualification. In addition, women are more likely than men to be in part-time or marginal employment.

The above reasons explain, in statistical terms, around three quarters of the difference between hourly earnings at national level. The adjusted GPG of 6 % in 2014 accounts for the remaining quarter of the difference in earnings.

Compared with the unadjusted GPG, the adjusted GPG presents a much more uniform picture at the level of the Länder. In 2014, it was between 4 % (in Thuringia) and 10 % (in Brandenburg).
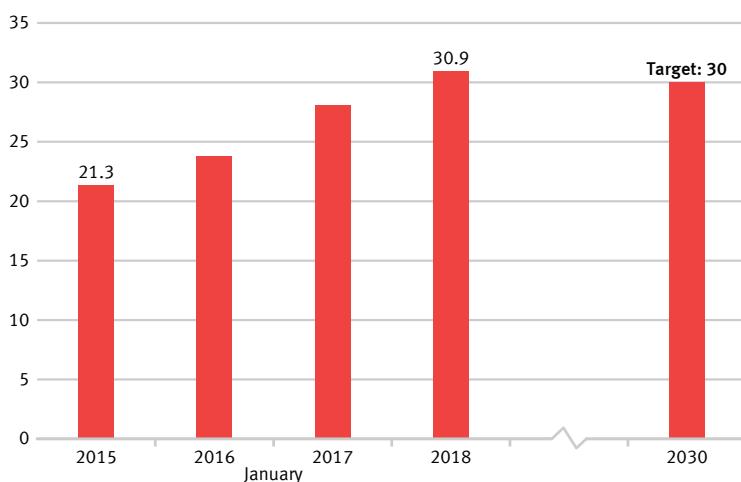
Equality – *Promoting equal opportunities in society*

5.1.b Women in management positions in business

☀

Women on supervisory boards
Percentage for listed and fully co-determined companies

Source: Frauen in die Aufsichtsräte e.V.

Definition of the indicator

The indicator shows the share of women on supervisory boards of listed and fully co-determined companies.

- -

Target and intention of the indicator

Although women are just as likely as men to graduate from a higher education institution and are as highly qualified as men, they are still under-represented in management positions in the German economy, particularly at senior management level. 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.

Content and progress of the indicator

This indicator measures the proportion of women on the supervisory boards of listed companies and joint-stock companies with more than 2,000 employees as well as European Companies (SE) and listed companies that are subject to equal co-determination. The data are based on publications of the results of elections at general meetings of shareholders of listed and fully co-determined companies, which are evaluated by the association "Frauen in die Aufsichtsräte" (FidAR). This currently includes 104 companies with almost 1,600 supervisory board positions.

In January 2018, the average proportion of women on the supervisory boards of these companies was 30.9 %. In January 2015, the share was 21.3 %. This means that the target share of 30 % was already reached twelve years before the deadline set in the German Sustainability Strategy. Provided that the companies complied with the law, this increase was to be expected as the "Act on the Equal Participation of Women and Men in Executive Positions" since 2015 requires at least 30 % of the supervisory board positions to be filled by women in all newly elected supervisory boards of the above-mentioned companies. Multiple counts of persons holding several supervisory board positions are not eliminated.

With regard to the results, it should also be noted that the majority of companies in Germany and most of the management positions in the economy are excluded by the underlying definition. On the one hand, the group of reporting entities currently comprises 104 companies according to the definition. However, there are nearly 3.5 million companies in Germany in total. On the other hand, the roughly 1,600 supervisory board positions considered by FidAR to date represent only a small portion of management positions in the economy with its 816,000 managers in 2014. These numbers illustrate that only part of the management positions in a company are considered when the coverage is limited to the supervisory bodies.

According to the International Standard Classification of Occupations (ISCO), managers are all persons who plan, control, coordinate and evaluate the overall activities of companies, governments and other organisations or internal organisational units and who review and evaluate guidelines, laws, rules and regulations. When the ISCO classification is applied, just under 21 % of the 816,000 management positions in the economy (all companies with more than one employee) were filled by women in 2014.
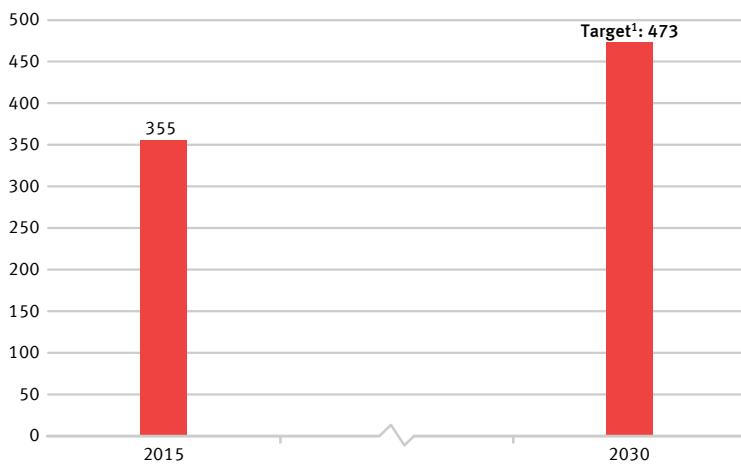
Equality – *Strengthening the economic participation of women globally*

5.1.c Vocational qualification of women and girls through German development assistance

Girls and women reached by the vocational qualification programmes of German development assistance
Thousands

1 This is an increase of one third compared with 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 specifies the number of girls and women in developing and emerging countries who were reached by the vocational qualification programmes of German development assistance.

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Target and intention of the indicator

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

Content and progress of the indicator

Information on supported projects which were in their implementation phase in 2015 served as a data source and was provided by the Federal Ministry for Economic Cooperation and Development (BMZ). These measures include all short, medium and long-term formal and non-formal vocational training programmes in developing and emerging countries. The measures are financed entirely by funds from the federal budget and market funds from "KfW" (the state-owned development bank). After the first survey conducted in 2015 on behalf of the BMZ by the "Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH" and the "Centrum für Evaluation GmbH", the relevant data will be collected at three–year intervals in the future. For this reason, the progress and a possible target achievement of the indicator cannot yet be assessed. No new data have therefore become available since the last indicator report in 2016.

Girls and women are reached at different levels by German development assistance, which is why the data were collected at three levels. For measures at individual level, the number of girls and women who received (further) vocational training or participated in targeted guidance programmes can be recorded directly. When it comes to the funding of institutions or funding at policy area level, the number of women and girls in the funded (further) training facilities has to be estimated. In this case, the total number of female trainees in the respective funded (further) training facilities is included at institutional level along with all female trainees in the partner countries at policy area level. Consequently, this may lead to overestimates and multiple counting – especially at policy area level. Multiple counting of the women and girls reached cannot be ruled out when there are follow-on projects or where several projects are implemented simultaneously in the same region.

The value of the indicator is closely related to the funded level as the funding of institutions or policy areas generally reaches more girls and women than individual measures. The indicator does not provide any information on the success, scope and quality of the qualification programmes, which can vary quite considerably. The programmes for promoting the vocational qualifications of girls and women are part of overall official development assistance, which is represented by indicator 17.1.

In 2015, 354,841 girls and women were on vocational qualification programmes. 3.6 % of these could be reached by direct vocational training programmes. A total of 14.1 % of girls and women were reached by institutional funding and 29.9 % by programmes at policy area level. Additionally, 50.7 % of girls and women were reached through financial cooperation. These measures were not distributed among the three levels mentioned above, and another 1.7 % of the girls and women reached could not be assigned.

As to the number of programmes, a total of 151 vocational qualification programmes for girls and women were conducted through German development assistance in 2015. Of these, 44.6 % were carried out at individual level, 12.0 % at institutional level and 8.7 % at policy level. Another 28.0 % were conducted in the context of financial cooperation, while 6.7 % of the measures could not be assigned to individual levels.
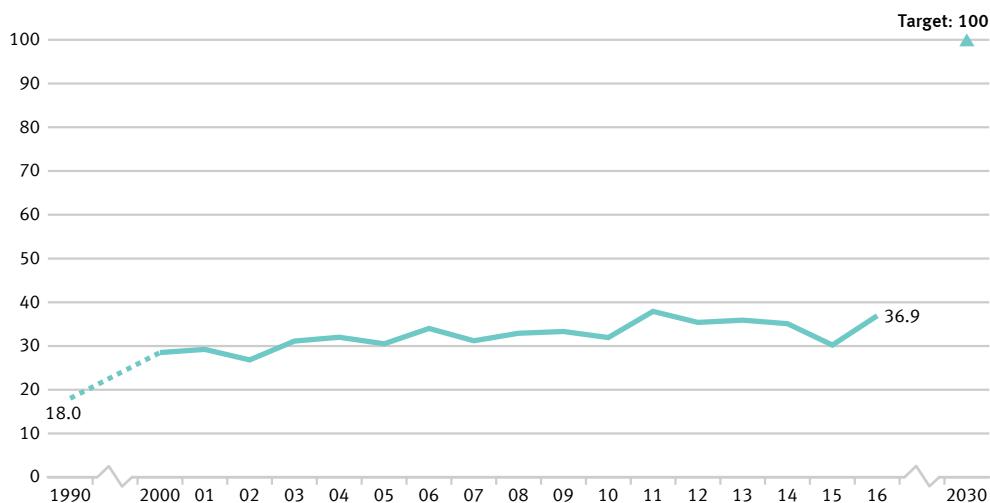
Water quality – *Reducing the pollution of water with substances*

6.1.a Phosphorous in flowing waters

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

Source: German Environment Agency based on information from the German Working Group on Water Issues of the Länder and
        the Federal Government represented by the Federal Environment Ministry

Definition of the indicator

The indicator specifies the share of monitoring points at which the water-body typical benchmark values of
good ecological status regarding phosphorus in flowing waters are not exceeded.

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Target and intention of the indicator

Roughly half of the phosphorous entering flowing waters in Germany today originates from
agriculture, and the other half comes from cities (municipal water treatment plants and rainwater
run-offs). In addition to nitrate pollution, it is one of the causes of an oversupply of nutrients
in rivers, lakes and seas (eutrophication). The consequences of this are algae growth, oxygen
depletion all the way to fish kills or the growth of poisonous blue-green algae. For this reason,
meeting benchmark values for specific types of water bodies, as specified in the Ordinance on
the Protection of Surface Waters, at all monitoring points has been defined as a goal for 2030.

Content and progress of the indicator

The phosphorous pollution of rivers is measured by the Länder as part of the monitoring conducted for the EU Water Framework Directive. The data for the indicator come from the monitoring network, which consists of about 250 monitoring points. In most cases, the monitoring points were installed in the main currents of the large rivers and at the junction of important confluents. The data are compiled by the German Environment Agency based on information from the German Working Group on Water Issues of the Länder and the Federal Government represented by the Federal Environment Ministry (LAWA).

The indicator shows whether the annual average of the values measured at a particular monitoring point was equal to, or lower than, the benchmark value. However, it does not show by how far the target was surpassed if it was exceeded. The information about the individual monitoring points is presented in a summarised form. Accordingly, the value of the indicator is strongly dependent on the number of monitoring points and the representative status of their distribution. Lakes and other standing waters 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 2016, the annual average of values measured was below the benchmark value at 37 % of the monitoring points at rivers. 57 % 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.

If one examines the average trend of the last five years, the indicator has changed only to a minor degree. The goal of not exceeding the specified threshold value at all monitoring points cannot be achieved if the current trend continues.
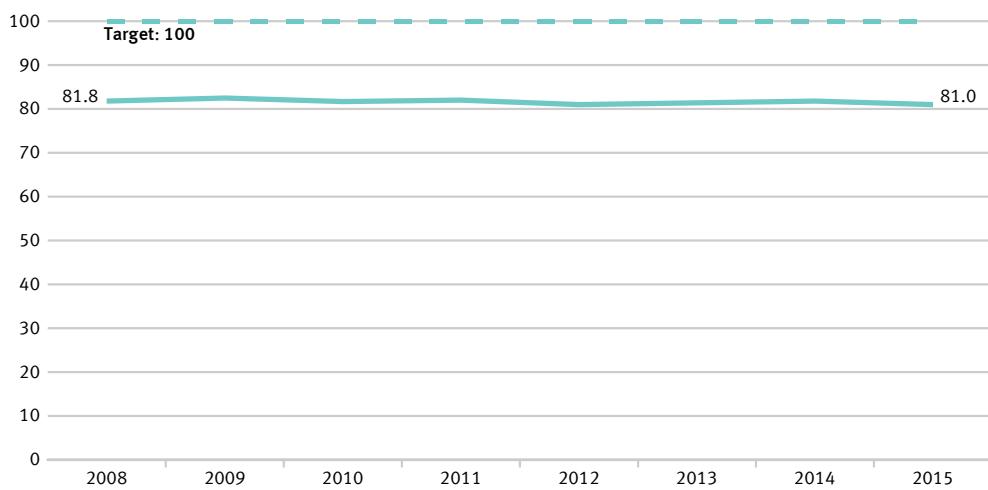
Water quality – *Reducing the pollution of water with substances*

6.1.b Nitrate in groundwater

Nitrate in groundwater
Percentage share of monitoring points at which the threshold[1] is not exceeded

1 Basis: EUA monitoring network: threshold of 50 milligrams of nitrate per litre per year on average.

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

Definition of the indicator

The indicator shows the share of monitoring points at which the threshold value of 50 mg/l of nitrate in the groundwater is not exceeded on an annual average.

Target and intention of the indicator

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 contents impair the ecology of water bodies. The threshold value of 50 mg/l of nitrate in groundwater, as specified in the Groundwater Ordinance and in the Ordinance on the Protection of Surface Waters, should therefore not be exceeded at any monitoring point.

Content and progress of the indicator

The nitrate content of groundwater is recorded by the Länder for the purpose of reporting the condition of groundwater in Germany to the European Environment Agency (EEA). The monitoring points used for this purpose are combined in the "EEA monitoring network". The data are summarised by the German Environment Agency based on information from the German Working Group on Water Issues of the Länder and the Federal Government represented by the Federal Environment Ministry (LAWA).

The pollution of groundwater with nitrate, a natural nitrogen compound, is caused primarily by the washout of nitrate from various fertilisers that are rich in nitrogen. In addition to farm fertilisers such as liquid manure or slurry that are produced in regions of intensive livestock farming, this also includes the mineral fertilisers used for intensive agriculture. The last few years have also seen an increase in the volume of digestate, which is produced as a by-product of biogas power plants and is likewise used as a fertiliser in agriculture. This also leads to an increased nitrogen content in the soil and therefore to higher nitrate values in groundwater.

The natural level of pollution for nitrate is between zero and a maximum of 10 mg/l. Contents between 10 and 25 mg/l are signs of minor to medium pollution. Concentrations of between 25 and 50 mg/l indicate a high level of groundwater pollution. If the threshold value of the Ground Water Ordinance of 50 mg/l, on which this indicator is based, is exceeded, the groundwater is in a poor chemical state and without treatment cannot be utilised as drinking water.

Similar to the indicator on phosphate in flowing waters, this indicator gives no indication of the extent to which the measured values are higher or lower than the threshold value. It solely captures the number of monitoring points at which the measured values were lower than the specified threshold value. In this context, the number and the representative nature of the distribution of the monitoring points or their regional concentration have a considerable influence on the result of this indicator. In 2015, however, EEA groundwater monitoring was fundamentally revised, adapted and expanded in order to make the results more representative.

At some monitoring points the nitrate pollution may have declined sharply. But if it remains above the threshold value of 50 mg/l, the decrease is not reflected by the indicator. The same applies to increasing nitrate pollution which, however, remains below the threshold value. The interpretation must also take account of the fact that measures to reduce nitrate pollution may only show an effect with a delay, for example because the percolation time from the surface to the groundwater takes several years.

In 2015, the threshold value of 50 mg/l of nitrate was exceeded at 19.0 % of groundwater monitoring points in the EEA monitoring network. This means that the groundwater there must not be used for drinking water supplies without treatment. Since 2008, the share of monitoring points at which this threshold value is exceeded has remained unchanged. Consequently, the goal of not exceeding the threshold value at any monitoring point has not been achieved nor is any movement of the indicator in this direction to be seen.

The value of 25 mg/l, which still indicates a high level of pollution, was exceeded at more than one third (38.0 %) of all monitoring points. This share has also remained virtually unchanged over the years.
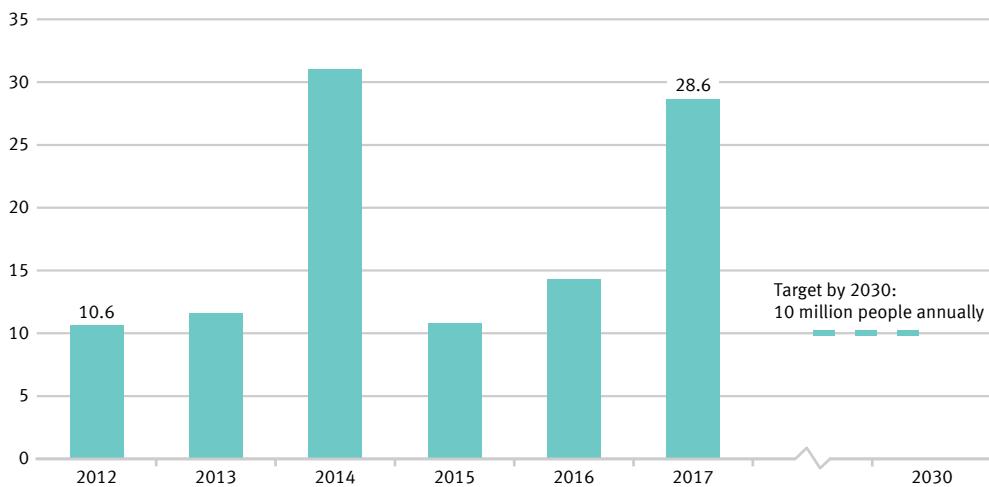
Drinking water and sanitation – *Better access to drinking water and sanitation worldwide, higher (safer) quality*

6.2 Development cooperation for drinking water and sanitation
☀️

Access to drinking water and sanitation subsidised by Germany
Persons reached, millions

Source: Kreditanstalt für Wiederaufbau

Definition of the indicator

The indicator shows the number of people in the respective reference year who received new or improved access to drinking water and sanitation as a result of German support.

Target and intention of the indicator

Inadequate provision of drinking water and sanitary facilities has far-reaching consequences for human nutrition and health. The goal of the Federal Government is therefore to give ten million people worldwide access to drinking water and sanitation each year up to 2030 with German support.

Content and progress of the indicator

This indicator is based on information provided by the KfW (the state-owned development bank). In this case, it is based exclusively on the planned scope of new financing commitments for projects regarding drinking water and sanitation at the time of submission of the programme proposal to the Federal Ministry for Economic Cooperation and Development. On this basis, the KfW estimates the number of people who will in future (i.e. after the implementation of these planned projects) receive new or improved access to drinking water and sanitation. The funding announced by the KfW includes subsidies and loans, refinanced from the Federal Budget, and internal market funds. The recipients are generally developing and emerging countries, which means that this indicator is related to indicator 17.1.

Due to the data structure, there is a slight overestimation (in the low single-digit percentage range) of the number of people who will have received new or improved access to drinking water and sanitation. Thus, according to the classification of the Organisation for Economic Co-operation and Development (OECD), waste disposal and recycling projects are also counted as drinking water and sanitation projects.

Concrete estimates of the extent to which the planned figures are achieved, that is, whether the goal has been exceeded or the number of people reached is less than envisaged, can be made only after the relevant infrastructures have been put into operation.

Follow-up projects are evaluated as independent projects. However, if the target group of the follow-up project is identical to that of the original project, it is taken into account only once to avoid duplicate counting. Only in duly substantiated exceptional cases is it permitted to count the target group twice, for example, in scenarios where installations previously funded by the KfW are being repaired following violent confrontations or the destruction of infrastructure.

Besides the KfW, there are additional stakeholders in Germany (e.g. Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, the Länder, private stakeholders), who support access to drinking water and sanitation in developing and emerging countries. The indicator therefore records only a part of the German development cooperation in the drinking water and sanitation sector. Over the past five years, the KfW's share of total German development cooperation in the water sector has fallen steadily. In 2012 the share was 96.0%, while in 2016 it fell to 78.0%.

In previous years, the planned numbers of people who were to receive access to drinking water and sanitation with German support were always just above the set goal of ten million people. Exceptions are the years 2014 and 2017. In 2014 this was due to a nationwide programme in Mexico which, according to KfW estimates, reached considerably more people than expected. The increase in 2017 can be explained by an almost threefold increase in new financing commitments compared with 2016. If the trend recorded over the last four years is maintained, the goal will continue to be met. However, the possibility of major fluctuations due to the diverse nature of the projects cannot be ruled out in the future.

Resource conservation – *Using resources economically and efficiently*
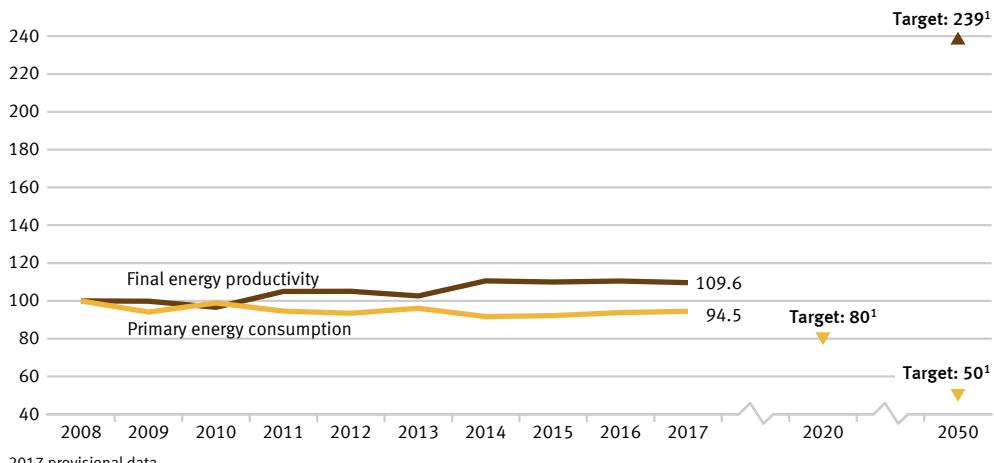
## 7.1.a, b Final energy productivity and primary energy consumption

a) Final energy productivity   b) Primary energy consumption

Final energy productivity and primary energy consumption
2008 = 100

2017 provisional data.

1   The goal equates to an annual increase in final energy productivity of 2.1 % compared to 2008 up to 2050 and a reduction
    in primary energy consumption by 20 % compared to 2008 in 2020 or by 50 % compared to 2008 in 2050 (energy concept).

Sources: Federal Statistical Office, AGEB (Energy Balance Association)

Definition of the indicators

The indicator "Final energy productivity" shows the trend of value added per unit of final energy used. The concept of "final energy" refers to the part of the energy that is used energetically in terms of thermal or electric energy in the production sectors for the manufacturing of goods or by households.

The indicator "primary energy consumption" specifies how much energy was consumed by a country in the energy sectors for conversion purposes on the one hand, and by production activities, transport and households on the other.

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Target and intention of the indicators

Along with the expansion of renewable energies, the reduction of energy consumption through increased energy efficiency represents the second supporting pillar of the energy transition. The goal is to achieve a high level of economic output while using as little energy as possible. Saving energy protects the climate and the environment, it helps to improve the security of supply and the industrial competitiveness.

According to the Federal Government's energy concept, final energy productivity is to be increased by 2.1 % annually in the period 2008 to 2050. At the same time, primary energy

consumption is to be reduced by 20 % by 2020 and by 50 % by 2050, both compared with 2008. These targets are also used here as a basis.

Content and progress of the indicators

Final energy and primary energy consumption are directly related to one another. Final energy consumption is derived from the sum of primary energy consumption, conversion, flare and transmission losses as well as the statistical difference.

Primary energy consumption is the sum of domestically extracted primary fuels, withdrawals from reserves and all imported fuels minus storage, energy exports and marine bunkers. A key component in the calculation of energy consumption is the data from the energy balances of the AGEB (Energy Balance Association), which are supplemented with data from other sources.

Final energy productivity indicates the amount of value added created by each unit of final energy used. It represents a measurement of energy efficiency in production areas and in the energy use of households. However, estimates of energy efficiency in the areas of conversion (efficiency of power stations) or in the transmission of energy and storage (elimination of breaches, improved heat insulation, etc.) cannot be directly derived from the indicator.

According to preliminary results, final energy productivity in the period 2008 to 2017 increased by 9.6 %, equating to an average annual increase of 1.0 %. This means that the goal of an annual increase of 2.1 % on average up to 2050 has not yet been achieved. In the year-on-year comparison, energy productivity for 2017 has even fallen by 0.9 percentage points. The reason for this was that the final energy consumption in every sector except households (+2.2 % on the previous year) increased proportionally faster than the gross domestic product. In particular, at a rate of change of around 3.9 % in 2017, final energy consumption in the industrial sector was far above the price-adjusted growth rate of the gross domestic product (2.2 %). If final energy consumption grows faster than the gross domestic product, final energy productivity decreases.

Primary energy consumption rose slightly in 2017, which can be partially attributed to slightly cooler weather conditions and to growth in the economy. Although primary energy consumption was lower than in 1990, it increased slightly compared with the previous year. Provisional results indicate that primary energy consumption fell by 5.5 % in the period from 2008 to 2017. If development remains the same as in the previous years, the target value for 2020 will not be achieved.
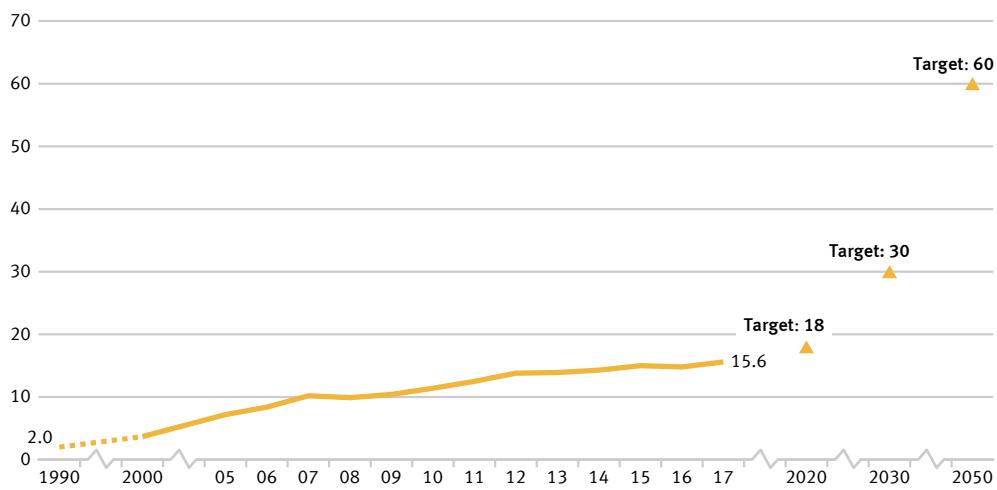
Renewable energies – *Strengthening a sustainable energy supply*

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

Generation of renewable energies relative to gross final energy consumption
Percentage share

2017 provisional data.
Sources: Working Group on Renewable Energies Statistics, Federal Ministry for Economic Affairs and Energy, data updated: August 2018

Definition of the indicator

The indicator expresses the generation of renewable energies relative to gross final energy consumption. Gross final energy consumption covers energy consumption by end consumers and transmission losses as well as the self-consumption of the energy generation sector.

Target and intention of the indicator

The reserves of fossil fuels such as oil and gas are limited, and their use is associated with greenhouse gas emissions. Switching to renewable energies (natural energy sources that constantly regenerate) serves to reduce energy-related emissions and hence the extent of climate change. In addition, dependency on energy imports and the consumption of resources is reduced as well as technical innovations are promoted. For this reason, the goal of the Federal Government is to increase the share of renewable energy in gross final energy consumption to 18 % by 2020, to 30 % by 2030 and to 60 % by 2050.

Content and progress of the indicator

For this indicator, the energy generated from renewable sources (including hydropower, wind power on land and at sea, solar energy and geothermal energy, biomass or biogenic waste) is expressed relative to all energy sources consumed in Germany. In addition to renewable energy, this also includes imported electricity and fossil fuels such as lignite and hard coal, oil and gas. Another characteristic of the indicator is that energy consumption is taken into account in all areas of application. This includes its use in the form of mechanical energy, as electric power, heat or fuel in the transport sector.

The indicator is calculated by the Working Group on Renewable Energies Statistics (AGEE-Stat), but without taking into account the calculation rules pursuant to the EU Renewable Energy Directive (Directive 2009/28/EC), which applies an average value across several years for hydropower and wind power due to their annually varying supply. Instead, the actually generated electricity quantities (of wind power and hydropower) are taken into account for this report (energy concept of the Federal Government).

Concerning the methodology for calculating the indicator, it should be noted that imports and exports of electricity are not fully included in the final energy consumption of renewable energy sources, whereas they are included in the gross final energy consumption. In this respect, the indicator can over- or underestimate the share of renewable energies in gross final energy consumption depending on the foreign trade balance. A positive net export balance of electricity – as has been the case since 2001 – would thus mean that the actual share of renewable energies would be lower than shown by the indicator.

Between 1990 and 2017, the share of renewable energy in final gross energy consumption rose from 2.0 % to 15.6 %. If the trend continues at the average pace seen in the past few years, the goal for 2020 will not be achieved. The use of renewable energies varies significantly depending on the sector. 51.6 % of the total energy produced from renewable energies in 2017 was used for electricity generation, 40.2 % for heat generation and 8.2 % for biogenic fuels. Biomass with a share of 54.5 % and wind power with a share of 25.2 % of all renewable sources played the most important role as energy sources.

The indicator has cross-references to indicators 3.2.a "Emissions of air pollutants", 7.2.b "Share of electricity from renewable energy sources in electricity consumption" and 13.1.a "Greenhouse gas emissions".
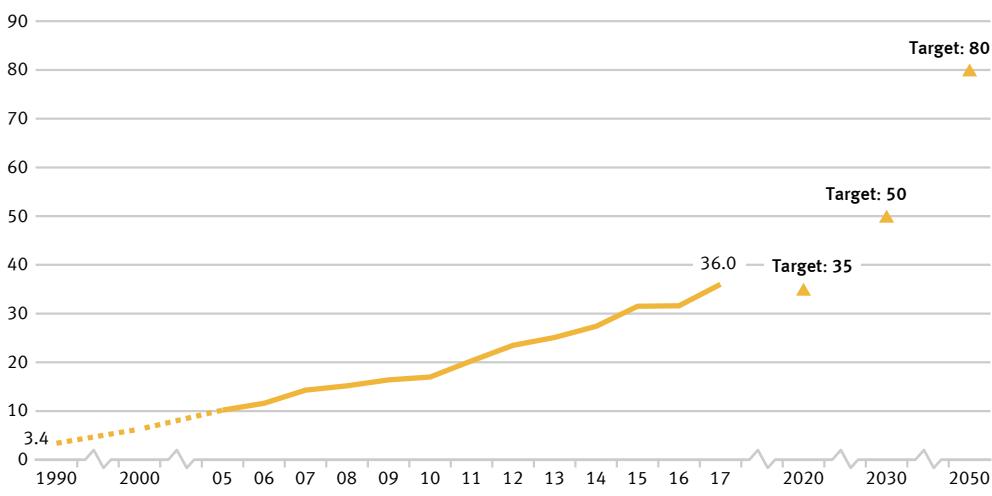
Renewable energies – *Strengthening a sustainable energy supply*

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

Electricity generated from renewable energy sources
Percentage share in electricity consumption

2017 provisional data.

Sources: Working Group on Renewable Energies Statistics, Federal Ministry for Economic Affairs and Energy, data updated: August 2018

Definition of the indicator

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

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Target and intention of the indicator

Switching to renewable energies (natural energy sources that constantly regenerate) can reduce the demand for fossil fuels. As a result, the dependency on imports of conventional fuels would be reduced, as would energy-related emissions, and hence the extent of climate change would be mitigated. According to the energy concept of the Federal Government, the share of electricity from renewable energy sources in gross electricity consumption should therefore increase to at least 35 % by 2020, at least 50 % by 2030 and at least 80 % by 2050.

Content and progress of the indicator

The indicator is calculated by the Working Group on Renewable Energies Statistics (AGEE-Stat) based on different official and unofficial sources. Gross electricity consumption is the sum of all generated and imported electricity minus the amount of exported electricity. It therefore comprises the domestic electricity generation, the balance of exchanges across national borders, the self-consumption of power plants as well as transmission losses. The following are considered to be renewable energy sources: wind energy, hydropower, solar radiation energy, geothermal energy and biomass including biogas, biomethane, landfill gas and gas from purification plants as well as the bio-degradable proportion of waste from households and the industry.

During the period from 1990 to 2017, the share of renewable energy in electricity consumption increased from 3.4% to 36.0%. The goal of achieving 35% by 2020 thus was already reached in 2017. This trend has been driven by legal measures, such as the Renewable Energy Sources Act (EEG). The EEG requires, among other things, network operators to give priority feed-in to renewable energy.

Similarly to indicator 7.2.a, it should be noted with regard to the methodology used to calculate the indicator that foreign trade of electricity has a direct influence on the denominator of the indicator, but not on the numerator.[1] Regardless of electricity generation from renewable sources, net exports reduce gross electricity consumption, while net imports increase gross electricity consumption. For 15 years, Germany has been a growing net exporter of electricity (in 2016: 8.5% of the gross electricity consumption). As a result, the indicator overestimates the actual share of renewable energies in gross electricity consumption over the same time period.

Since 2000, the share of renewable energy in electricity generation has risen, in particular due to the increased use of wind energy, biomass and photovoltaics. In the period between 2000 and 2017, a slight downward trend in the generation of electricity from conventional fuels coincided with an increase of more than 180 TWh in the production of renewable electricity. Specifically, electricity generation by means of wind energy on land and at sea was up from 9.7 TWh in 2000 to 105.7 TWh in 2017. The share accounted for by wind energy at sea in 2017 was approximately 17.7 TWh. Electricity generation from photovoltaics rose from 0.06 TWh in 2000 to 39.4 TWh in 2017. Electricity generation from biomass has increased to 50.9 TWh, that is, more than tenfold in the same period.

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1 This is a purely mathematical effect and does not refer to a correlation between the exchange balance and gross electricity consumption.
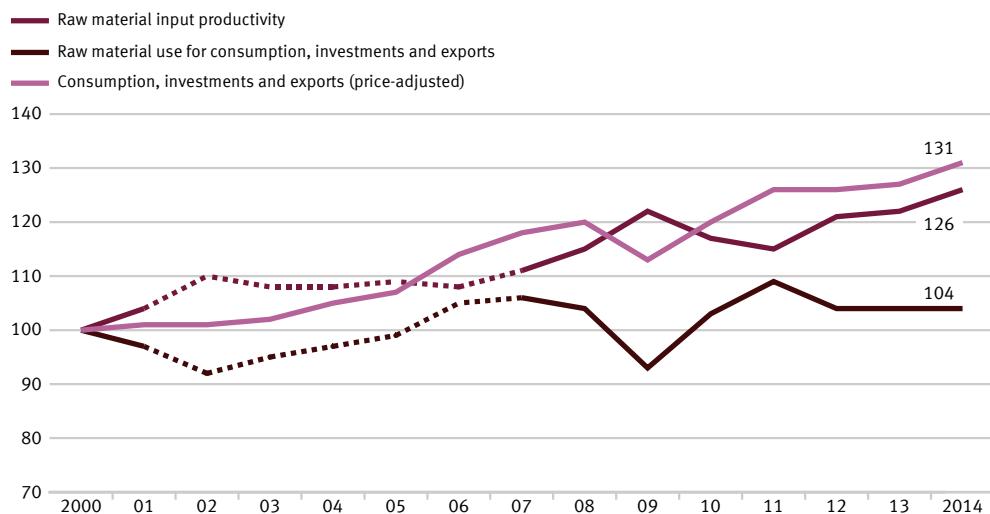
Resource conservation – *Using resources economically and efficiently*

8.1 Raw material input productivity

Raw material input productivity
2000 = 100
━━━ Raw material input productivity
━━━ Raw material use for consumption, investments and exports
━━━ Consumption, investments and exports (price-adjusted)

2014 provisional data. – Raw material use interpolated from 2001 to 2007.
Source: Federal Statistical Office

Definition of the indicator

The indicator of raw material input productivity compares the value of all goods provided for final use (in euros, price-adjusted) relative to the mass of the raw materials used domestically and abroad for their production (in tonnes). Final use covers domestic consumption and domestic investments as well as exports. The denominator of the indicator takes into account abiotic and biotic raw materials from the environment as well as plant materials produced by farming and forestry.

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Target and intention of the indicator

The extraction of raw materials is always associated with impairments to the natural environment. Due to the growing demand for raw materials, worldwide raw material deposits are increasingly being developed in areas that are particularly sensitive to human influences. For this reason, the Federal Government set the goal of continuing to increase raw material input productivity already in 2016 in the German Resource Efficiency Programme (ProgRess) II. From 2000 to 2010, raw material input productivity was already increasing by an annual average of around 1.6 %. This positive trend should be continued up to 2030.

Content and progress of the indicator

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

Due to the monetary and physical inclusion of imports, the indicator takes into account the value added and raw material use across the entire production chain both inside and outside of Germany. In this way, the economic interdependence with foreign countries is also taken into account comprehensively. The raw material use mapped in the indicator covers not only domestic final use but also exports. It should therefore not be confused with a resource footprint for Germany.

The indicator includes not only the raw materials that were considered to be non-renewable, that is, mineral raw materials and fossil fuels, but also plant-based products from farming and forestry activities. This means that double counting occurs to a limited degree. For example, both the mass of an agricultural product at harvest time as well as that of the mineral fertiliser used to produce it are recorded.

Based on preliminary results, the value of the indicator increased by 26 % from 2000 to 2014. This increase results in particular from the growth of the numerator: the value of the final use (domestic consumption and domestic investments as well as exports) increased by 31 % during the reference period. The removal of domestic raw materials fell moderately between 2000 and 2014; at the same time, however, the mass of imports in raw material equivalents increased, causing a slight increase of 4 % in the indicator's denominator.

Domestically extracted raw materials as well as imports are also being exported (again) to an increasing degree. Consequently, the indicator's denominator does not point to increased global raw material extraction for consumption and investment in Germany, but reflects generally more intensive links between the German economy and the outside world.

The year 2009 should be considered an outlier due to the exceptional economic situation in the European financial market and economic crisis . The values for the years 2010 to 2014 continued the path of development that prevailed up to 2008. From 2013 to 2014, the value of the indicator grew by 3 % and thus followed the positive trend from the preceding years.
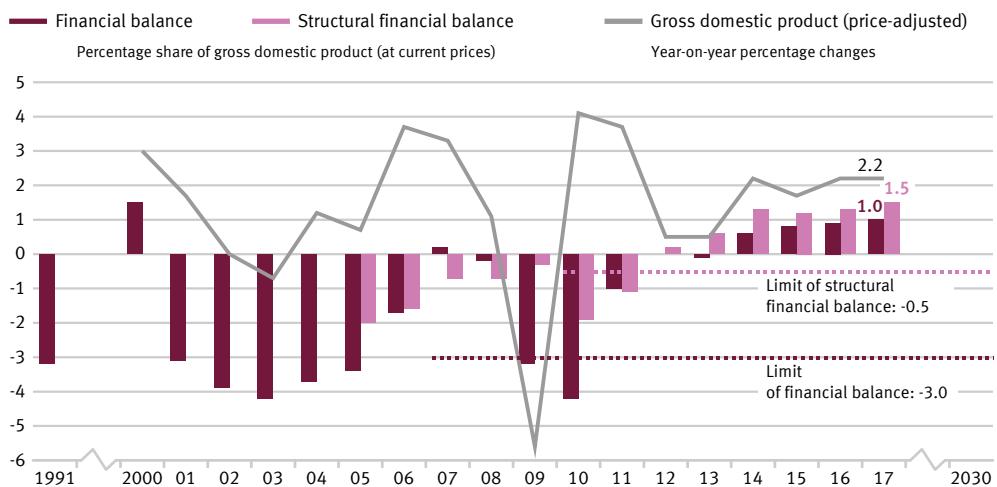
Government debt – *Consolidating public finances – Creating intergenerational equity*

8.2.a, b Government deficit, structural deficit

a) Government deficit ☀   b) Strutural deficit ☀

Financial balance and structural financial balance of general government

■ Financial balance   ■ Structural financial balance   ── Gross domestic product (price-adjusted)

Percentage share of gross domestic product (at current prices)   Year-on-year percentage changes

Previous year's prices chain-linked, 2010 = 100.

Sources: Federal Statistical Office, updated: August 2018, Federal Ministry of Finance, updated: July 2018

Definition of the indicators

The indicators show the financial balance of general government (deficit or surplus) and the structural financial balance in relation to gross domestic product (GDP) at current prices. The financial balance of general government is calculated from government revenue minus government expenditure in line with the national accounts. The annual structural balance refers to the part of the financial balance that cannot be attributed to cyclical fluctuations and temporary effects.

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Target and intention of the indicators

Sound public finances represent an essential element of a sustainable financial 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 (referred to 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 progress of the indicators

The calculation of GDP and the financial balance of general government is specified by the European System of National and Regional Accounts (ESA) and is conducted by the Federal Statistical Office. Whereas the structural financial balance is determined by the Federal Ministry of Finance. The calculation of the government deficit takes into account the finances of the territorial authorities, that is, central, state and local government (Federation, Länder and municipalities), and the finances of the social security funds. Additional units (so-called extra budgets) – such as the German Financial Market Stabilisation Fund, which must be allocated to the general government sector according to the ESA – are also included. The values are based mainly on the financial results of the federal budget according to information provided by the Federal Ministry of Finance and, for state and local government, on the quarterly cash results of public finance statistics.

In 2014, total general government reported a surplus of 16.7 billion euros – the first positive result since the financial market and economic crisis in 2008/2009. In 2017 the financial surplus amounted to 34.0 billion euros. The central government (Federation) surplus was 6.1 billion euros. At the same time, the state government (Länder) again reported a surplus (8.3 billion euros). The results from local government (municipalities) (9.5 billion euros) and the social security funds (10.1 billion euros) were also positive. The overall government budget in 2017 showed a structural surplus of 1.5 % (provisional results) of GDP. As a result, the Maastricht Criteria of the EU regarding the government deficit as well as the structural deficit have been met since 2012.

Viewed over the entire period from 1991 to 2017, government revenue grew more strongly (116.0 %) than GDP at current prices (107.5 %) and expenditure (96.6 %). Consequently, the share of government revenue in GDP increased from 43.2 % to 45.0 %. However, higher revenue growth became apparent only from 2011 onwards.

Expenditure showed a disproportionate increase in social benefits in kind. These have increased by 176.7 % since 1991, whereas the largest item on the expenditure side –social benefits other than social transfers in kind – recorded an increase of 114.9 %, which was only slightly higher than GDP growth (107.5 %). Around 70 % of social benefits other than social transfers in kind are accounted for by social security funds, primarily in the form of pensions and unemployment benefits. From 2003 onwards, the social benefits other than social transfers in kind fell from 18.4 % of GDP to 15.4 %, which can be primarily attributed to sharp reductions in unemployment insurance payments. These fell by roughly 24 billion euros between 2003 and 2017 as a result of the Hartz legislation and an upturn in the labour market.
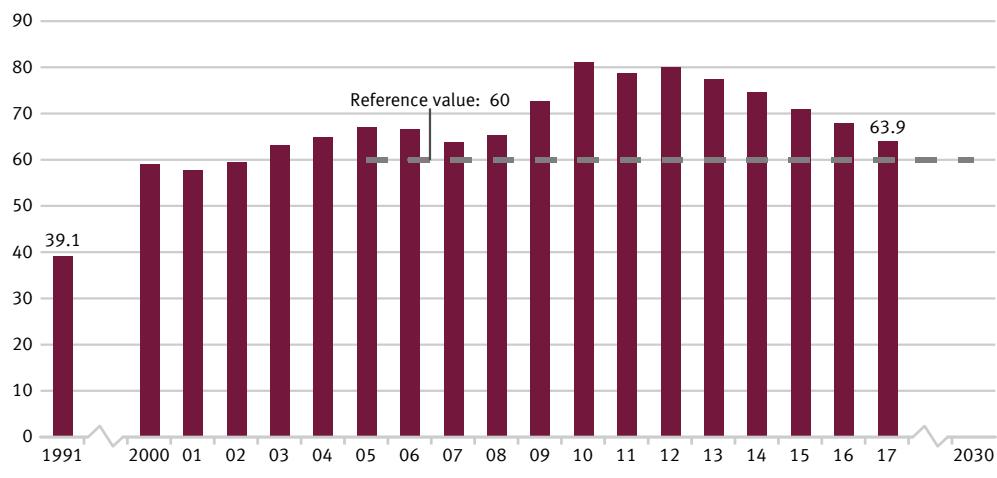
Government debt – *Consolidating public finances – Creating intergenerational equity*

8.2.c Government debt

Government debt
Percentage share in gross domestic product at current prices

2017 provisional data.
Sources: Federal Statistical Office, updated: August 2018; German Bundesbank; updated: September 2018

Definition of the indicator

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

- -

Target and intention of the indicator

The European Union's Stability and Growth Pact specifies a reference value of 60 % as the maximum debt-to-GDP ratio. This also is the upper limit of the national target value of the indicator which is relevant for this report.

Content and progress of the indicator

The government debt is determined by the Bundesbank twice annually pursuant to the requirements of the Maastricht Treaty and based on calculations by the Federal Statistical Office. The GDP at current prices is determined by the Federal Statistical Office as part of the national accounts system and published as a preliminary value in January of the following year.

The debt-to-GDP ratio is influenced by the state of the public budgets and by economic development in general. The indicator compares the "debt" stock variable with the "gross domestic product" flow variable. According to the formula – assuming stable debt – the debt ratio falls faster the stronger GDP growth. In case of positive economic development, the debt-to-GDP ratio will even fall without any reduction in the overall public debt.

Furthermore, the indicator excludes implicit government debt, which refers to the government's future payment obligations that are pledged but not yet due.

Since 2003, the debt-to-GDP ratio in Germany has been continuously above the Europe-wide harmonised and compulsory threshold. Following public budget consolidation efforts in the middle of the last decade, it fell to 63.7 % in 2007, only to increase further to a high of 81.0 % by 2010. This increase has to be seen in the light of the financial market and economic crisis. Overall, the government debt increased by 420 billion euros from 1,669 billion euros in 2008 to 2,089 billion euros in 2010.

In the subsequent years, the burdens imposed by the financial market and economic crisis were considerably reduced. The debt ratio fell to 63.9 % in 2017. Central government (Federation) reduced its debt for the first time in 2015 by 23.9 billion euros to 1,373 billion euros. In 2017 the debt of central government amounted to 1,351 billion euros. The debts of state government (Länder) fell by 73.1 billion euros from their peak in 2012 to 611 billion euros in 2017. The debt owed by local government (municipalities) in Germany decreased slightly for the first time since 2007 to 148 billion euros (2017). Since 2010, the social security funds reduced their debt by 554 million euros to 792 million euros in 2017. In 2017, 64 % of the overall debt was owed by central government (Federation), roughly 29 % by state government (Länder) and roughly 7 % by local government (municipalities).

In the national balance of assets, the government debt is balanced by its assets – both tangible and financial. The biggest asset owned by the government is its buildings and structures (roads, schools, public buildings). According to the national wealth accounts compiled by the Federal Statistical Office, fixed assets were valued (after amortisation) at 1,359 billion euros in 2016. The financial assets were valued at 1,149 billion euros (2016). Among them, securities represent the most highly valued asset.
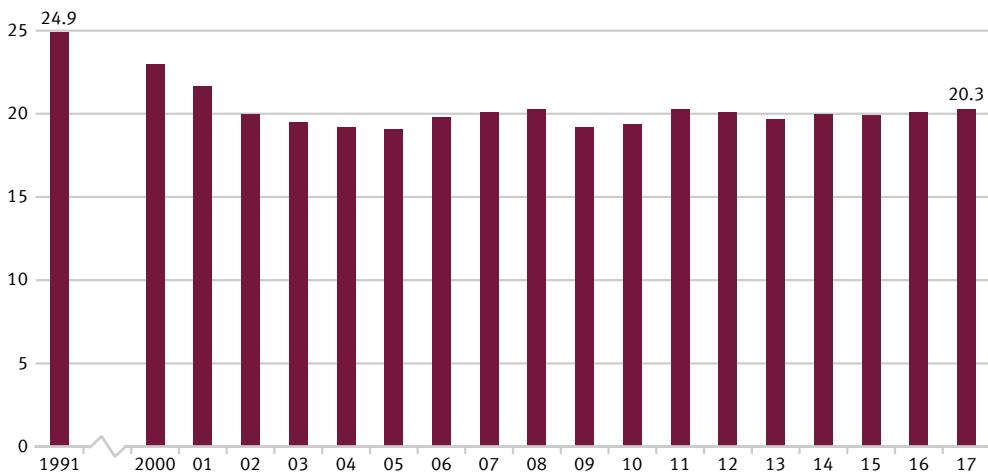
Provision for future economic stability – *Creating favourable investment conditions –*
Securing long-term prosperity

8.3 Gross fixed capital formation in relation to GDP

☀️

Gross fixed capital formation
Percentage share in gross domestic product at current prices

2014 to 2017 provisional data.
Source: Federal Statistical Office

Definition of the indicator

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

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Target and intention of the indicator

Future investments made by both the private and public sectors are decisive in creating a strong and competitive economy. For this reason, the goal of the Federal Government is to promote appropriate development of the share of gross fixed capital formation in gross domestic product (GDP).

Content and progress of the indicator

The level of gross fixed capital formation is determined by the Federal Statistical Office. It includes additions (that is, acquisitions less disposals without taking into account consumption of fixed capital) of fixed assets by resident economic units. Fixed assets are produced assets that are designed for repeated or continuous use in production processes for longer than a year. These include buildings and structures (dwellings, other buildings and structures), machinery

and equipment (machinery, vehicles, tools), weapons systems and other assets (intellectual property such as investments in research and development, computer software and databases, entertainment, literary or artistic originals, mineral exploration and evaluation as well as animal resources and tree, crop and plant resources). Also included are improvements on existing stocks of fixed assets that lead to a significant increase in the value of an asset and/or prolong its useful life.

Gross fixed capital formation is determined as part of national accounts, which are compiled in accordance with harmonised European rules and based on all available, relevant data sources.

In 2017, the share of gross fixed capital formation in GDP was 20.3 % and was thus 4.5 percentage points below the initial value in 1991 for the entire federal territory as well as 2.7 % percentage points lower than in 2000. The indicator has moved into the desired direction both in the short and medium term; however, it has been largely stagnating since 2002. The share would be almost unchanged (19.5 %) on a price-adjusted basis compared with 2010.

The investment ratio in Germany was an annual average of 19.9 % between 2007 and 2016, which was below the investment ratio for the entire OECD region (20.9 %). The difference has been considerably smaller since 2010 than in the period between 2003 and 2008 (− 2.9 percentage points).

Looking at the time series reveals a wavelike trend in the investment ratio that is marked by declines at the start of the millennium and, following a slight recovery, again in 2009 after the financial market and economic crisis of 2008/2009. Up to 2011, investment activity recovered, and gross fixed capital formation once again exceeded the level of the pre-crisis year. Between 2014 and 2017, gross fixed capital formation grew strongly by 13.3 % in total and reached a level of 666 billion euros. Since the increase in nominal GDP in the same period was slightly lower (11.5 %), the investment ratio increased slightly from 20.0 to 20.3 % and reached the level of 2008 and 2011.

With regard to gross fixed capital formation in construction, the dwellings sector has recorded strong nominal growth (+48.8 %) since 2010, while the growth of gross fixed capital formation in other buildings and structures (both in building construction and underground construction) in the same period was less pronounced (+23.5 %) and even slightly declined in 2012 and 2015. Gross fixed capital formation in machinery and equipment at current prices increased most recently by 2.6 % (2016) and 4.2 % (2017) compared to the previous year and – despite the sharp decline in 2009 (− 22.0 %) – surpassed the pre-crisis level of 2008. The strongest growth since 1991 was recorded for gross fixed capital formation in research and development as well as in computer software and databases. Between 1991 and 2017 its volume almost tripled.

The period from 1991 to 2017 witnessed a strong shift in investment activity from industry to the service sector. In 1991, 30.9 % of new fixed capital formation was still being made by enterprises of the industry sector. By 2017, this figure had fallen to just 23.7 %. In 2017, 74.9 % of fixed capital formation was made in the service branches. In 1991, this figure was still 67.5 %. The largest single investment area was that of real estate activities. In 2017 alone, this sector accounted for 31.2 % of all new fixed assets. The general government sector, whose investment activities are spread across various sectors of the economy, accounted for 11.0 % of gross fixed capital formation in 2017.
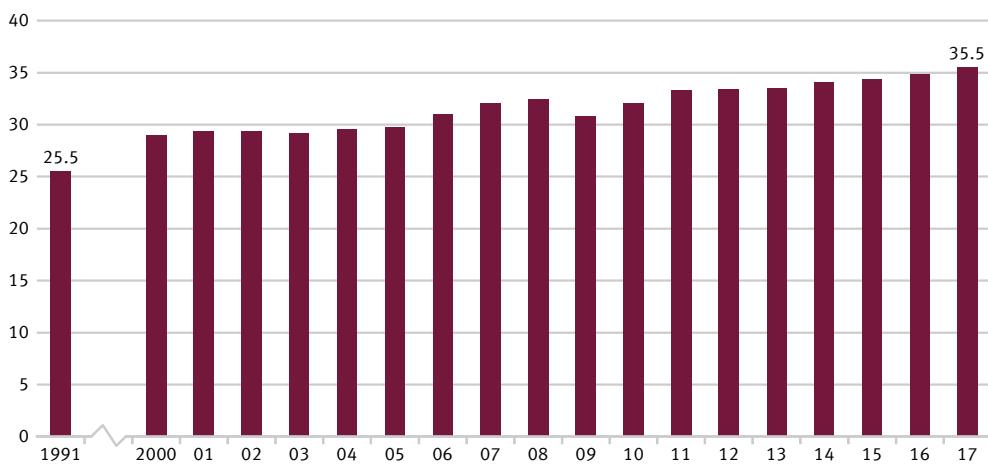
Economic output – *Combining greater economic output with environmental and social responsibility*

8.4 Gross domestic product per capita

Gross domestic product per capita
Price-adjusted, thousands of euros

2014 to 2017 provisional data. – Previous year's prices chain-linked, reference year 2010.
Source: Federal Statistical Office

Definition of the indicator

The indicator shows the price-adjusted gross domestic product (GDP) per capita (inhabitant) in Germany based on the year 2010. GDP measures the value of all goods and services produced domestically; inhabitants are all those people whose permanent residence is in Germany.

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Target and intention of the indicator

Changes in GDP are related in a variety of ways to other indicators included within the National Sustainability Strategy. Social factors such as the population structure, the labour supply, the educational system and social cohesion play an important role in society with regard to international economic competitiveness. GDP is an important indicator of a nation's economic strength and growth. Consequently, the goal is to achieve continuous and appropriate levels of growth.

Content and progress of the indicator

GDP expresses the total economic output produced within the country in a reference period. The focus in this context is primarily on goods and services that are traded on markets as well as on public goods and services. GDP is determined quarterly and annually by the Federal Statistical Office in accordance with rules that are harmonised throughout Europe. Due to the early calculation dates, many of the necessary basic data are not available in time for the first release date. Instead, the first release is still largely based on indicators and estimates. Missing information is initially estimated or carried forward. The data basis is subsequently improved with additional statistics, which are successively incorporated into the calculations. Only after around four years are all basic statistics available, and the data are then classified as "final".

GDP and other standard aggregates of the European System of National and Regional Accounts represent an important part of the material wealth, namely, income generated primarily in the market and its use. However, GDP is not suitable for use as a welfare indicator, because an assessment of material wealth is not sufficient to achieve a comprehensive calculation of well-being and quality of life. This requires additional indicators, for example, to cover unpaid work in households, which is not included in the calculation of GDP. Also, the distribution of income (and assets) among different population groups is not shown by GDP.

The GDP is also a pure flow parameter that generally refers to the period of a quarter or a year. The change of stock variables is not recorded – with the exception of the capital stock through the calculation of fixed capital formation and consumption of fixed capital. Key economic variables such as stocks and qualities of human capital (such as education, health), of social capital (such as security, integration) and of natural capital (such as resources, ecosystems) are excluded. Statements as to whether GDP and its growth have led to capital preservation in a broad sense are therefore not possible. Consequently, on the basis of GDP, no statements regarding the sustainability of the economic growth can be made.

The GDP per capita is calculated on the basis of the average population figures of the Federal Statistical Office, which are recalculated and rolled forward according to the 2011 Census.

Between 1991 and 2017, the price-adjusted gross domestic product per capita increased by a total 39.2 %. Following a strong year-on-year GDP growth averaging a 2.9 % annual increase over the period 2005 to 2008, GDP per capita fell by 5.3 % in 2009 on the previous year as a result of the global financial market and economic crisis. Economic output then recovered and in 2011 GDP exceeded the 2008 level. If one considers the average development of 1.5 % over the last five years, the indicator has developed in a positive direction. In 2017, the figure was just under 35,500 euros per capita.

Employment – *Boosting employment levels*
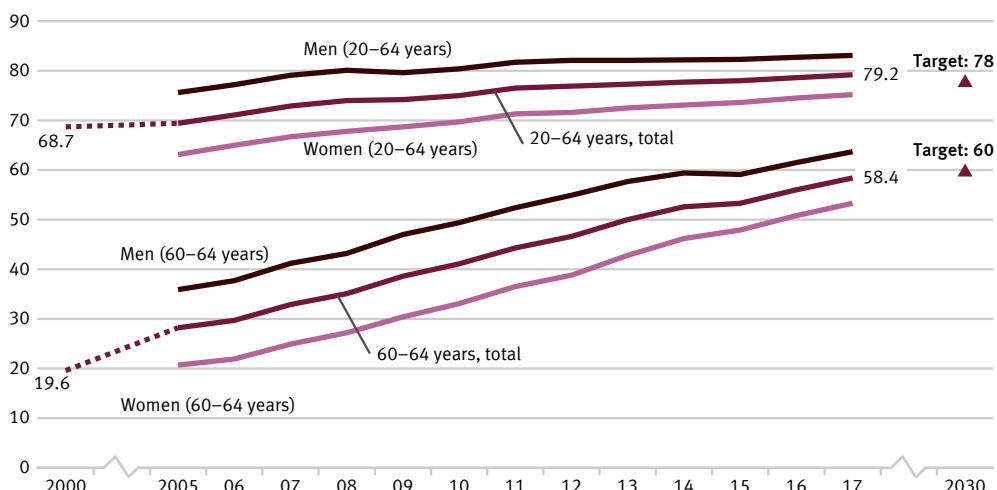
8.5.a, b Employment rate

a) 20-64 years, total ☀   b) 60-64 years, total ☀

Employment rate
Percentage shares of persons in employment in the population of the same age

Sources: Federal Statistical Office, Eurostat

Definition of the indicators

The indicators specify the proportion of persons in employment aged between 20 and 64 years (8.5.a) and aged between 60 and 64 years (8.5.b), measured in each case as a share of the total population of the same age group.

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Target and intention of the indicators

Due to demographic changes, there could be a shortage of professionals in Germany in the long run. At the same time, the social security system is threatened by an increasing shortage of funds. The available labour force potential must therefore be more effectively utilised in the future. The employment rate, that is, the share of persons in employment in the working-age population (20 to 64 years of age) should be increased to 78 % by 2030. In addition, the goal of the Federal Government is to achieve an employment rate of 60 % among older people (60 to 64 years of age) by 2030.

Content and progress of the 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 by the Federal Statistical Office on an infra-annual basis. The European statistical office Eurostat summarises the data to form quarterly results and then consolidates them to create annual average values. It covers the population living in private households, but does not include people living in collective accommodation. The economically active population covered by the labour force survey consists of persons aged 15 and over who performed an activity for remuneration for at least one hour during the reference week or who worked as unpaid family workers. Also included are persons who temporarily did not work because they were absent, for example due to holidays or illness.

Since reference year 2005, annual averages have been used for the employment rates. In previous years, the calculations were based on a fixed reference week per year. From 2011 onwards, the questionnaire was revised in order to improve the mapping of employment, and the extrapolation factor was adjusted using the population estimate based on the 2011 Census. Starting with reference year 2016, the sampling frame was updated on the basis of the 2011 Census. Due to the methodological changes, comparing the results over time is only possible to a limited extent.

The total employment rate (20 to 64-year-olds) rose by 10.5 percentage points from 68.7 % in 2000 to 79.2 % in 2017. Thus, the target value of 78.0 % for 2030 has already been achieved.

The employment rate among the older age groups (60 to 64-year-olds) rose by 38.8 percentage points from 19.6 % in 2000 to 58.4 % in 2017. The rate for men in this age group more than doubled by 36.5 percentage points to 63.7 %. The rate for women even quadrupled in value by 41.2 percentage points to 53.3 %. If the average annual trend continues, the goal of reaching 60 % in 2030 will be achieved.

The total employment rates of women and men have developed in the same direction since 2000, but to different degrees. The rate for men aged 20 to 64 in the period under review rose by 6.6 percentage points to 83.1 %, whereas in the case of women it rose by 14.5 percentage points to 75.2 %, that is, much more strongly albeit from a lower level. In evaluating the increase in the employment rate of women, it must be taken into consideration that this was accompanied by a clear increase in part-time employment (+2.8 million), while the number of women in full-time employment increased by just 0.45 million.

If the employment rate is broken down into age groups, different trends can be identified. Among 20 to 24-year-olds, the rate fell by 0.2 percentage points to 64.6 % between 2000 and 2017. The lower level compared to 25 to 59-year-olds is also related to the average duration of education at school and university, which postpones entry into working life. Among 25 to 59-year-olds, however, an increase of the employment rate to 83.6 % in 2017 (+7.4 percentage points compared with 2000) can be observed.
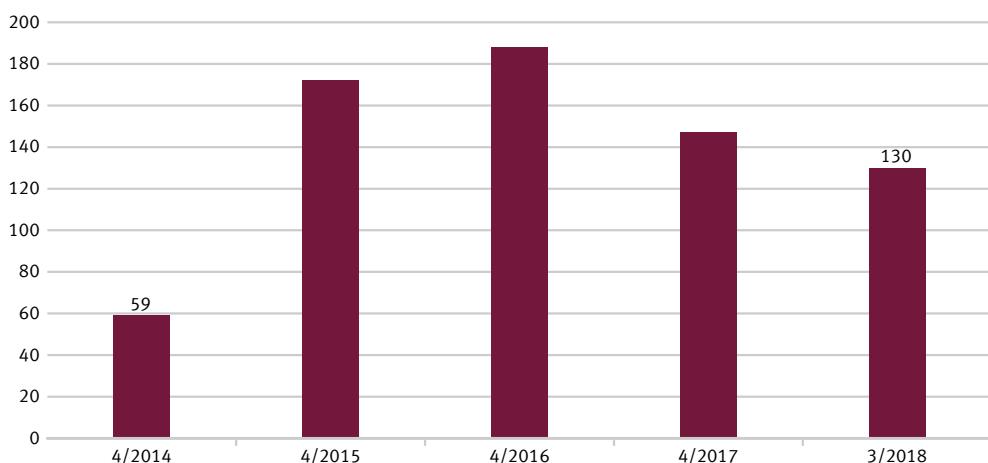
Global supply chains – *Enabling decent work worldwide*

8.6 Number of 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 (Textiles Partnership).

Target and intention of the indicator

The multi-stakeholder initiative "Partnership for Sustainable Textiles" was founded in 2014. The Textiles Partnership aims to improve the underlying social, ecological and economic conditions in the producer countries. To this end, the number of members of the Textiles Partnership who demonstrably introduce and report on measures to improve the conditions and adherence to social and ecological partnership standards all along their supply chain is to be significantly increased.

Content and progress of the indicator

The indicator shows the number of members of the Textiles Partnership. As a multi-stakeholder initiative, the Textiles Partnership consists of members from the following stakeholder groups: businesses, associations, unions, non-governmental organisations, standard organisations[1] and the Federal Government. Building on collectively defined partnership standards, each member commits to implementing measures to continuously improve conditions and meet social and environmental partnership standards throughout its supply chain when joining the Textiles Partnership. To this end, all members are to develop annually individual action plans (roadmaps). Subsequently, an independent body will carry out a plausibility check (logical comparison) on the roadmaps. Since 2017 the drafting of the action plans has been mandatory, as has been their public accessibility since 2018. It is also planned to make the publication of relevant progress reports mandatory as from 2019.

In its founding year 2014, 59 members joined the Textiles Partnership. By the end of 2016, the number of members had more than tripled to a high of 188. However, there have been both exclusions and several withdrawals from the Textiles Partnership since the drafting of action plans became mandatory. Members who did not fulfil their reporting obligations were excluded. On the other hand, members withdrew , giving as a reason the amount of effort required or insufficient relevance, so that the number of members at the end of September 2018 totalled 130. Of the original founding members (period from October to November 2014), 34 were still members of the Textiles Partnership by the end of September 2018. The number of members has developed positively on an average of the last four years.

At the end of September 2018, 82 of the members were classified in the businesses stakeholder group, although one member was a so-called associate member without a subsidiary in Germany. According to a special evaluation from the Federal Statistical Office's statistical business register, in 2016, 49 of the 82 companies (59.8 %) mainly belonged to the retail and wholesale trade sector, but not consistently to economic sectors with the main field of activity being textiles and clothing. In 2016, these recorded a turnover[2] of 31.5 billion euros in retail and 7.4 billion euros in wholesale trade. According to the trade statistics of the Federal Statistical Office, the total turnover of retailers in 2016 amounted to 537.5 billion euros and the total turnover of wholesalers to 1,164.6 billion euros. Enterprises classified under retail trade generated 10.7 % of the turnover with clothing, textiles (excluding carpets), curtains and drapes. In wholesale trade, the share of such goods was 2.7 %.

Another 21 enterprises in the businesses stakeholder group were classified in manufacturing, while 8 were predominantly classified in business or household-related services. According to a special evaluation from the business register of the Federal Statistical Office, these recorded a total turnover of 3.8 billion euros with goods and services. For the economic sectors mentioned above, the turnover cannot be broken down to show the percentage of textiles and clothing.

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1 A standard organisation is an organisation that offers or develops non-commercial standards for sustainable textiles.

2 The taxable turnover in the business register comprises the annual supplies and services of the enterprises. Turnover of tax group members are estimated for analysis purposes.
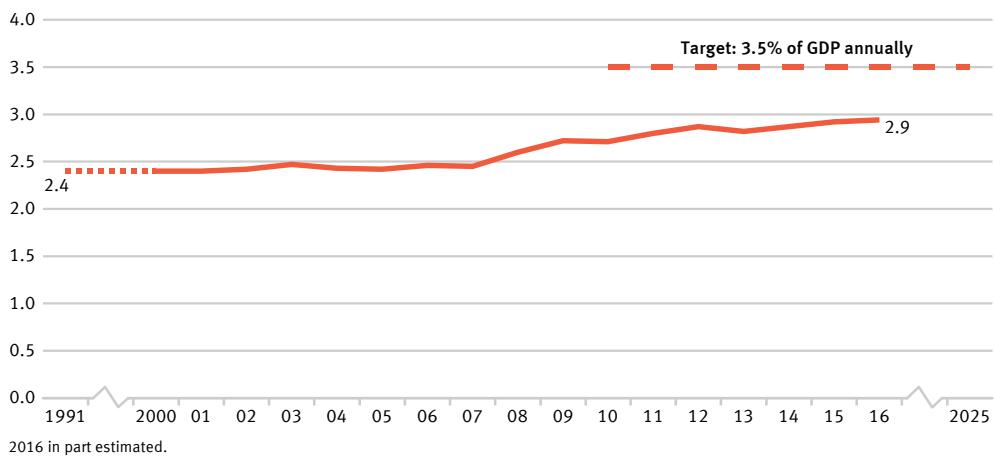
Innovation – *Shaping the future with new solutions*

9.1 Private and public expenditure on research and development

Private and public expenditure on research and development
Expenditure as a percentage of gross domestic product

2016 in part estimated.
Source: Federal Statistical Office

Definition of the indicator

The indicator shows the expenditure on research and development by businesses, general government and institutions of higher education in relation to gross domestic product (GDP).

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Target and intention of the indicator

Expenditure on research and development (R&D) is an important, although not the only determinant of an economy's rate of innovation. The higher the expenditure, the higher the probability of more dynamic gains in productivity, the stronger economic growth and the more competitiveness is improved. The Federal Government has therefore set itself the goal of ensuring that expenditure on research and development increases to at least an annual 3.5 % [1] of gross domestic product 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 progress of the indicator

Research and development are scientific activities and are defined as creative and systematic work to expand the level of knowledge – including knowledge of humankind, culture and society – and the development of new applications based on the existing knowledge. The main criterion applied to differentiate between R&D and related activities is whether the activity involves an appreciable element of newness or further development.

The share of research and development expenditure in the gross domestic product (GDP) is determined annually by the Federal Statistical Office. Overall expenditure on research and development comprises expenditure by general government (including non-profit private research institutions), institutions of higher education, and businesses. The surveys and calculations adhere to the recommended methodologies of the Frascati Manual of the OECD on statistics about research and development, which also enable international comparisons.

Overall R&D expenditure in Germany in 2016 amounted to 92.2 billion euros, equivalent to 2.9 % of GDP. Since 2000, the proportion in Germany has increased by about 0.5 percentage points. In the 1990s it initially fell, dropping to its lowest point in 1994/95 and not surpassing the 1991 level again until 2002. The original goal envisaged for 2010 – a share of 3 % of R&D expenditure in GDP – was at no point reached. Following a change in the target, the 2016 indicator was 0.6 percentage points below the annual target of 3.5 % of GDP by 2025. If the development of the last five years continues, it can be assumed that the target value will not be reached.

In international comparison, Germany is ahead of the USA with 2.7 % (2016) and the EU-28 region with just 2.0 %. On the other hand, some countries as for example Sweden (3.3 %) or Japan (3.1 %) are considerably ahead of Germany.

In 2016, businesses accounted for the by far largest share of R&D expenditure in Germany at around 68 %, with 18 % spent by institutions of higher education and a further 14 % by both public and private non-profit research institutions. Staff employed in R&D comprised around 658,000 full-time equivalents, a figure that includes only the share of their working hours actually spent on R&D work. Some 63 % of the staff work in businesses, 21 % in institutions of higher education and 16 % in public and private non-profit research institutions.
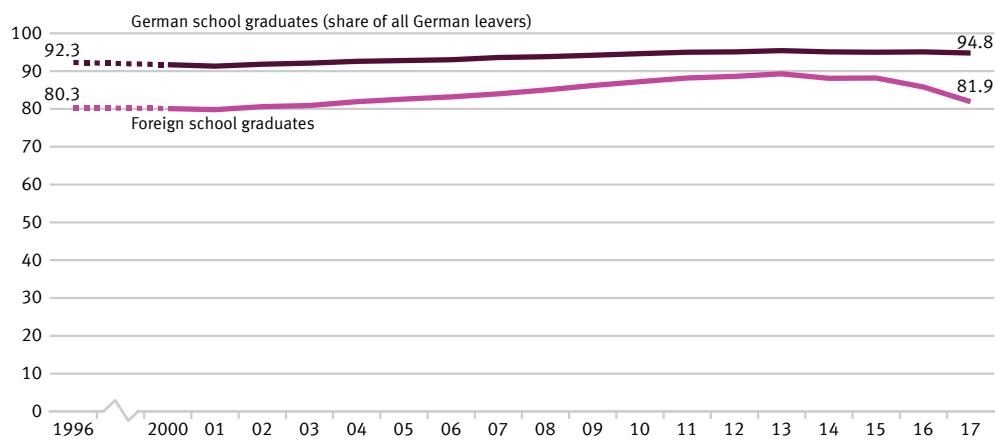
Equal educational opportunities – *Improving educational success of foreigners in German schools*

10.1 Foreign school graduates

Foreign school graduates
Percentage share of all foreign leavers in a year

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the proportion of foreign school graduates as a percentage of all foreign school leavers within a school year. In this case, the term "graduates" refers to people who leave general education schools with at least a secondary general school certificate.

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Target and intention of the indicator

The integration of foreigners living in Germany is an important prerequisite for cohesion within our society. A basic prerequisite for successful integration is the acquisition of sufficient qualifications at school to open up further educational and employment opportunities later on. The goal of the Federal Government is therefore to increase the share of foreign school graduates who obtain at least a secondary general school certificate and to bring this share into line with the corresponding rate for German school graduates by 2030.

Content and progress of the indicator

The school statistics, compiled by the individual Länder, form the data basis for this indicator. These statistics are generally derived from a complete count with an obligation to provide information. The Federal Statistical Office combines them to create a federal result based on the catalogue of definitions compiled by the Standing Conference of the Ministers of Education and Cultural Affairs.

The aggregation of the Länder results into the federal result is influenced by the different education policies of the Länder, for example, with regard to admission rules, in setting up courses of education in the area of vocational schools, etc. This can only be partially offset by formal regulations for the respective allocations.

Graduates are pupils who have left the respective type of school with a school certificate. Included are pupils who have changed to another type of general education school in order to obtain an additional certificate. Furthermore, foreigners are defined as all persons who are not German within the meaning of Article 116 (1) of the Basic Law, i.e. who do not hold the German citizenship. This also includes persons who are stateless and persons with undetermined citizenship. Germans who also hold another citizenship are not included in the foreign population.

In 2017, the share of foreign school graduates who obtained at least a secondary general school certificate measured against all foreign school leavers was 81.9 %. Consequently, the share has increased by 3.9 percentage points compared with the previous year. Regarding the gender-specific shares, the share of foreign female graduates in all foreign female leavers was 86.4 %, whereas the share of male graduates in all foreign male leavers was lower at 78.1 %.

The share of German school graduates who obtained at least a secondary general school certificate, measured against all German school leavers, was most recently 94.8 % and therefore stable. The gap between the share of foreign school graduates and German school graduates slightly increased from 12.0 percentage points in 1996 to 12.9 percentage points in 2017. After the values tended to converge up to 2013, they have been diverging since then.

Considering the certificates obtained shows that almost 28.4 % of foreign school graduates from general education schools achieved a secondary general school certificate in 2017, 36.1 % completed their schooling with a mid-level certificate, and 17.4 % earned a higher education entrance qualification for general or applied sciences universities. The corresponding figures among German school graduates were 15.0 %, 43.6 % and 36.3 %. Young foreign people are thus substantially under-represented in comparison to Germans, especially when it comes to the higher-level school leaving certificates.

The indicator 4.1.a "Early school leavers" also offers additional information on the topic of school graduates.
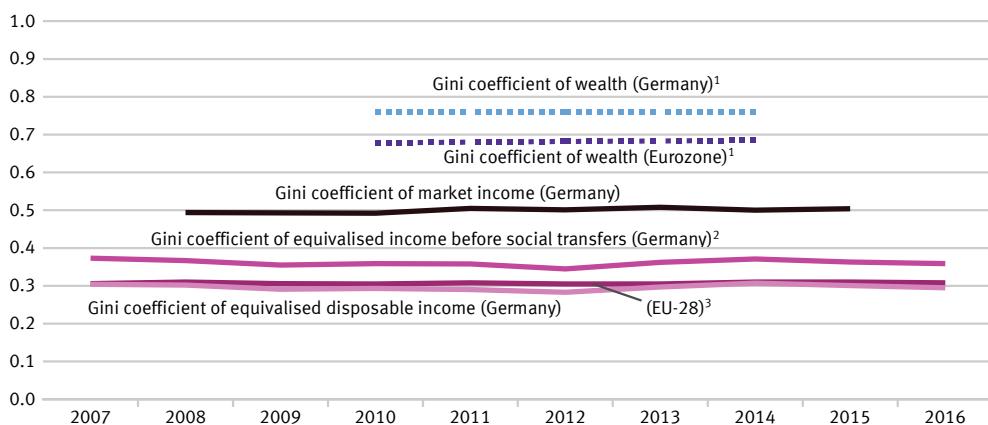
Distributive justice – *Preventing excessive inequality within Germany*

10.2 Gini coefficient of income distribution

Equivalised disposable income (Gini coefficient)

1 Interim years were interpolated.
2 Social transfers do not include pensions.
3 Gini coefficient of equivalised disposable income: until 2009 EU-27, from 2010 EU-28.

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

Definition of the indicator

The indicator shows the distribution of equivalised disposable income per person using Gini coefficients.

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Target and intention of the indicator

Inequality in income and wealth distribution is a generally accepted component of a dynamic market economy. However, the income and wealth gap must remain moderate and social inclusion be guaranteed for all. The goal is to keep the Gini coefficient of equivalised disposable income below the EU average by means of suitable framework conditions as well as a targeted re-distribution of income through taxes and social benefits.

Content and progress of the indicator

The Gini coefficient is a statistical measure of income inequality. It has a value between 0 and 1. The value 0 means that every person has exactly the same income whereas the value 1 indicates that only one person receives all the income, thereby representing a situation of maximum income inequality. However, the Gini coefficient of income distribution does not take into account which sources are used to generate income (e.g. wages, income from rent or income from capital).

The equivalised income is a value derived from the total income of a household and the number and age of the people living from this 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 efficiency gains. This approach makes it possible to compare incomes irrespective of the household size or the age of the household members because the equivalised income is allocated equally to each household member. The equivalised disposable income is a household's income including social transfers, after taxes and other deductions, and is therefore the income available for expenditures and savings. A distinction must be made between this measure and the equivalised income before social transfers on the one hand, which looks at the disposable income without possible social transfers (e.g. unemployment benefits, housing assistance), and market income on the other, which is calculated before taxes, social contributions and social benefits.

The initial data for equivalised income are taken from the Europe-wide harmonised annual statistics on income and living conditions (EU-SILC), the data on income distribution come from the "Household Finance and Consumption Survey" (HFCS) conducted at irregular intervals by the European Central Bank. The fact that households with high income and extensive assets are under-represented in voluntary sample surveys is methodologically compensated for. Therefore, the values for income as well as for assets in Germany are comparable to those of Europe and the Eurozone in terms of methodology. Beyond this, no equivalent, methodologically harmonised and verifiable internationally comparative values are available. Since EU-SILC is not yet drawn upon to calculate a Gini coefficient for market income, data from the German Socio-Economic Panel (SOEP) of the German Institute for Economic Research are used for this purpose.

As in previous years, the Gini coefficient of the equivalised disposable income for Germany (0.295) almost equals that for the European Union (0.308) and shows a stable pattern over the years. Thus, there are no significant differences in income distribution between Germany and Europe. Furthermore, the Gini coefficient of the equivalised disposable income is well below the Gini coefficient of the equivalised disposable income before social benefits without pensions (0.295 as compared with 0.359). As expected, the Gini coefficient of market income was even higher at 0.504 (2015). In Germany, social benefits, social insurance and taxes thus contribute considerably to reducing inequalities in disposable income.

Turning to the corresponding Gini coefficient (2014: 0.76), wealth in Germany is much less evenly distributed than income. In this context, hardly any change can be detected over time (2010: 0.76). The gap to the respective European value (Eurozone 2010: 0.69) is substantial. However, the impression of there being a disproportionately high wealth inequality is qualified by several factors not covered by the Gini coefficient. For instance, the evaluation of wealth does not take into account future pension entitlements. In addition, due to the stricter protection of tenants' rights, people in Germany are more likely to rent than own their homes, compared to other European countries.
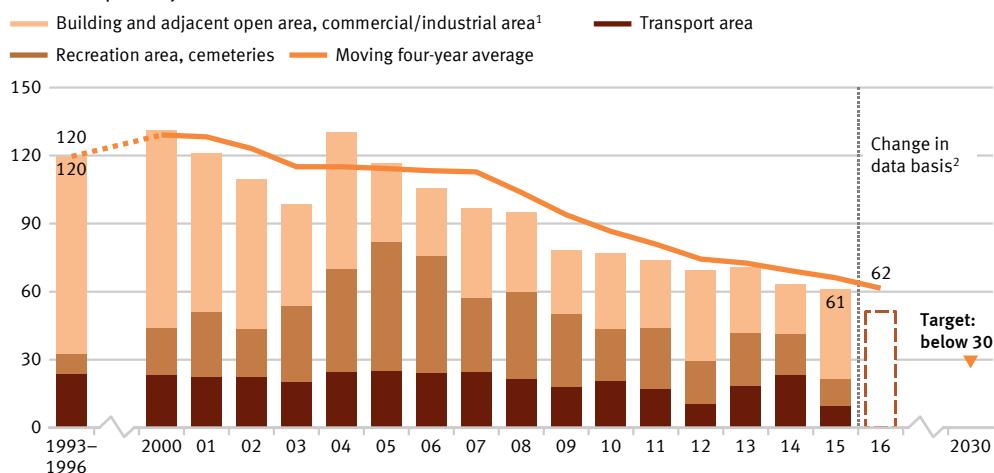
Land use – *Using land sustainably*

11.1.a Expansion of settlement and transport area

Expansion of settlement and transport area
Hectares per day

- Building and adjacent open area, commercial/industrial area[1]
- Recreation area, cemeteries
- Transport area
- Moving four-year average

1 Excluding exploitation area.
2 A new catalogue of types of use has been applied since the data basis was changed as of 31 December 2016 so that the relevant change from 2015 to 2016 cannot be determined. Comparability over time is therefore very limited.

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the average daily expansion of the settlement and transport area.

Target and intention of the indicator

Land is a limited resource. Agriculture and forestry, settlement and transport, nature conservation, raw material extraction and energy generation compete for its use. The use of additional land for settlement and transport purposes is intended to be limited to below 30 hectares per day by 2030.

Content and progress of the indicator

The settlement and transport area should not be mistaken for sealed land. Settlement and transport includes the following types of land use: building and adjacent open area, commercial or industrial area (excluding exploitation area), transport area, recreation area and cemeteries. The indicator does not focus on sealed land, instead it also covers non-built-up and unsealed land such as gardens, yard areas and landscape surrounding transport infrastructure as well as open spaces such as parks and other green spaces, allotment gardens, garden land within towns, sports and leisure facilities, camp sites as well as cemeteries. According to calculations of the environmental-economic accounts of the Länder, the average sealed proportion of the settlement and transport area in the Länder is estimated at just over 45 % (2013).

The data source for the indicator is the area survey by type of actual use in the official land registers of the Länder. Changes in the methodology of the official land registers in previous years have increasingly resulted in the reclassification of land not caused by real changes of use. In order to partially offset the resulting distortion, a moving average is formed, in each case, from the four preceding years to enable the evaluation of the relevant development.

Regarding the area survey by type of actual use, a methodological change in the survey basis took place in 2016, so that the comparability of the data with previous years is limited from 2016 onwards. For this reason, the development of the indicator in 2016 is shown only as a four-year moving average.

Between 1992 and 2015, 8,761 km² of land were converted for use as settlement and transport area. As a result, the settlement and transport area expanded by 21.7 % compared to 1992; the settlement area by 29.7 % and transport area by 10.1 %.

In recent years, this increase in the amount of settlement and transport area has noticeably slowed down. In 2015, the four-year moving average for land used for the first time for settlement and transport purposes was 66 hectares per day, compared to 120 hectares per day at the start of the time series. If the average trend of the previous five years is maintained, the originally specified goal of 30 hectares per day, which is supposed to be reached by 2020, will be achieved in 2030. In 2016, the four-year moving average decreased further to a value of 62 hectares for newly occupied settlement and transport areas.

From 2005 to 2009, the development of the settlement area was temporarily dominated by high growth rates in the "recreation area, cemeteries" type of land use. The relevant extent does not reflect any real changes in the landscape and can be attributed, among other things, to the above-mentioned changes in the land register. In 2015, the recreation area and cemeteries accounted for 9.8 % of the settlement and transport area, with the increase in cemeteries being only marginal. From 2012 to 2014, the transport area increased considerably again, but declined in 2015.

In 2015, the settlement and transport area totalled 49,066 km² and accounted for 13.7 % of Germany's total area. The largest type of land use in Germany is the agricultural area with 184,332 km² (51.6 %), followed by the wooded area with 109,515 km² (30.6 %). In the reference period from 1992 to 2015, the wooded area increased by 4,979 km², while the agricultural area decreased by 10,780 km². It can thus be assumed that the increase in the settlement and transport area was primarily at the expense of agricultural areas.
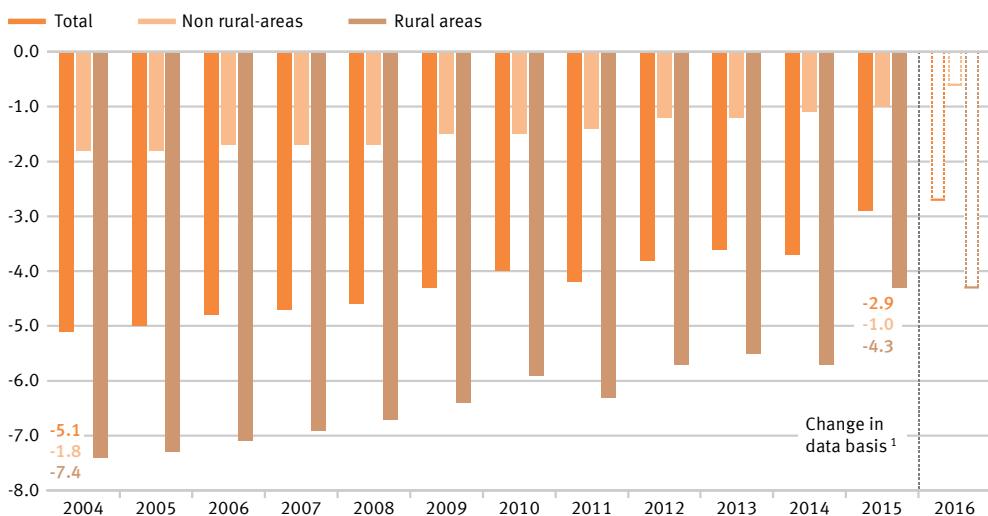
Land use – *Using land sustainably*

11.1.b Loss of open space area

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

Total   Non rural-areas   Rural areas

1 A new catalogue of types of use has been applied since the data basis was changed as of 31 December 2016 so that the relevant change from 2015 to 2016 cannot be determined. Comparability over time is therefore very limited.

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

Definition of the indicator

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

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Target and intention of the indicator

Open space areas should be preserved for agricultural and forestry use, as cultural and natural landscapes as well as recreation areas. For this reason, the decline in the per capita open space area should be reduced. A reduction in the loss of open space area indicates the success of measures to strengthen inner-urban development and thereby conserve agricultural, wooded and water areas for agriculture and forestry, nature conservation and recreational use by the population.

Content and progress of the indicator

Agricultural, wooded, mining and pile areas as well as water areas in the form of flowing and standing waters are referred to as open space areas. Therefore, all areas not covered by the category of housing and transport area are included. A distinction must be made between open space areas, and open areas as well as housing open areas, such as cemeteries, gardens, parks, green spaces or wildlife preserves, which – although they are non-built-up areas – are considered part of the housing and transport area. Therefore, if buildings are erected in gardens, parks or green spaces, this development will not be reflected in this indicator. However, such a development would increase the population density. In this respect, the indicator "Loss of open space area" corresponds to indicators 11.1.a "Expansion of housing and transport area " and 11.1.c "Density of settlements".

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 calculation, the 2011 census caused a jump in the time series. Moreover, changes in the methodology of the official land registers in the Länder have increasingly resulted in the reclassification of areas in previous years. To smooth out these effects and to establish the long-term trend, a four-year moving average is calculated, which covers the four preceding years.

Regarding the area survey by type of actual use, a methodological change in the survey basis took place in 2016, so that the comparability of the data with previous years is limited from 2016 onwards. For this reason, the development of the indicator in 2016 is shown only as a four-year moving average.

The distinction between "rural" and "non-rural" is based on a type classification of the Thünen Institute. This classification allocates a degree of "ruralness" to rural districts and towns not attached to an administrative district – based on spatial characteristics such as "density of settlements", "share of agricultural and forestry area" and "location relative to the centres".

In the period under review, the loss of per capita open space area declined on average nationwide. Whereas the four-year moving average for 2004 was still around 5 square metres per capita and year, the current average for 2015 is only about 2.9 square metres.

Although subject to a similar trend, considerable differences can be observed between rural and non-rural district types in terms of the scope of change. For instance, the loss of open space area per capita and year in rural district types decreased from above 7 to slightly over 4 square metres. In the non-rural district types, it fell from just under 2 to around 1 square metre. In this context, it is important to remember that non-rural districts and towns not attached to an administrative district have much less open space area such as forests or agricultural land than rural areas. In addition, demographic trends develop at differing rates and have a corresponding impact on the indicator. Whereas the majority of rural regions in the period under review reported a decline in population, the population figures in non-rural regions as a whole increased slightly.

Land use – *Using land sustainably*

11.1.c Density of settlements

Inhabitants per square kilometre of settlement and transport area
2000 = 100

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

Definition of the indicator

The indicator shows the number of inhabitants per square kilometre of settlement and transport area.

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Target and intention of the indicator

The "density of settlements" indicator provides information on the efficient use of the settlement area. The goal of the Federal Government is to counteract the reduction in the density of settlements by means of space-saving measures in new construction projects and inner-urban development, such as the reduction in housing and commercial vacancies, as well as re-densification and an increase in building density.

Content and progress of the indicator

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. With regard to population data, the 2011 census caused a jump in the time series, which is why only the comparisons up to 2010 and from 2011 onwards can be usefully interpreted.

Regarding the area survey by type of actual use, a methodological change in the survey basis took place in 2016, so that the comparability of the data with previous years is limited from 2016 onwards. In order to be able to compare the data, the respective values were recalculated on the basis of the 2011 Census and the change in the area survey in 2016.

The distinction between "rural" and "non-rural" is based on a type classification of the Thünen Institute. This classification allocates a degree of "ruralness" to rural districts and towns not attached to an administrative district – based on spatial characteristics such as "density of settlements", "share of agricultural and forestry area" and "location relative to the centres".

In contrast to population density, the concept of the density of settlements refers to the ratio of inhabitants solely to the settlement and transport area. In addition to residential building areas, the settlement area includes areas with special functional character (e.g. hospitals and schools), industrial and commercial areas and mixed-use areas as well as open areas (parks, green spaces, garden land). Consequently, changes not only in population numbers, but also in the residential building area, such as an internal densification of the transport or commercial area, lead to a change in the density of settlements.

The density of settlements differs substantially between rural and non-rural regions: one square kilometre of settlement and transport area accommodates around 3,330 people on average in non-rural district types, compared with around 1,216 people in rural district types (as in 2016). In this context, the residential building area in cities is frequently a much more densely built-up area as well as has many more multiple-floor buildings than rural regions, where more scattered development incorporating larger, unsealed areas such as domestic gardens is prevalent.

From 2000 until the end of 2010, there was a steady decline in the density of settlements in both rural and non-rural regions. In this context, the non-rural regions experienced a slightly lower absolute decrease than the rural regions. Viewed in relative terms, the 11 % decline in rural regions, due to their considerably lower density of settlements, was however substantially larger than that of 4 % in non-rural regions.

Since 2012, differences have been observed between the development in rural and non-rural regions. In non-rural regions, the density of settlements rose steadily from 3,251 inhabitants per square kilometre (2012) to 3,330 (2016). In rural regions, the decrease in the density of settlements continued at a moderate pace until 2014 (1,210 inhabitants/km²). In 2015, however, there was an increase (1,218 inhabitants/km²), presumably due to the population growth resulting from the influx of refugees, which slowed in 2016 (1,216 inhabitants/km²).

Considering the development of the number of inhabitants and the settlement and transport area separately, considerable differences between rural and non-rural regions can be observed. Between 2000 and 2015, the volume of the settlement and transport area in both rural and non-rural regions increased, although to different extents of 13 % and 8 % respectively. Following the slight increase in the population of rural regions at the start of the millennium, it decreased by around 2.3 % until 2010 and then increased again slightly by 1 % until 2016. In the non-rural regions, however, the population grew between 2000 and 2010 (by about 1.7 %) and between 2011 and 2016 (by 4.4 %). The effects of the development of additional settlement and transport area were therefore amplified in rural regions by the declining population numbers.
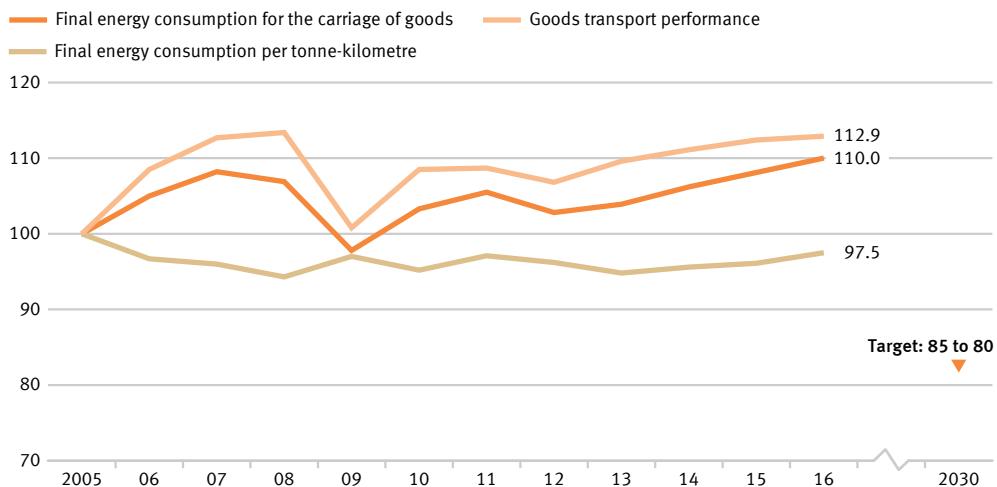
Mobility – *Guaranteeing mobility – Protecting the environment*

11.2.a Final energy consumption in goods transport

Final energy consumption in goods transport
2005 = 100

— Final energy consumption for the carriage of goods   — Goods transport performance
— Final energy consumption per tonne-kilometre

2016 partly provisional data.
Sources: Federal Ministry of Transport and Digital Infrastructure, German Institute for Energy and Environment Research, Federal Statistical Office

Definition of the indicator

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

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Target and intention of the indicator

Traffic creates a range of problems. For instance, noise and air pollutants impair the 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. Therefore, final energy consumption in goods transport is to be reduced by 15 to 20 % by 2030.

Content and progress of the indicator

The data regarding domestic final energy consumption originate from the Transport Emission Model (TREMOD) database at the ifeu (German Institute for Energy and Environmental Research). TREMOD is a model for evaluating traffic emissions. The data include fuel consumption levels within Germany according to the so-called consumption concept, that is, irrespective of the place of fuelling. "Final energy" refers to the part of the energy used directly during transportation, so

this excludes conversion losses that arise during production of fuels as well as possible pipeline losses.

The transport performances in goods transport used to calculate the specific energy consumption in this sector are computed by the ifeu on behalf of the Federal Ministry of Transport and Digital Infrastructure. Road goods transport takes into account transports on lorries with payloads in excess of 3.5 tonnes. However, goods transport by air is not included as it accounts for negligibly small volumes.

The indicator for final energy consumption in goods transport refers by definition to consumption within Germany. The influence of the German economy's increasingly international links in the context of globalisation are reflected only to an insufficient degree. As a result, transport flows and the associated energy consumption that arises due to German exports and imports are not included.

In addition to energy consumption, energy efficiency, i.e. energy consumption per tonne-kilometre, is also presented. The number of tonne-kilometres provides information about the extent to which transport intensity, or the distance per transported tonne, changes.

Contrary to the targeted goal of the Federal Government, final energy consumption for the carriage of goods in 2016 increased by 10.0 % compared to 2005. This sharp increase can be attributed primarily to goods transport by road. Final energy consumption for road goods transport increased during this period by 12.2 %, while consumption for rail and inland waterways transport was considerably reduced (− 8.5 % and − 17.8 % respectively).

During the same period, the goods transport performance increased by 12.9 %. With similar energy consumption in 2005 and 2016, efficiency increased markedly by 2.5 % during this period.

During the financial and economic crisis of 2009, price-adjusted gross value added in manufacturing suffered a particularly sharp decline of nearly 20 %. This heavy loss affected the transport sector in particular, which reacts directly to increases and decreases in the production of goods. The resulting lower utilisation of transport capacity explains the slight increase in average energy consumption per tonne-kilometre, despite the fact that overall energy consumption fell sharply during the crisis years.

Besides the presumably short-term consequences of the financial and economic crisis of 2009, a number of long-term factors also influenced the development of final energy consumption in goods transport during the review period between 2005 and 2016. For instance, the number of production steps per company has decreased, 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 the production location for the goods and their place of use increased, which also caused transport volumes to increase. These effects are countered by a shift in the demand structure towards less material-intensive goods (e. g. an increasing demand for services). The resulting change in the composition of the volume of goods dampened the increase in transport-related energy consumption.
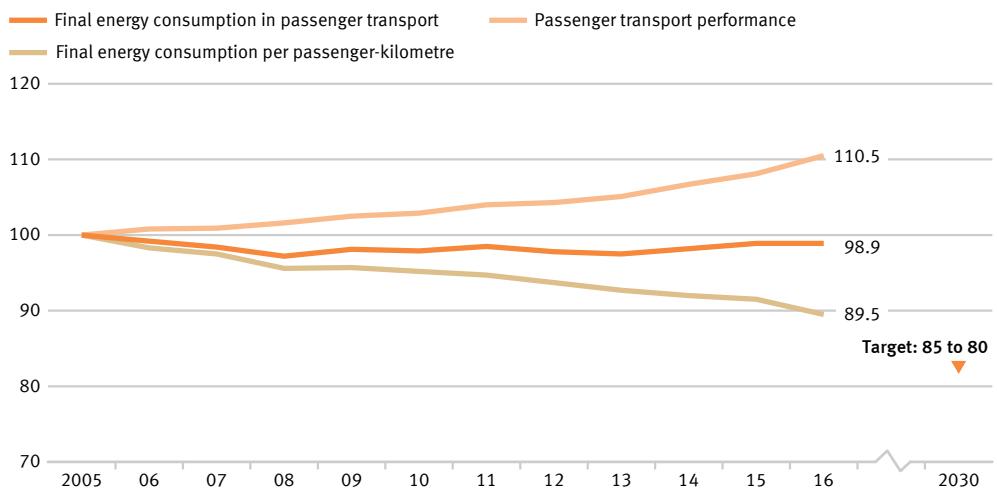
Mobility – *Guaranteeing mobility – Protecting the environment*

11.2.b Final energy consumption in passenger transport

Final energy consumption in passenger transport
2005 = 100

— Final energy consumption in passenger transport   — Passenger transport performance
— Final energy consumption per passenger-kilometre

2016 partly provisional data.
Sources: Federal Ministry of Transport and Digital Infrastructure, German Institute for Energy and Environmental Research, Federal Statistical Office

Definition of the indicator

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

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Target and intention of the indicator

Traffic creates a range of challenges. For instance, noise and air pollutants impair the 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. Therefore, final energy consumption in passenger transport is to be reduced by 15 to 20 % by 2030.

Content and progress of the indicator

The data regarding domestic final energy consumption originate from the Transport Emission Model (TREMOD) database at the ifeu (German Institute for Energy and Environmental Research). TREMOD is a model for evaluating traffic emissions. The data include fuel consumption levels associated with passenger transport within Germany according to the consumption concept, that is, irrespective of where fuelling takes place. "Final energy" refers to the part of the energy used directly during transportation, so this excludes conversion losses that arise during production of fuels as well as possible pipeline losses.

Passenger transport performance specifies the number of passenger-kilometres covered. It is used to calculate the specific energy consumption in this sector and is computed by the ifeu on behalf of the Federal Ministry of Transport and Digital Infrastructure. For air transport, only domestic flights (national aviation) are taken into account. International flights to and from the federal territory are not included. The carriage of passengers by ship is not included, either.

Nearly 30 % of overall final energy consumption can be attributed to 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 (distance per road/rail or air passenger numbers) changes. In addition to final energy consumption, energy efficiency in passenger transport, measured as energy consumption per passenger-kilometre, is examined.

Final energy consumption in passenger transport decreased by a total of 1.1 % in the period from 2005 to 2016. Analysis of the progress since 2008 reveals that the indicator value increased by 1.7 %. Thus final energy consumption in passenger transport is currently developing in a direction which opposes the goal of the German Sustainability Strategy.

Although the number of passenger-kilometres covered increased by 10.5 % between 2005 and 2016, energy consumption in all forms of transport decreased by 10.5 % to 1.43 megajoules per passenger-kilometre during the same period. Consequently, efficiency in passenger transport increased notably. A particularly large share of the efficiency increase can be attributed to rail transport. Here, transport performance increased by 24.7 %, while final energy consumption was successfully reduced by 11.2 %. This was a 28.8 % increase in efficiency. A considerable increase in efficiency of 13.9 % was also achieved in air transport compared to 2005. A slight improvement in the efficiency of private motorised transport was recently achieved due to an increased transport performance, eventhough energy consumption remained constant.

Private motorised transport by car and two-wheel vehicles accounted for 83.7 % of total passenger transport performance in 2015. In 2016 it was 83.6%. This mode of transport can be subdivided into different categories. In 2015 (more recent data were not yet available), transport for recreational purposes accounted for the largest share (35.4 %), closely followed by work-related transport (commuting and business trips) with 34.5 %. Transport for shopping purposes accounted for 17.5 %. The various transport purposes have developed differently since 2005. In particular, the proportion of work-related journeys has increased considerably (+ 15.6 %), while holiday journeys have declined (− 1.6 %).
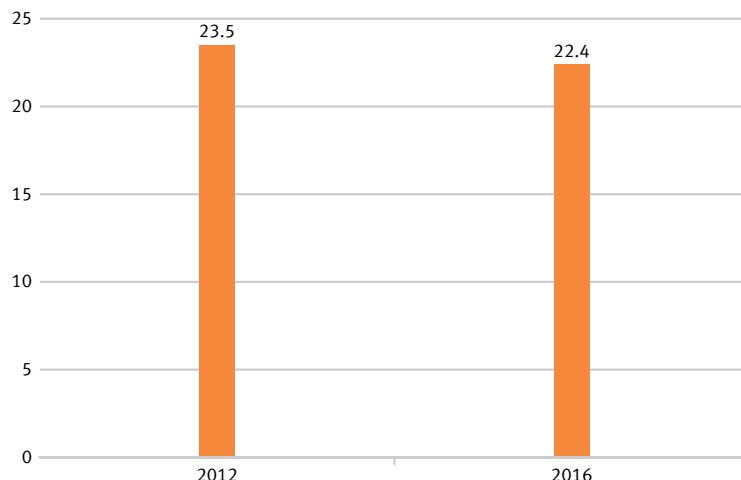
Mobility – *Guaranteeing mobility – Protecting the environment*

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

Travel time by public transport to the nearest medium-sized or large city
Minutes

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

Definition of the indicator

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

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Target and intention of the indicator

Mobility is a key factor in enabling people's social participation. Accordingly, spatial development and transportation should be designed to provide good mobility services and suitable connections to medium-sized or large cities for the entire population. Therefore, the target of the Federal Government is to shorten the average travel time by public transport to the nearest medium-sized or large city.

Content and progress of the indicator

The indicator is computed by the Federal Institute for Research on Building, Urban Affairs and Spatial Development. Means of public transport are defined as those transport services that can be used by anyone 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 therefore not taken into account.

The data basis comprises schedule data of the Deutsche Bahn, transport associations along with numerous other timetables. With the help of the timetable data, the travel times to the nearest medium-sized or large city during peak morning traffic times were determined for approximately 250,000 stops. This time period is defined differently in the two reference years. Whereas connections with an arrival time between 6:00 a.m. and 9:00 a.m. were taken into account in 2012, only those with arrival times between 8:00 a.m. and 12:00 noon were included in 2016.

Since not all local transport schedules were fully integrated into the database used, the values for 2012 and 2016 are not fully comparable. The frequency of a transport service to the nearest medium-sized or large city is similarly disregarded as is the travel time to and from the stop. Furthermore, this indicator is based on the timetable data – which means that delays or even cancellations are not taken into account.

The classification of a location as a medium-sized or large city is determined according to the availability of goods, services and infrastructure at that location that are not available in the surrounding smaller places. These include, among other things, specialist medical practices, hospitals, cultural facilities as well as secondary schools and institutions of higher education.

In each medium-sized or large city, especially in major cities, only one destination point (city centre) was determined. The destination stops were selected within a radius of one kilometre around the destination point, and the fastest connection from the starting stop to the destination was searched for. With the help of small-area population data from the Federal Statistical Office, a population-weighted average value of the travel time for Germany was then determined.

The indicator is related to the United Nations indicator 11.2.1 "Access to public transport". Germany reports, based on data from the German Mobility Panel, the proportion of the population living within ten minutes of a public stop. Based on these data, around 94 % of the population had access to public transport in 2017.

The indicator values available for 2012 and 2016 show that the population-weighted average travel time to the nearest medium-sized or large city has declined from 23.5 to 22.4 minutes during this period. This corresponds to a reduction of 4.7 %. It is not possible to determine the extent to which the previously described methodological changes or re-designation of medium-sized cities are also responsible for the decrease. However, the number of medium-sized or large cities increased from 1,010 in 2012 to 1,069.
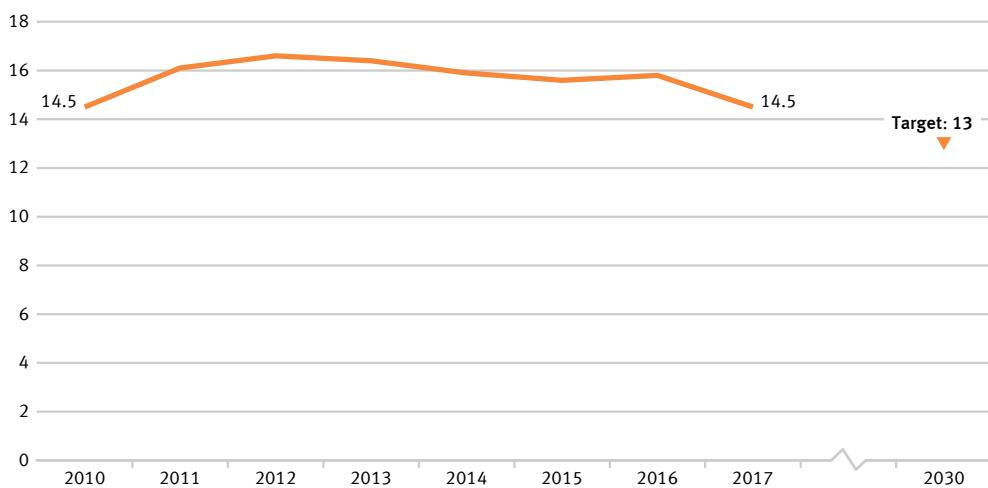
Housing – *Affordable housing for all*

11.3 Housing cost overload

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Proportion of people in households that spend more than 40 % of their disposable income on housing
Percent

2017 provisional data.
Source: Federal Statistical Office

Definition of the indicator

The indicator shows the share of people who live in households that spend more than 40 % of their disposable household income on housing. Housing expenditure includes net rent, heating expenses, incidental rental expenses, energy costs and expenditure on water supply as well as value-maintaining investments and interest payments on loans in the case of residential ownership.

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Target and intention of the indicator

High housing costs place restrictions on households with regard to their other consumption choices. Housing expenditure that amounts to more than 40 % of disposable household income is considered to be an overload. The proportion of people who live in households that spend more than 40 % of their disposable household income on housing is therefore to be reduced to 13 % by 2030.

Content and progress of the indicator

The initial data for the indicator originate from the Europe-wide harmonised statistics on income and living conditions (EU-SILC). The indicator expresses expenditure on housing relative to disposable household income. In case a household is in receipt of housing allowance or comparable social benefits such as payments for accommodation and heating from basic security benefits, these are also included in the calculation of the indicator. These social benefits are not added to the income, but are deducted from the housing costs so that the burden of housing costs of households that rely on housing-related social benefits is reduced or approaches zero.

The purchase of an owner-occupied property is not included in the expenditure on housing. Other spending on measures to enhance the value of a property should not be taken into account either. However, it is not always possible to clearly differentiate between these and value-maintaining expenditures that are considered as housing expenditure. Therefore, some simplifying assumptions must be made. Moreover, the indicator also does not take into account any additional expenditure associated with the place of residence. For instance, expenditure on travelling from the place of residence to the workplace is not taken into account, although it is possible that the threshold of 40 % is not reached only due to the fact that the place of residence is far away from work.

By defining the threshold value as "40 % of disposable household income", the indicator provides no information about average housing costs. If clusters emerge close to this threshold, they can cause major changes in the indicator over time even if there is only a small change in the ratio of income and housing expenditure.

The indicator increased from 14.5 % in 2010 to a relatively constant 16 % during the period from 2011 until 2016. In 2017, it decreased to the initial value of 14.5 %. However, due to statistical uncertainties this cannot be considered a statistically significant change, but constitutes more of a continuation at a similar level. Based on the current trend, it is therefore not (yet) possible to determine whether there is any movement in the direction of the set target.

With regard to the actual housing situation and disposable income, the indicator provides only a limited amount of information. After all, the calculation method also declares high-income households with a high housing expenditure as being overburdened. However, the data do indicate that considerably more households with a low income are above the 40 % threshold. Separate analysis of the population at risk of poverty, i.e. of those people who have less than 60 % of the median equivalised income of the population, also shows that the share of people overburdened by housing costs is closely related to income. Among those at risk of poverty, the proportion of people overburdened by housing costs rose from 42.2 % (2010) to 54.4 % (2014). In the following three years, this share declined slightly and stood at 48.5 % in 2017. The proportion of people not considered to be at risk of poverty who were overburdened by housing costs was considerably lower and also relatively constant over time (starting value in 2010: 9.4 %, peak in 2011: 10.5 %, lowest value in 2017: 7.9 %).
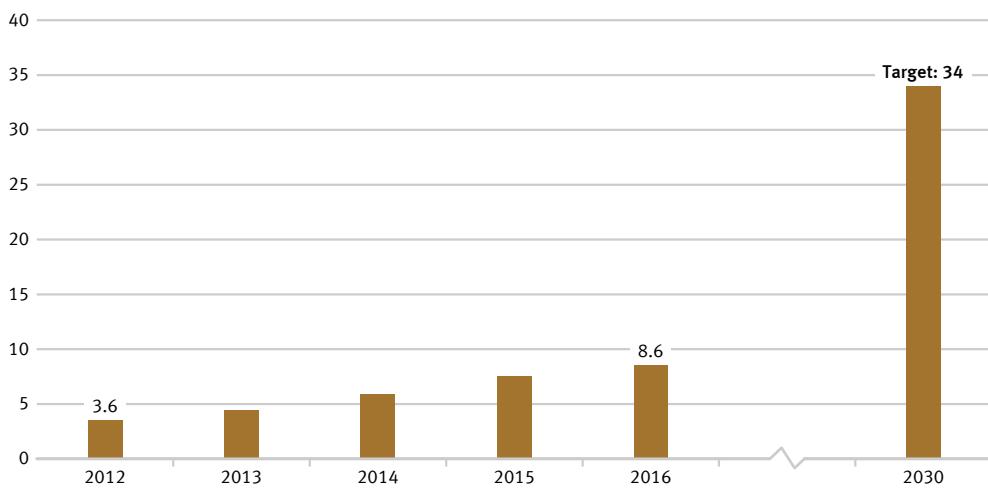
Responsible consumption – *Making consumption environmentally and socially compatible*

12.1.a Market share of products certified by publicly managed eco-labelling schemes

Market share of products certified by publicly managed eco-labelling schemes
Percent

All data are provisional.

Sources: Gesellschaft für Konsumforschung, Federal Motor Transport Authority, Agricultural Market Information Company (AMI),
          Bund Ökologische Lebensmittelwirtschaft e. V., Verkehrsclub Deutschland e. V., German Environment Agency

Definition of the indicator

The indicator measures the market share of products with voluntary or mandatory eco-labels, whose awarding procedures are stipulated by governmental bodies.

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Target and intention of the indicator

Sustainable consumption of households can be direct or indirect. On the one hand, their purchasing decision influences their own environmental balance, as energy-efficient vehicles or insulated homes require less energy and lead to lower emissions of greenhouse gases. On the other hand, the consumers can purchase products that have been produced in a particularly responsible way. The aim of the Federal Government is therefore to increase the market share of products certified by publicly managed eco-labelling schemes to 34 % by 2030.

Content and progress of the indicator

The indicator comprises the market shares of products eco-labelled with one of the following: "EU ecolabel", "EU organic logo", the "Blue Angel" or the respective highest class of the "EU energy label". The EU energy label primarily addresses energy consumption and greenhouse gas emissions, while the other three product labels also take into account other environmental pollution such as pesticide use and harmful wastewater. The indicator is designed to monitor whether environmentally friendly product variants are replacing conventional product variants in the market. In this case, only a selection of product groups is examined for reasons that include the limited availability of data regarding sales of products bearing sustainability labels. In addition, the inclusion of certain product groups would lead to duplicate counting as they bear multiple sustainability labels simultaneously.

For the indicator, household appliances such as refrigerators, washing machines, televisions and vacuum cleaners are examined. Illuminants, organic foods, tissue paper, washing and cleaning agents and cars are also assessed. Since the markets for the individual product groups are of different sizes, the market shares are weighted with the sales volume of the respective overall market. This is to prevent any distortion of the indicator by high market shares in small niche markets. Furthermore, this enables the expenditure on environmentally friendly products to be related to the total expenditure by households.

It is not possible to weight the market shares of the respective product groups according to their environmental relevance because the environmental labels address different categories (energy consumption, greenhouse gas emissions, material demand) that cannot be balanced against one another. Therefore, it is not possible to present an all-encompassing evaluation across multiple environmental categories in form of an environmental footprint of the product groups. As the indicator covers only products that are newly introduced on the market in relation to the overall market, rebound effects are not considered. Furthermore, it describes the market share based on sales. Due to the price differences between products with and without the relevant ecolabels, it does not allow conclusions to be drawn regarding their numbers. In addition, any change in the value of the indicator may be attributable to pricing changes for a product group.

Data supplied by the Gesellschaft für Konsumforschung, the Federal Motor Transport Authority, Agricultural Market Information Company (AMI), Bund Ökologische Lebensmittelwirtschaft e.V., Verkehrsclub Deutschland e.V. and the German Environment Agency serve as source for calculating the indicator. The latter agency calculates the indicator values annually from the reference year of 2012 onwards.

Between 2012 and 2016, the market share of products certified by publicly managed eco-labelling schemes increased from 3.6 % to 8.6 %. This is equivalent to overall sales of 25.7 billion euros in 2016.

The definition of the energy consumption classes of passenger cars is updated by the EU in line with the current technical state at regular intervals. Devices such as refrigerators, ovens or tumble dryers must also meet minimum legal requirements for new products. In general, this can contribute to the wider distribution of energy-saving products, but can also bias the indicator indirectly, through adjustments to the allocation criteria.
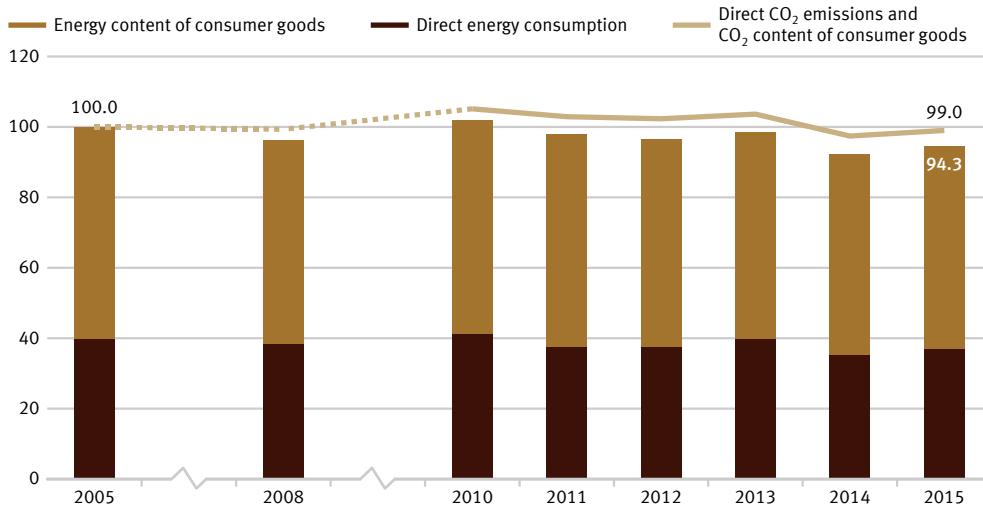
Responsible consumption – *Making consumption environmentally and socially compatible*

12.1.b Energy consumption and CO_2 emissions from consumption

Energy consumption and CO_2 emissions by households
2005 = 100

Energy content of consumer goods   Direct energy consumption   Direct CO_2 emissions and CO_2 content of consumer goods

2015 provisional data.

Source: Federal Statistical Office

Definition of the indicator

The indicator shows the development of direct and indirect energy consumption by households and thus illustrates the strain placed on energy by the consumption activities of households.

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Target and intention of the indicator

Households are responsible for a substantial share of the energy consumption in an economy as well as the carbon dioxide emissions that are closely linked to energy consumption. However, energy consumption is not confined to the domestic economy alone, but also extends to the production of imported goods abroad. The indicator therefore provides additional information on the global environmental impact of consumption activities. A reduction in energy consumption will conserve resources both domestically and abroad and will curb carbon dioxide emissions that are harmful to the environment. The goal of the Federal Government is therefore to continuously lower energy consumption associated with consumption.

Content and progress of the indicator

The data are derived from the environmental-economic accounts of the Federal Statistical Office based on the energy balances from the AGEB (Energy Balance Association) and on the emission reporting of the German Environment Agency.

Households consume energy directly, for example, for heating or through the consumption of fuels for road transport. In addition to this direct energy consumption, substantial amounts of energy are consumed in the production of goods for private consumption. This indirect energy consumption occurs domestically and abroad, among both the direct producers of the consumer goods and their suppliers. Both forms are recorded by this indicator.

The same applies to the emissions of carbon dioxide (CO_2), presented here as an index for information purposes. In addition to the direct emissions by households caused by the combustion of fuels, much greater quantities of emissions are generated indirectly during the production of consumer goods. The depicted key figure includes both direct as well as indirect emissions.

Closer analysis of the time series reveals a wavelike trend in energy consumption due to the consumption activities of households with a slight increase of 1.9 % from 2005 until 2010. Between 2010 and 2012, energy consumption by households declined steadily by a total of 5.3 %. In 2013, however, consumption increased by 1.9 % year on year, while in 2014 it decreased by 6.2 % compared with the previous year. According to provisional results, energy consumption in 2015 increased again by 2.0 % year on year. The value of the indicator in 2015 decreased by a total of 5.7 % compared with 2005. However, there are currently no signs of a continuous reduction.

In 2015, direct energy consumption by households accounted for 39.2 % of overall household energy consumption. Of this amount, energy sources including electricity and district heating accounted for 62.6 % and fuels for 37.4 %. The greater proportion of overall energy consumption at 60.8 % was indirect energy consumption associated with the production of consumer goods domestically and abroad.

Energy consumption is differentiated according to areas of demand such as housing, mobility, food, other products and services. Most energy is consumed in the sectors of housing, transport and food. In 2015, housing was the sector with the highest consumption of roughly 3,324 petajoules (35.6 % of total household consumption). The losses occurring during the generation of electricity and district heating for households are included here as indirect consumption.

The development of energy-related CO_2 emissions shows a pattern similar to that of energy consumption. In 2015, CO_2 emissions by households, including the emission content of consumer goods and emissions from the combustion of biomass, amounted to 638 million tonnes, which was thus a 1.0 % decline compared with 2005. The combustion of fuels accounted for 33.3 % of emissions, with the remaining 66.7 % accounted for by the production of consumer goods. Between 2005 and 2015, direct CO_2 emissions decreased by 2.5 %, although the emission content of consumer goods increased by 2.5 %.
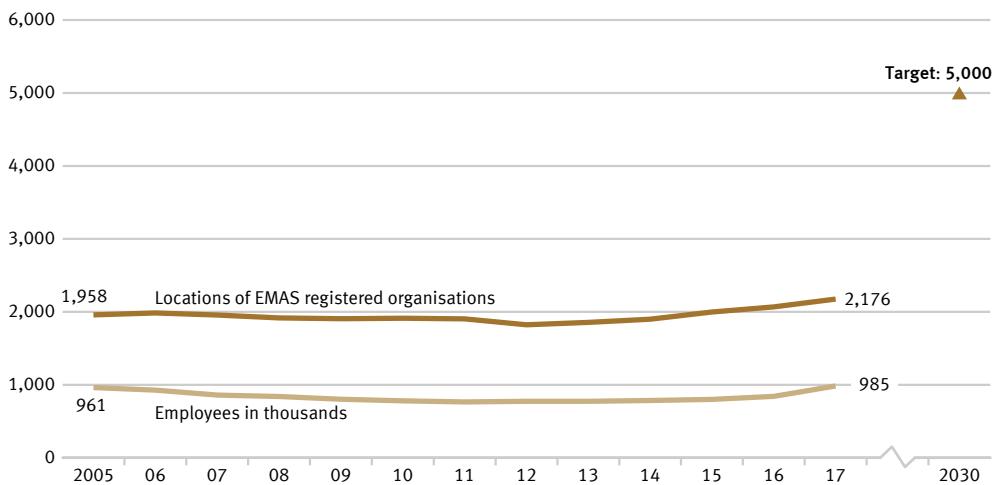
Responsible production – *Increasing the proportion of sustainable production continuously*

12.2 EMAS eco-management

Using the EMAS eco-management system in Germany
Number and employees of locations of organisations registered in Germany

EMAS = Eco-Management and Audit Scheme.
Source: Association of German Chambers of Commerce and Industry

Definition of the indicator

The indicator shows the number of locations of organisations registered in Germany for EMAS (Eco-Management and Audit Scheme).

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Target and intention of the indicator

Climate change, the energy transition and resource constraints are presenting companies with new challenges. As a result, they have to reshape their business processes, structures and products in an environmentally friendly and resource-saving manner. The EMAS environmental management system offers a concept of systematic corporate environmental protection and is associated with the goal of continuously improving the environmental performance of the organisation's locations. For this reason, the target is to present a total of 5,000 locations of organisations complying with the EMAS environmental management system by 2030.

Content and progress of the indicator

EMAS is a voluntary instrument of the European Union that helps companies and organisations of any size in any sector to continuously improve their environmental performance. EMAS is associated with an environmental reporting obligation (called an environmental statement) that contains the most important environmental impacts of the company in question and involves the compulsory provision of data on the topics of energy and material efficiency, emissions, water, waste and land use/biodiversity. Internal documents as well as the environmental statement are inspected by independent, government-approved environmental verifiers.

Organisations that pass the inspection, which have not violated legal requirements relating to the environment and against which no complaints have been made, are accepted into the EMAS register. The inspection must be repeated on a regular basis, no later than every three years. The Environmental Verification Committee[1] is responsible for quality control. The environmental statement must be updated by the organisations annually; however, small and medium-sized companies may do so every two years since 2010, upon request. EMAS organisations and locations are registered by the responsible Chambers of Commerce and Industry or Crafts and listed in a publicly accessible database at the Association of German Chambers of Commerce and Industry. Data recorded using a standardised methodology are available from 2005 onwards.

In terms of methodology, note that the EMAS register shows the number of registrations. Participating organisations are free to include several locations under a single organisation registration (collective registration) or to have locations registered individually. Some companies have partly also registered their foreign locations in Germany. These are also contained in the EMAS register, but are not included in the number of EMAS locations shown here. Statistical data are available regarding the number of registered organisations and the number of locations, irrespective of whether they are part of a registered organisation (collective registration) or are registered as independent locations.

In 2017, a total of 2,176 EMAS locations were registered in Germany. This was an increase of 11.1 % compared with 2005. If we look at the development over the last five years, the indicator has on average been moving gradually in the direction of the set target. If the development continues without change, the goal for 2030 will nevertheless not be achieved.

The 2,176 EMAS locations registered in Germany in 2017 belonged to a total of 1,240 organisations, which were distributed very unevenly across the country. The majority of them were based in Baden-Württemberg (396) and Bavaria (288), followed by North Rhine-Westphalia (115). In contrast, there were just five organisations in Mecklenburg-Western Pomerania. Broken down by economic activities, 37.6 % of the organisations were allocated to manufacturing, 9.8 % to other service activities, 9.5 % to accommodation and food service activities and 7.6 % to the education sector in 2017.

The registered organisations employed a total of 985,195 people in 2017. This was an increase of 2.5 % compared with 2005.

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1   The Environmental Verification Committee is an independent advisory body of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety.
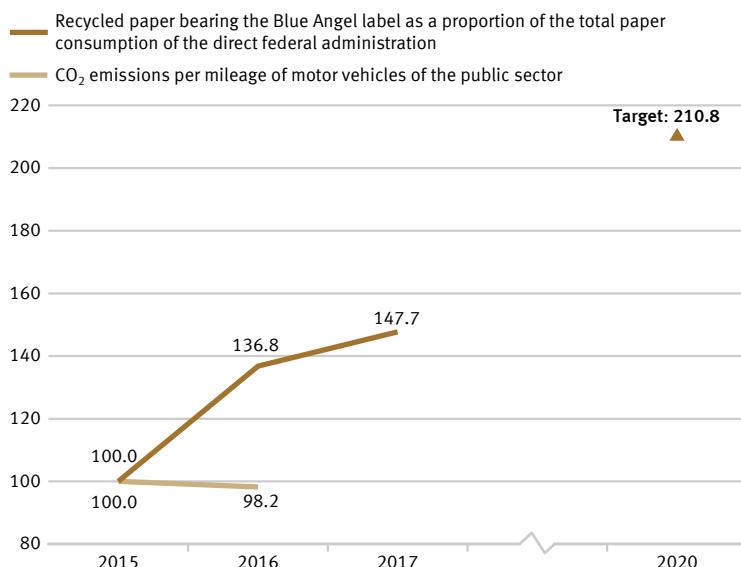
Responsible procurement – *Giving shape to the public sector's exemplary role in sustainable procurement*

12.3 Responsible procurement

Responsible public procurement
2015 = 100

— Recycled paper bearing the Blue Angel label as a proportion of the total paper consumption of the direct federal administration

— CO$_2$ emissions per mileage of motor vehicles of the public sector

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

Definition of the indicator

This indicator shows sustainability in procurement using the two subsectors of CO$_2$ emissions from motor vehicles and paper as examples. The indicator "CO$_2$ emissions per mileage of motor vehicles of the public sector" relates the CO$_2$ emissions to the relevant mileages. The indicator "Recycled paper bearing the Blue Angel label as a proportion of the total paper consumption of the direct federal administration" shows the volume of paper with the Blue Angel eco-label as a proportion of the total paper consumed by the direct federal administration.

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Target and intention of the indicator

This report discusses examples of product-specific indicators. While the proportion of paper with the Blue Angel label is expected to reach 95% of the total paper consumption of the direct federal administration by 2020, the ratio of CO$_2$ emissions to mileage is expected to decrease further in the future. The public sector has a substantial part in the demand for products and services. Basing public procurement on the guiding principle of sustainability and strengthening sustainability criteria in public procurement should therefore be used as a lever to increase

the supply of sustainable products. The Federal Government's goal is to generally strengthen responsibility in public procurement.

Content and progress of the indicator

Sustainability in public procurement is a very complex topic. It is therefore hardly possible to address it appropriately using one or a few indicators. The two indicators shown here focus exclusively on selected ecological aspects of sustainability, although they cannot reflect these environmental aspects exhaustively. Social and economic aspects of sustainability are not in the focus of the two indicators.

CO_2 emissions per mileage of motor vehicles of the public sector

The data for motor vehicles of the public sector are provided by the environmental economic accounts of the Federal Statistical Office, also using the TREMOD (Transport Emission Model) database of the ifeu (German Institute for Energy and Environmental Research). The public sector comprises the federal level, the Länder level, the level of municipalities and associations of municipalities, the police, the Federal Border Guard, fire protection and fire brigades.

From 2015 to 2016, the average CO_2 emissions per kilometre driven by motor vehicles of the public sector decreased by around 2 % from roughly 184 to 180.6 grams of CO_2 per kilometre. This has resulted in a separation of CO_2 emissions and mileage. The ratio of CO_2 emissions to mileage declined, although mileage continued to increase. In 2014, both mileage and CO_2 emissions increased. In 2015, however, CO_2 emissions decreased for the first time, although mileage continued to grow. One reason for this could be the increasing procurement of more efficient motor vehicles and of electric and hybrid cars with lower CO_2 emissions. The propor-tion of electric and hybrid cars of the total stock of motor vehicles of the public sector increased from 0.6 % (1,946 units) in 2015 to 0.9 % (2,827 units) in 2016.

As far as the motor vehicles of the direct federal administration are concerned, the average CO_2 emissions in 2017 were 179.9 grams of CO_2 per kilometre driven. The direct federal administration comprises the federal government's own central and subordinate authorities, which are legally dependent. The data for CO_2 emissions per mileage of motor vehicles of the direct federal administration are provided by the German Environment Agency. As in the case of motor vehicles of the public sector, all passenger cars of the direct federal administration up to a weight of 3.5 tonnes are taken into account; however, light commercial vehicles of this class are not considered. Furthermore, between 2015 and 2017, the proportion of newly acquired motor vehicles of the direct federal administration whose emission value was less than 50 grams of CO_2 per kilometre increased from 2.6 % to 4.1 % of the total volume of newly procured motor vehicles. This increase could result in lower CO_2 emissions and thus raise the efficiency of the vehicle fleet.

This indicator covers only those CO_2 emissions that occur during the operation of the vehicles. If, however, we consider the holistic life cycle costs approach, greenhouse gas emissions also occur in the production and disposal processes, which would have to be taken into account for a conclusive indicator. In addition, the sustainability of electric mobility depends for instance on the extent to which the electricity used is generated from conventional or renewable sources, on material expenditure, the materials used and recyclability. ❯❯

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Content and progress of the indicator

Recycled paper bearing the Blue Angel label as a proportion of the total paper consumption of the direct federal administration

The data to calculate the volume of paper with the Blue Angel label as a proportion of the total paper consumption of the direct federal administration are obtained by the Sustainability Programme monitoring, which is carried out by the Competence Center for Sustainable Procurement at the Procurement Office of the Federal Ministry of the Interior. The Blue Angel is an eco-label for products and services with a reduced environmental impact. With regard to paper, this label indicates that 100 % of the paper fibres are made from waste paper and no harmful chemicals or optical brighteners are used in the production process.

The proportion of paper bearing the Blue Angel label increased by roughly 48% between 2015 and 2017. While it accounted for 45 % of the total paper consumption of the federal administration in 2015, it reached 67 % in 2017. The indicator is thus in line with the objective of the Sustainability Programme to raise the proportion of Blue Angel paper used.

However, total paper consumption is subject to annual fluctuations. After a strong rise in total paper consumption to approximately 1,281 million sheets of paper in 2016, there was a slight decline in 2017 (roughly 1,250 million sheets). However, this value was still above the 2015 value (about 1,150 million sheets). This means that not only the consumption of paper with the Blue Angel label, but also total paper consumption (+8.7 %) increased in the period from 2015 to 2017. The volume of Blue Angel paper as a proportion of the total paper consumption does not allow conclusions to be drawn about the efficient consumption of paper in general.
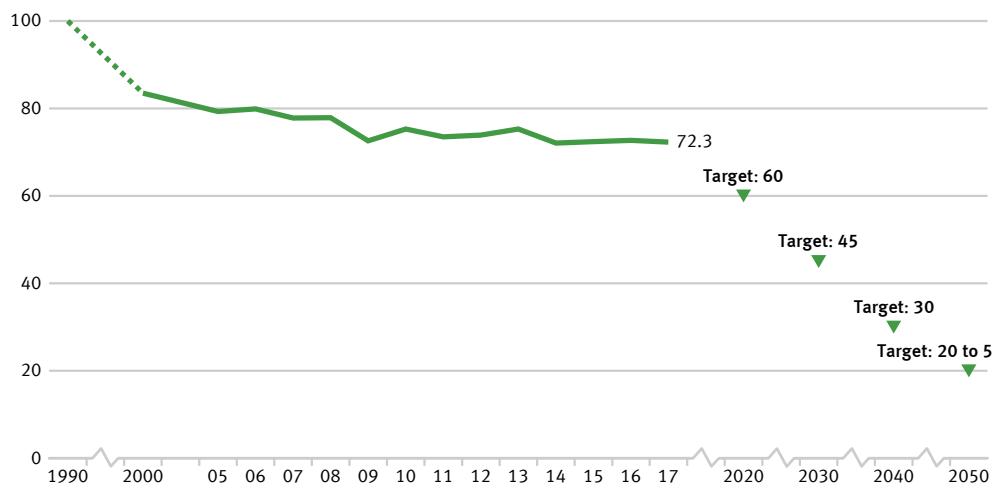
Federal Statistical Office, Sustainable Development, 2018

Climate protection – *Reducing greenhouse gases*

13.1.a Greenhouse gas emissions

Greenhouse gas emissions in CO_2 equivalents
1990 = 100

2017 provisional near real time forecast.
Greenhouse gases = carbon dioxide (CO_2), methane (CH_4), laughing gas (N_2O), sulphur hexaflouride (SF_6), nitrogen triflouride (NF_3), hydroflourocarbons (HFC) and perflourocarbons (PFC).

Source: German Environment Agency

Definition of the indicator

The indicator shows emissions of the following greenhouse gases (substances or substance groups) in CO_2 equivalents: carbon dioxide (CO_2), methane (CH_4), laughing gas (N_2O), nitrogen triflouride (NF_3), hydroflourocarbons (HFC), perflourocarbons (PFC) as well as sulphur hexaflouride (SF_6).

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Target and intention of the indicator

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 detectable consequences on the climate system today. The Federal Government therefore aims to lower greenhouse gas emissions in Germany by at least 40 % compared with 1990 by 2020. Additional targets are the reduction by at least 55 % by 2030, by at least 70 % by 2040 and by 80 to 95 % by 2050 – in each case compared with 1990.

Content and progress of the indicator

To summarise the various greenhouse gases into a single index, they are each expressed in "CO_2 equivalents", which means that they are converted into the quantity of CO_2 that would have a comparable impact on global warming. Because of cumulation, however, the development of the individual greenhouse gases cannot be determined. A negative development of one greenhouse gas can for instance be concealed by a positive development of another greenhouse gas.

The data are provided annually by the German Environment Agency as part of the reporting under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The determination and reporting of emissions is subject to a comprehensive quality management system.

The calculation is made according to the polluter pays and territorial concept. This means that the most important sources of emissions in Germany are identified for all greenhouse gases and air pollutants. For these sources the level of emissions under certain conditions was determined. As a result, a specific emissions factor is obtained, which is then multiplied by the activity data of a source to quantify the amount of emissions.

Note that the indicator according to the Kyoto Protocol does not show the carbon dioxide emissions arising from land use, land use change and forestry. Sea transport and international air transport are also excluded from the calculation.

A closer look at the development over the last five years shows that the indicator has not developed in a stable manner. In 2013, the emission values of greenhouse gases increased by 1.4 %, while they decreased considerably by 3.1 % in 2014. In 2015 and 2016, they again increased slightly by 0.3 % and 0.2 %, respectively. In the long run, as was shown by the near real time forecast of the German Environment Agency in 2017, a decline of a total of 27.7 % compared with 1990 can be observed. If the development recorded over the last five years continues, it is unlikely that the target set for 2020 – a 40% reduction compared with 1990 – can be achieved.

Carbon dioxide accounted for the by far largest proportion of total greenhouse gas emissions in 2017 (88.1 %), compared with 84.1 % in 1990. Methane contributed 6.0 %, laughing gas 4.2 %, hydroflourocarbons 1.2 % and sulphur hexaflouride 0.4 % to the greenhouse gas emissions (last two figures for 2016). By far the largest part of the CO_2 emissions is created by the generation of electricity and heat. Methane and laughing gas are emitted primarily by agricultural production.

The indicator has cross references, for instance, to indicators 3.2 "Air pollution", 7.2 "Renewable energies" and 11.2 "Mobility".
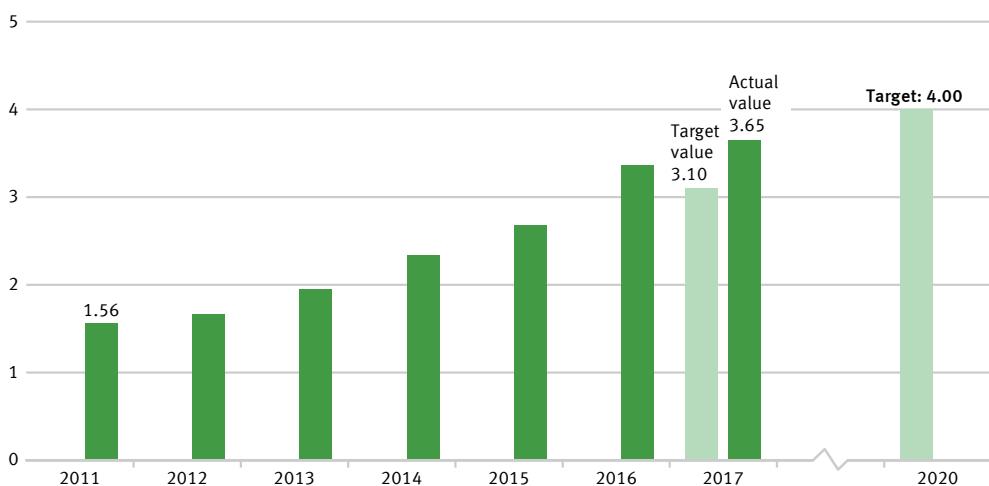
Climate protection – *Germany's contribution to international climate finance*

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

German's climate finance flows primarily to developing and emerging countries
Billions of euros

Source: Federal Ministry for Economic Cooperation and Development

Definition of the indicator

The indicator shows the financing of measures to reduce greenhouse gases (for instance through the conservation and reforestation of forests (REDD+)), to adapt to climate change and to protect biodiversity. Funding goes primarily to developing and emerging countries and is made from German budget funds, including grant elements of development loans which include budget funds.

Target and intention of the indicator

The Federal Government intends to double its international climate finance from budget funds and grant elements of development loans to 4 billion euros by 2020 relative to the 2014 target figure of 2 billion euros. In the decision text accompanying the Paris Climate Agreement, the industrialised countries' commitment of 2009 was confirmed, namely to mobilise – from 2020 onwards – 100 billion US dollars from public and private sources for climate protection and adaptation to climate change in developing countries.

Content and progress of the indicator

The data for the indicator are taken from the reporting in accordance with the EU Regulation on a mechanism for monitoring and reporting greenhouse gas emissions. The data source of the annually collected data is the Federal Ministry for Economic Cooperation and Development (BMZ), which in this context also reports on climate financing by other federal ministries. In general, the information on bilateral climate finance is based on the relevant commitments, while the actual payments are taken as a basis for multilateral climate finance and contributions to energy and climate funds. The indicator also includes the proportionately attributed climate finance derived from contributions to multilateral funds at development banks. If climate finance mainly benefits developing countries, it is considered to be part of official development assistance (see indicator 17.1).

In 2017, Germany committed or provided 3.6 billion euros from budget funds for international climate finance to reduce greenhouse gases and adapt to climate change. Compared to the previous year, during which climate finance amounted to 3.4 billion euros, this represents an increase of 8.6 %. A proportion of 43 % of climate financing in 2017 was spent on emission reduction and 25 % on adaptation to climate change. The remaining 32 % were used to finance cross-sectoral projects. As in previous years, more funds were spent on mitigation than on adaptation projects in 2017.

Multilateral channels provided 13 % (481 million euros) of climate finance in 2017. Of this amount, 187 million euros represent the climate finance allocated proporotionately to Germany, which results from contributions to multilateral funds at development banks.

The purely monetary analysis of climate finance does not allow any conclusions to be drawn regarding the impact of the financed projects. Based on its resources for technical and financial cooperation, the BMZ assesses how many tonnes of carbon dioxide emissions will be saved in the future through mitigation projects. The impact assessments of financial cooperation are based on ex-ante estimates of the financing commitments of a year, while those of technical cooperation are calculated on an ex-post basis.

In 2017, direct savings of 8.7 million tonnes of CO_2 equivalents were achieved usingfinancial cooperation funds. Through technical cooperation funds, emissions of 9.1 million tonnes of CO_2 equivalents were directly avoided between 2015 and 2017.

In addition to public climate financing from budget funds, the KfW (Kreditanstalt für Wiederaufbau) and the DEG (Deutsche Investitions- und Entwicklungsgesellschaft) also provide climate-related loans via market funds. These represent the "mobilised public climate finance" which is not included in the indicator. In 2017, the resources mobilised in this way amounted to 3.1 billion euros compared to 5.2 billion euros in the previous year. Here again, more funds were disbursed for mitigation projects (83 %) than for adaptation projects (9 %)

Protecting the oceans – *Protecting and sustainably using oceans and marine resources*
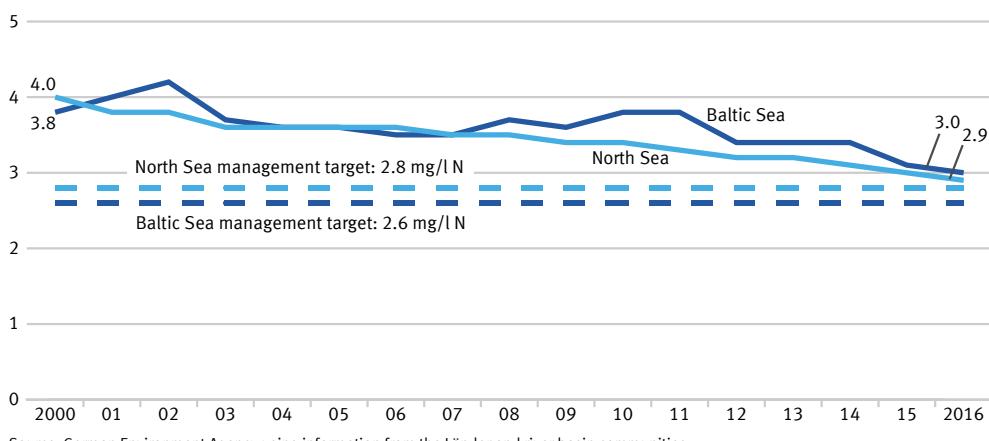
14.1.a Nitrogen input to the North and the Baltic Sea through German inflows

North Sea   Baltic Sea

Total nitrogen concentration in the North and the Baltic Sea
Concentration, mg/l (moving discharge-weighted average of the previous 5 years)

Source: German Environment Agency using information from the Länder and river basin communities

Definition of the indicator

The indicators show the moving discharge-weighted five-year average of nitrogen concentrations in milligrams (mg) of nitrogen per litre (l) of water discharged from rivers into the North Sea and the Baltic Sea.[1]

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Target and intention of the indicator

High concentrations of nitrogen in the seas can lead to eutrophication effects such as oxygen depletion, the loss of biodiversity and to the destruction of fish spawning grounds. Therefore, the input of nitrogen should stay below 2.8 mg nitrogen per litre discharge for the rivers flowing into the North Sea and below 2.6 mg N/l for the rivers flowing into the Baltic Sea. This corresponds to the management targets of the Ordinance on the Protection of Surface Waters amended in 2016 that were agreed during the implementation of the Water Framework Directive and to the objectives of the Marine Strategy Framework Directive and the Baltic Sea Action Plan.

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

Content and progress of the indicator

The indicators are calculated on the basis of measurements of nitrogen concentrations and water discharge levels from smaller and larger inflows into the North Sea and the Baltic Sea, which the German Environment Agency compiles using information provided by the Länder and the river basin communities. This also includes smaller rivers that flow into a larger river, rather than directly into the North Sea or the Baltic Sea. The measuring points are selected in such a way as to ensure that the data of the last measuring point before the confluence of the two rivers are taken into account. The Rhine, which does not flow into the sea in Germany, is also taken into account. Here the values are measured at the point where the Rhine leaves Germany (measuring point at Kleve, district Bimmen). The nitrogen concentrations of the individual rivers are averaged on a discharge-weighted basis, so that large rivers with large volumes of water discharge have a greater influence on the average than small rivers. Another substance that is discharged via rivers into the North Sea and the Baltic Sea and causes eutrophication is phosphorus. This is examined in detail in indicator 6.1.a "Phosphorus in flowing waters".

To ensure that individual extreme events such as floods or droughts, which partly lead to very high or very low nitrogen inputs, do not distort the representativeness of the development, the values are calculated as a five-year moving average.

The discharge-weighted nitrogen concentration across all North Sea and Baltic Sea inflows showed a decreasing trend since the beginning of the time series, with the decrease in concentrations being more marked in the North Sea than in the Baltic Sea. On average in 2012 to 2016, North Sea and Baltic Sea inflows reached concentrations of 2.9 and 3.0 mg/l, respectively. However, to achieve a good status in accordance with the Surface Water Ordinance, it would be necessary for each individual river to meet the management target.

Of the large Baltic Sea inflows, Peene, Trave and Warnow, only the Warnow (near Rostock) met the management target in the period 2012 to 2016. The value of the Peene (near Anklam) with 2.9 mg/l and the value of the Trave (near Lübeck-Moisling) with 3.7 mg/l were still higher. All three rivers showed a clear decrease in the five-year average concentrations. This decline was most marked for the Trave. Regarding the small Baltic Sea inflows, nitrogen concentrations are in part still considerably higher than the management target value (up to 6.0 mg/l).

Of the North Sea inflows, only the Rhine met the management target in the period 2012 to 2016. Regarding the other major rivers, Elbe, Ems, Weser and Eider, the Ems (near Herbrum) had the highest concentration of 4.7 mg/l and the Elbe (near Seemannshöft) and the Eider (near Friedrichstadt) the lowest concentrations (3.1 mg/l each). The five-year averages of concentrations decreased for all major North Sea inflows. The river Elbe showed the largest reduction. The highest nitrogen concentration of the small North Sea inflows was 3.6 mg/l in the years 2012 to 2016. Overall, permanent and nationwide compliance with the management targets is currently neither being met for the Baltic Sea nor for the North Sea.
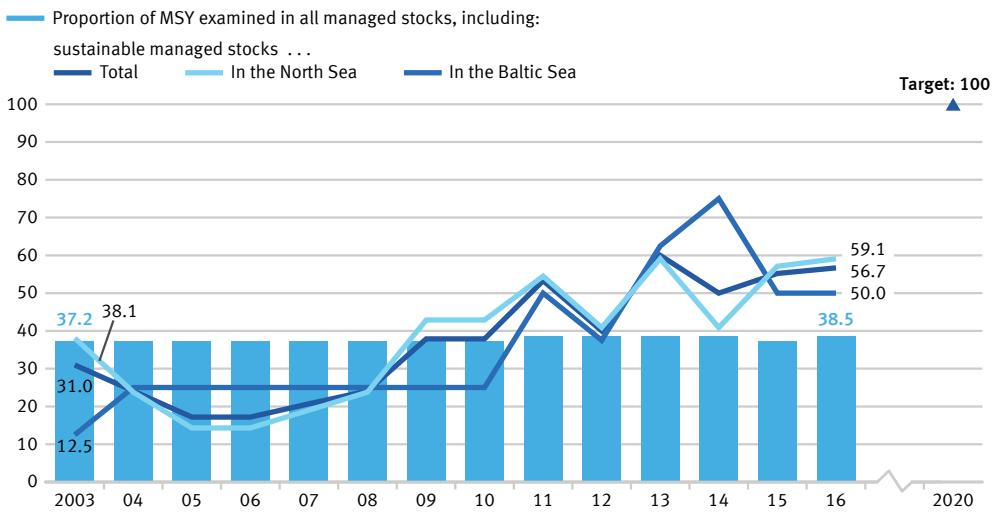
Protecting the oceans – *Protecting and sustainably using oceans and marine resources*

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

Sustainably fished stocks of fish in the North and the Baltic Sea as a proportion of all MSY examined stocks
Percent

Source: International Council for the Exploration of the Sea

Definition of the indicator

The indicator shows the sustainably managed fish stocks (according to the Maximum Sustainable Yield [MSY] approach) as a proportion of the total of managed fish stocks in the North and the Baltic Sea.

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Target and intention of the indicator

Biological diversity is fundamental to all human life. Only if the natural capital – for example, in the form of fish stocks in the North and the Baltic Sea – is protected and preserved it can also provide future generations with critical ecosystem services. The target of the indicator is to describe the extent to which the goal defined in the Regulation on the Common Fisheries Policy has been achieved. The goal states that all fish stocks used for economic purposes have to be sustainably managed in accordance with the MSY approach by 2020.

Content and progress of the indicator

Not all fish stocks are examined with reference to their sustainable management. Therefore, the number of fish stocks that are sustainably managed based on the MSY approach should always be viewed in relation to overall fish stocks. Although an expansion of the investigation to include as many stocks as possible is desirable, the high cost of these investigations means that the prospect of recording all stocks, even those that are economically less relevant and less fished, is unrealistic.

Based on current estimates, a total of 58 fish stocks in the North Sea and 20 stocks in the Baltic Sea are used for economic purposes. The number of stocks examined using the MSY approach is currently 8 in the Baltic Sea and 22 in the North Sea. This means that only a third of all managed stocks are fully analysed with respect to sustainable management. All other stocks for which the data available are not sufficient for analysis according to the MSY method are not included in this indicator.

A stock is considered to be "sustainably managed" if the actual amount of fish caught per year and the fish stock do not exceed the scientifically recommended amount based on the MSY approach, or if they comply with the requirements of a long-term management plan assessed as 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. A specific species can therefore have multiple stocks and, depending on the stock, can also have different guideline values regarding the amount of fish caught. 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 the amounts of fish caught sustainably according to the MSY approach is based on stochastic predictions, which use calculations of historical stock trends. Information about fish quantities landed is based on reported catches. Samples taken from this provide insights into the demographic parameters of the population, such as age and size. Other important sources of information on the state of fish stocks are scientific surveys conducted on research vessels that are independent of the fishing industry.

In 2016, the sustainably managed stocks of fish accounted for 56.7 % of the total stocks examined in accordance with the MSY approach in the North Sea and the Baltic Sea. The relevant proportions were 59.1 % in the North Sea and 50.0 % in the Baltic Sea.

Regarding the development between 2011 and 2016, the overall progress was positive. In 2012 and 2014, however, the proportion of sustainably managed fish stocks was lower compared with the previous year. It is difficult to assess the indicator because it is influenced in addition to the development of the stocks, also by the selection of stocks to be considered. Thus, the basis of assessment can vary from year to year, which makes it difficult to compare the results of individual years. In addition, the recommended amounts of fish caught apply across countries and therefore can only be fulfilled indirectly by the efforts of a single country alone.
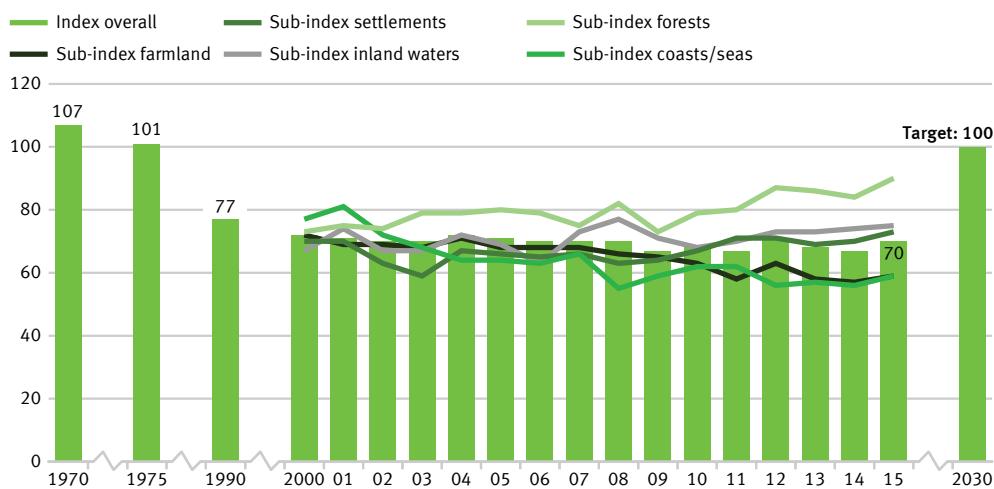
Biodiversity – *Conserving species – Protecting habitats*

15.1 Biodiversity and landscape quality

Biodiversity and landscape quality
2030 = 100

- Index overall
- Sub-index settlements
- Sub-index forests
- Sub-index farmland
- Sub-index inland waters
- Sub-index coasts/seas

The sub-indicator for the Alps is currently suspended across the entire data series. The historical values for 1970 and 1975 have been recalculated. The target values for the sub-indicators and the overall indicator are to be checked by 2020.

Source: Federal Agency for Nature Conservation, August 2018

Definition of the indicator

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

Target and intention of the indicator

A high diversity of animal and plant species is a fundamental prerequisite for a healthy natural environment and an essential basis for human livelihood. To preserve biodiversity and at the same time the quality of life of humans, the provisional target of the Federal Government is an index value of 100 by 2030 – this target was originally supposed to be achieved by 2015. It is foreseen to check the level of this target value by 2020 and to adjust it if necessary.

Content and progress of the indicator

The calculation of the indicator is based upon 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 for farmland, settlements, inland waters, coasts and seas as well as eleven species for forests. As data availability is uncertain, the Alpine habitat is currently not taken into account.

The population size per species is calculated annually from the results of bird monitoring programmes by the Dachverband Deutscher Avifaunisten (DDA) in cooperation with the Federal Agency for Nature Conservation (BfN) and is set in relation to the size of the target population. The value of the target population was determined by a committee of experts for each bird species - originally for the year 2015. The historical values for 1970 and 1975 have been recalculated.

For each sub-indicator, the arithmetic mean of the degrees of target achievement is calculated for all ten or eleven selected bird species. The overall indicator is calculated as a weighted sum of the sub-indicators. The weighting is based on the respective main habitat or landscape type as a share of the total area of Germany. For the time being, the target values for the sub-indicators and the overall indicator were not altered for the target year 2030.

In addition to birds, there are also other species that rely on a richly structured landscape with intact, sustainably used habitats, which means that the indicator also indirectly maps the development of a number of other species in the landscape and the sustainability of land use.

In 1990, the value of the indicator "Biodiversity and landscape quality" was considerably lower than the values recalculated for 1970 and 1975. In the last ten reference years (2005 to 2015), the value of the indicator has deteriorated further. In 2015, it was 70.3 % of the target value. Should this development continue, the target set for 2030 is unlikely to be achieved.

In the course of the last ten years (from 2005 to 2015), however, the sub-indicators for the individual habitat types have developed differently. Up to 2014, the sub-indicators for farmland (2015: 59.2 % of the target value) as well as for coasts and seas (2015: 58.5 % of the target value) showed a downward development, but have recovered slightly in 2015. This also has a considerable impact on the value of the overall indicator.

Except for the sub-indicators for forests and inland waters, all sub-indicators also remained considerably below the comparative values for 1990. In terms of biodiversity and the landscape quality of forests, the situation appeared to have improved considerably recently in comparison with the other habitat types. In 2015, this habitat achieved 90.1 % of the target value, which was the highest value compared with the other sub-indicators.
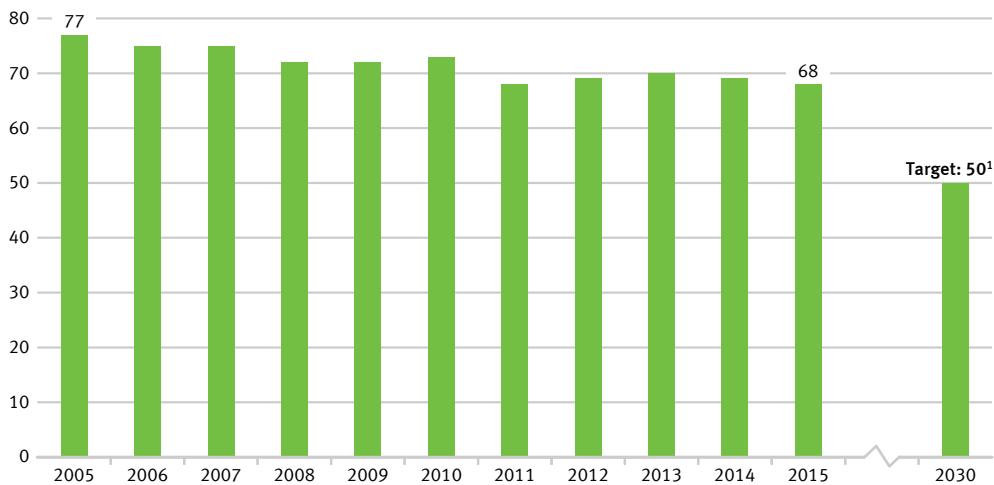
Ecosystems – *Protecting ecosystems, conserving ecosystem services and preserving habitats*

15.2 Eutrophication of ecosystems

Ecosystems where critical loads for eutrophication are exceeded due to nitrogen input
Percentage share of the assessed sensitive ecosystem area

1   The target value of 50 % represents a reduction of the area by 35 % from 2005.
Source: German Environment Agency

Definition of the indicator

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

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Target and intention of the indicator

The critical ecological loads are a measure of the sensitivity of an ecosystem to the input of a pollutant. If the inputs of air pollutants remain below these critical loads, no harmful effects on the structure and functioning of an ecosystem are to be expected according to the current state of knowledge. Almost half of the ferns and flowering plants that are included in the Red List in Germany are endangered by nutrient inputs. By 2030, the share of land with an elevated input of nitrogen is to be reduced by 35 % compared with 2005. This would be a reduction to 50 % of the total ecosystem area.

Content and progress of the indicator

Nitrogen, which escapes into the atmosphere in ammonia and nitrogen oxides, is introduced into sensitive ecosystems in gaseous form, dissolved in rain, or as a component of particulate matter. In this context, forests, natural grassland, bogs, marshes and heaths are considered ecosystems.

In order to assess nitrogen inputs, ecosystem-specific critical loads are determined. According to current knowledge, structures and functions as well as the species communities of an ecosystem will be protected if these limits are adhered to. Critical ecological loads are therefore a measure of the sensitivity of an ecosystem and enable spatially differentiated comparisons of the resilience of ecosystems to current atmospheric nitrogen inputs. In total, some 11 million hectares, which is almost one third of the entire land mass of Germany, are evaluated in this way. The effects of excessive nitrogen input often will be evident only a few years later. Likewise, the positive effects of a reduced input will become apparent only after an extended period of time.

The eutrophication of ecosystems is related to indicators 2.1.a "Nitrogen surplus in agriculture", 3.2.a "Emissions of air pollutants", 6.1.b "Nitrate in groundwater" and 14.1.a "Nitrogen input to the North and the Baltic Sea through German inflows".

Since 2018, the indicator has been calculated by the German Environment Agency (UBA). Currently there is a time series available for the years 2000 to 2015. Two data sets are of fundamental importance here. The first dataset is the critical load dataset provided by UBA for international reporting under the Geneva Convention on Long-Range Transboundary Air Pollution (CLRTAP). The basis for determining this data set is, among other things, the soil overview map of Germany, the map of the mean annual infiltration rate from the soil, the land use distribution map and climate data for Germany. The second data set contains a time series of nitrogen inputs in Germany and was calculated under the PINETI III project (Pollutant INput and EcosysTem Impact).

In 2015, the critical loads for harmful nitrogen input were exceeded on 68 % of the total assessed sensitive ecosystem area in Germany. Exceedance is particularly high in parts of northern Germany as agriculture discharges large quantities of reactive nitrogen compounds there.

Between 2005 and 2015, the share of areas on which critical loads for nitrogen were exceeded was reduced by 9 percentage points. If the nitrogen input reduction of the previous reference years continues, the targeted goal of a maximum 50 % of polluted land in 2030 will be slightly missed.
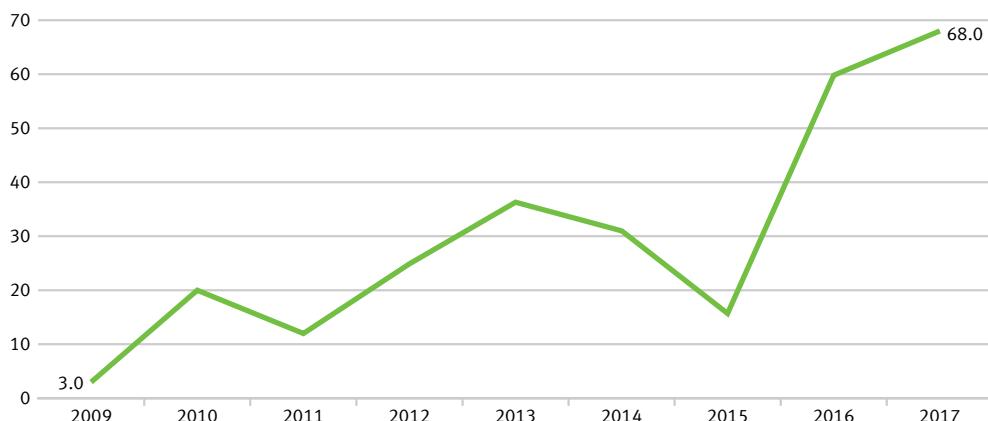
Forests – *Preventing deforestation*

15.3 Preservation or restoration of forests in developing countries under the REDD+ rulebook

☀️

Payments to developing and emerging countries for the verified preservation or restoration of forests under the REDD+ rulebook
Millions of euros

Financial contributions prior to 2013 were made in anticipation of the REDD+ rulebook.
Source: Federal Ministry for Economic Cooperation and Development

Definition of the indicator

The indicator shows the payments by Germany to developing and emerging countries for the verified preservation or restoration of forests under the REDD+ rulebook.

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Target and intention of the indicator

The prevention of deforestation and forest degradation (damage), the use of sustainable forestry management systems as well as the restoration of forests and afforestation contribute directly and indirectly to the reduction of CO_2 emissions and to the storage of carbon. The REDD+ rulebook envisages results-based payments for measurable and verified CO_2 emission reductions. The target is to increase these payments by Germany to developing and emerging countries by 2030.

Content and progress of the indicator

Reducing Emissions from Deforestation and Forest Degradation (REDD+) is a financing instrument designed to protect forests and their biodiversity, which was developed by the international community. REDD+ rewards governments and local communities financially for reducing deforestation and thereby demonstrably cutting emissions. The sums paid out are based on the scope of emissions reduced or of carbon stored. REDD+ funds are disbursed only after the reduction in deforestation has been verified – which means they are result-based. Consequently, the indicator may fluctuate over time even though the level of committed payments remains unchanged over the years.

The indicator includes only part of the public development expenditure for the preservation, sustainable management and restoration of forests since the Federal Government is involved in promoting sustainable forest development in developing and emerging countries not only as part of REDD+ but also through other programmes and initiatives.

Payments made under the REDD+ rulebook are also part of climate finance (indicator 13.1.b), as the preservation of forests serves primarily to limit emissions.

The data sources used for the indicator are the financial reports compiled by the Federal Ministry for Economic Cooperation and Development and by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. The data have been collected annually since 2008.

In the reference period between 2009 and 2017, the indicator developed in a very uneven manner. Following an increase from 3.0 million euros in 2009 to 20.0 million euros in 2010, the payments fell to 12.0 million euros in 2011, before increasing sharply to 36.3 million euros in 2013. Payments declined in the following two years to stand at 15.7 million euros in 2015, well below the level of 2010, before increasing sharply again in 2016 and 2017. In 2017, payments totalled 68.0 million euros, the highest level to date, and almost doubled compared to 2013. Of this amount, 58.9 million euros went to multilateral programmes, and 9.1 million euros to bilateral programmes. The development of the indicator since 2010 does not reveal a definitive trend. Strong increases in payments have always been followed by declines.
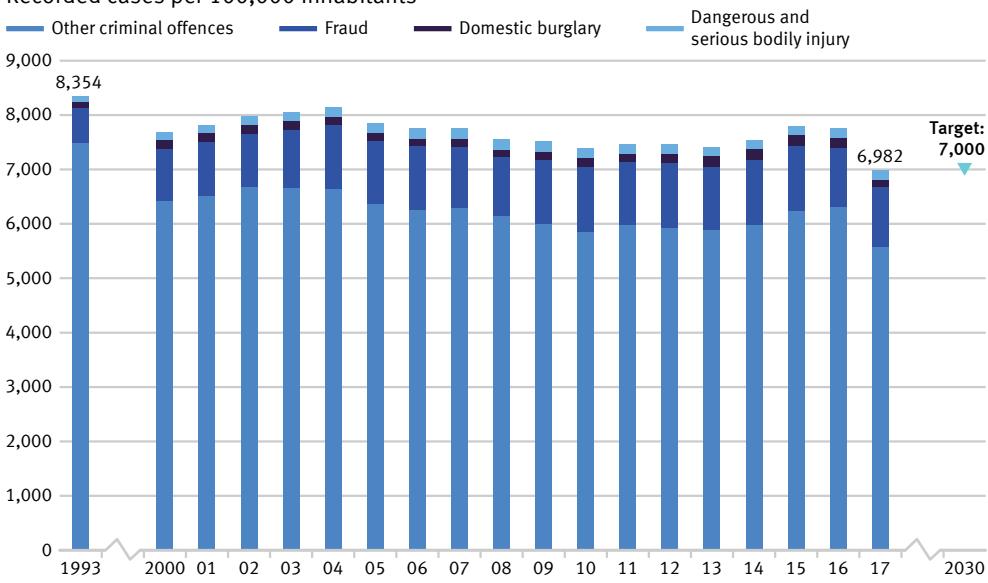
Crime – *Further increasing personal security*

16.1 Criminal offences

Criminal offences
Recorded cases per 100,000 inhabitants

Other criminal offences	Fraud	Domestic burglary	Dangerous and serious bodily injury

Sources: 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.

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Target and intention of the indicator

A safe neighbourhood in which the citizens of a country can live without fear of arbitrariness and crime is an essential prerequisite for sustainable development. Therefore, the number of recorded criminal offences per 100,000 inhabitants is to be reduced to less than 7,000 by 2030.

Content and progress of the indicator

The indicator covers all criminal offences recorded in the Police Crime Statistics (PKS). These are criminal offences reported to the police and fully processed by them, provided that they do not involve offences against state security, traffic offences (with the exception of violations of Articles 315, 315b of the German Penal Code (StGB) and Article 22a of the Road Traffic Act (StVG)) or violations of the criminal laws of the Länder (except for the relevant regulations in the privacy laws of the Länder). Not included are criminal offences committed outside the Federal

Republic of Germany as well as offences that are not within the area of responsibility of the police (e.g. financial and tax offences) or are reported directly to the public prosecutor and processed exclusively by him/her (e.g. offences relating to testimony).

The Police Crime Statistics publications are compiled annually based on the data available from the criminal police offices of the Länder and the Federal Criminal Police Office. To calculate the criminal offences per 100,000 inhabitants, the (back-calculated) population figures based on the 2011 census are used for the entire time series. This enables comparisons over time as of 1993, although these data can differ from the data of the Police Crime Statistics published for the time prior to 2013. Changes in the Police Crime Statistics do not, however, always reflect actual changes, as the statistics cover only criminal offences that officially come to the attention of the police. Since there are no statistical data on crimes that remain unknown to the police, such crimes cannot be shown in the Police Crime Statistics. If, for example, the reporting behaviour of the population changes, or the intensity with which the police pursue particular crimes, then the ratio between reported and unreported crime can change without there having been any change to the amount of actual crime committed.

The number of offences was 6,982 per 100,000 inhabitants in 2017 so that the target of less than 7,000 offences in 2030 has already been reached. Between 1993 and 2017, the indicator fell by 16.4 %. However, this was not a continuous development. For example, it increased between 2000 and 2004, followed by a slight decrease until 2010. The large number of people who arrived in Germany as refugees and persons seeking asylum since 2015 is also reflected in the PKS. In 2016, violations of the legislation concerning foreigners (unauthorised entry, for example) increased by 211.8 % compared to 2014. However, in 2017 these numbers decreased sharply and accounted for 3.1 % of all criminal offences. Even if violations of the legislation concerning foreigners are excluded, the total number of criminal offences registered by the police in 2017 is lower than in previous years.

In 2017, the total number of criminal offences registered by the police was 5.8 million. Domestic burglaries accounted for 2.0 %, fraud for 15.8 %, and dangerous and serious bodily injury for 2.4 %. While the number of domestic burglaries decreased by 48.7 % between 1993 and 2017, the cases of fraud increased by 72.3 % and the cases of dangerous and serious bodily injury by 56.1 %. When only the developments of the last five years are considered, there are deviations from the trend described above. Between 2012 and 2017, the number of domestic burglaries fell by 19.1 % and cases of fraud by 5.0 %, while cases of dangerous and serious bodily injury increased slightly by 0.7 %.

The clear-up rate for all offences registered by the police in 2017 was 57.1 %, and thus roughly at the previous year's level. Considerable differences were apparent here depending on the type of criminal offence. The clear-up rate for domestic burglary, for example, was only about 17.8 %. By contrast, 73.7 % of fraud offences and 82.8 % of the cases of dangerous and serious bodily injury were cleared up. The comparatively low clear-up rate for domestic burglaries is related to a high propensity to report them combined with comparatively infrequent solid leads pointing to the perpetrators. This is in sharp contrast to the 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 at the time the crime is reported.
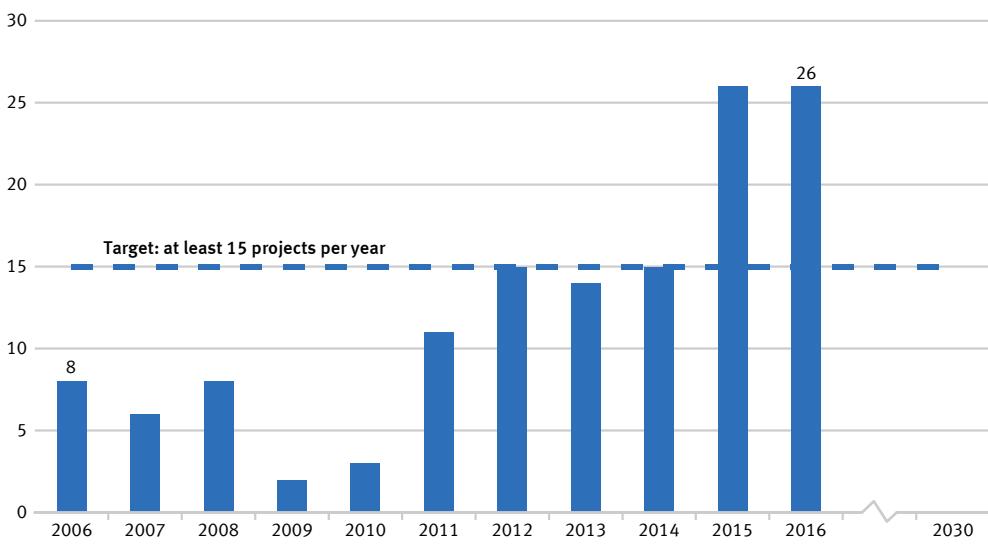
Peace and security – *Taking practical action to combat proliferation, especially of small arms*

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 carried out in Africa, Eastern Europe, Latin America and Asia with German financial support.

Target and intention of the indicator

There can be no sustainable development without peace and no peace without sustainable development – this is emphasised in the preamble to the 2030 Agenda for sustainable development. With the measures recorded by the indicator, Germany is making a contribution towards peacekeeping in a concrete subcategory. The set target is to have at least 15 projects to secure, register and destroy small arms and light weapons carried out by Germany each year.

Content and progress of the indicator

According to the Federal Foreign Office, the number of projects undertaken each year increased from 8 in 2006 to 26 in 2016. Thus the goal of Germany being involved in a minimum of 15 projects would have been achieved in 2012 for the first time. Except for 2013, the level would have been reached or even exceeded in subsequent years, too. According to the Federal Foreign Office, the regional focus of German efforts was on East and West Africa, the western Balkans and Ukraine. Other projects supported were in Latin America and the Caribbean. It is possible that projects with a duration longer than one year are counted more than once.

The reported projects are not financed exclusively by the Federal Foreign Office, but in part with third-party funds as well. Thus, the indicator also takes into account those projects that are financed only in part by the government. The number of projects undertaken, however, says nothing about their scope or success. In addition, it is important to have well-defined and communicated criteria to clearly match a project with the objective of the indicator. The annual disarmament reports list projects aimed at combating small arms and their financing. Their number differs from the figures reported for the indicator. One reason for this could be the focus of the projects, which is decisive for the respective classification. The indicator also takes into account aspects other than the extent of government participation in these projects.

The Organisation for Economic Co-operation and Development (OECD) also publishes detailed figures on "Reintegration; Combating small arms and light weapons" projects (funding code 15240) in accordance with the Statistical Reporting Directives of the Development Assistance Committee. Again, there is a degree of uncertainty as parts of a project could be aimed at combating small arms and light weapons but are not accounted for because of the focus of the overall project.

If the indicator were to be based on the number of projects in accordance with the OECD funding code, the target of at least 15 projects per year would have been met only in 2006 and 2016. Between these years, the values would have been below the target value. However, these projects also include measures, for instance to reintegrate demobilised military personnel into the economy. Without these measures of reintegration, the number of projects that focus exclusively or predominantly on combating small arms and light weapons would have been smaller.

Good governance – *Combating corruption*

16.3.a, b Corruption Perceptions Index (CPI) in Germany and in partner countries of German development assistance
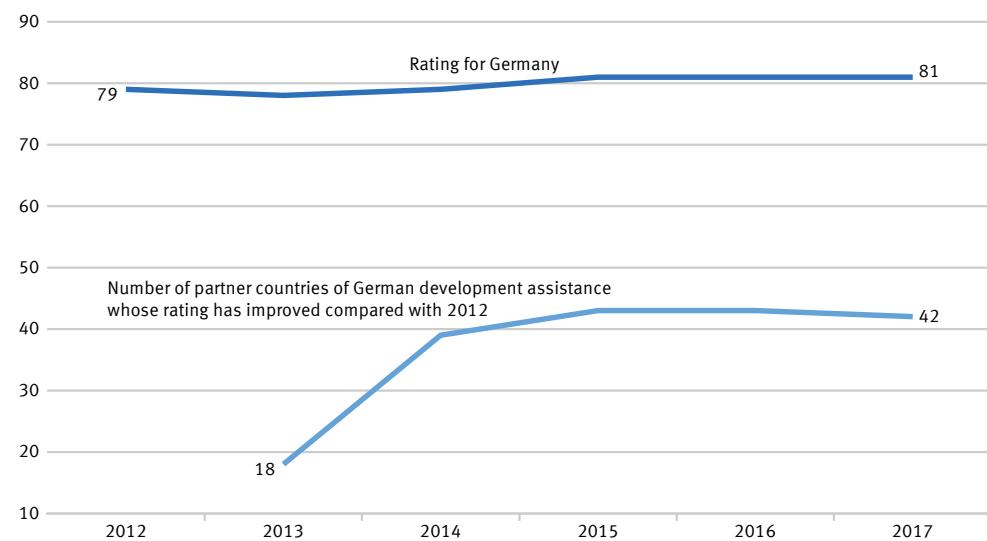
a) CPI in Germany   b) Partner countries

Corruption Perceptions Index

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

Definition of the indicators

The indicators provide the Corruption Perceptions Index (CPI) from Transparency International for Germany (16.3.a) as well as the number of partner countries of German development assistance whose CPI has improved compared with 2012 (16.3.b). The CPI measures how strongly corruption in the public sector is perceived in a country.

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Target and intention of the indicators

A further improvement of the CPI for Germany is targeted for 2030. In addition, the CPI in the majority of partner countries involved in German development assistance should also improve. The base year in each case is 2012.

Content and progress of the indicators

The CPI is a composite indicator that is based on various expert as well as corporate surveys on the perception of corruption in the public sector. Depending on the particular survey, different understandings of corruption may serve as a basis and the sources for the calculation may change over time. The index includes countries for which at least three selected surveys are available. As such, the CPI is the most comprehensive overview study on perceived public sector corruption.

In its analysis of the CPI, the Joint Research Centre of the European Commission points out that, the statistical significance of the change must also be examined when the results are interpreted and that even in the case of statistically significant differences, the results of this indicator should be interpreted with caution.

Compared to 2012, Germany' score improved from 79 to 81 points in 2017. This figure has not changed since 2015, which means that Germany has moved down to twelfth place in the ranking. Though, compared with 2012, this change should not be viewed as statistically significant (at a significance level of 5 %).

The Federal Statistical Office also gathers information on the topic of corruption as part of its satisfaction survey on official services. According to this survey, during their contact with public authorities 3.7 % of the population had the impression in 2017 that public service employees were susceptible to corruption. In the corresponding survey of companies, 2.4 % of companies had the impression that public service employees were open to corruption.

The Police Crime Statistics (PKS) record all criminal matters that become known to the police. In 2017, 961 cases of accepting/granting a benefit as well as taking/offering a bribe were recorded in the public sector. Furthermore, the PKS also list cases where bribes were taken or offered in commercial practice as well as concomitant offences of corruption such as fraud and breach of trust, document forgery, agreements in restriction of competition upon invitations to tender, obstruction of punishment, false certification in public office and violation of official secrecy.
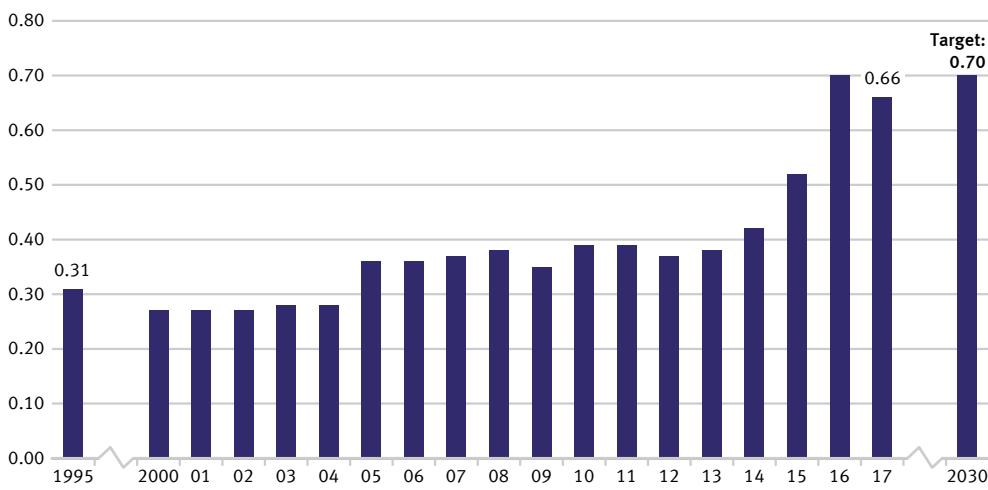
With reference to German development assistance, 42 of the 85 partner countries evaluated by the CPI scored better in 2017 compared with 2012. In the review period, the number of partner countries developing in a positive direction has increased each year up to 2015. Their number stagnated in 2016 and declined slightly in 2017. As many as 21 partner countries of German development assistance reported a statistically significant improvement (at a significance level of 5 %) in 2017 compared with 2012. In 2014, six partner countries had reported a significant improvement.

Development cooperation – *Supporting sustainable development*

17.1 Expenditure for official development assistance as a proportion of gross national income

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Expenditure for official development assistance as a proportion of gross national income
Percentage share

2017 provisional data.

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

Definition of the indicator

The indicator shows public net expenditures for development assistance (Official Development Assistance or ODA) as a percentage of gross national income (GNI).

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Target and intention of the indicator

Through their development assistance, industrialised nations contribute to reducing poverty worldwide, securing peace, alleviating humanitarian crises, achieving democracy, shaping globalisation equitably and protecting the environment. In order to live up to this responsibility, the Federal Government aims to achieve the target originally set for 2015 to increase public development expenditure as a proportion of gross national income to 0.7 % by 2030.

Content and progress of the indicator

The data basis for the indicator is the statistics on the flows of German development assistance, which is compiled by the Federal Statistical Office on behalf of the Federal Ministry for Economic Cooperation and Development.

The eligibility of a flow as ODA is defined by the relevant guidelines issued by the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD). ODA mainly includes expenditure for financial and technical cooperation with developing and emerging countries, humanitarian aid as well as contributions for development assistance to multilateral institutions such as the United Nations, the European Union (EU), the World Bank or regional development banks. Furthermore, expenditure for specific peace missions, debt cancellation as well as costs of specific development assistance provided in the donor country, such as the tuition costs of university students from developing and emerging countries or expenditure for development-related research, can also be counted as ODA. In 2015, the calculation basis of the German ODA was adjusted to take greater account of the costs of housing, care and education of refugees within the donor country.

An expert group of the DAC has submitted proposals for harmonising and improving the comparability of the methods used to determine ODA eligible expenditure for refugees within the country. These proposals can be implemented by Member States as of reference year 2017 and have to be implemented as of reference year 2019 at the latest. The OECD, or the DAC, also define the list of ODA eligible developing and emerging countries. This includes the least developed countries (LDCs) on the one hand and other countries with low and medium GNI per capita on the other. Members of the G7 and Russia, the EU as well as EU accession candidates with a fixed accession date are excluded. The list is updated every three years. Changes in the indicator can also result from the fact that individual or several countries are added to or removed from the list.

In 2017, official development expenditure as a percentage of German GNI was 0.66 % according to provisional figures. Net ODA flows in 2017 were around 21.9 billion euros (provisional value), which was a decrease of 2.1 % year on year (22.4 billion euros). It should be noted that Germany saw a large influx of immigrants from conflict regions in 2015 and 2016. Benefits for the provision of basic services in Germany to asylum seekers from developing countries can be reported as ODA. This is one of the main reasons for the sharp increase of the figures recorded for 2015 and 2016 compared to 2014. In 2017, a slight reduction can be observed with decreasing immigration. Excluding the costs of refugees, the ODA quota remained almost constant from 2016 to 2017.

In an international comparison, Germany was the second largest donor of ODA funds in absolute terms in 2017 (provisional results) after the USA and ahead of the UK. With reference to GNI, the rate of 0.66 % achieved by Germany in 2017 is above the average value of the EU members of the OECD Development Assistance Committee (0.59 %). In relative terms, Germany ranks 6th out of the 29 DAC member countries. The international goal of 0.7 % was achieved in 2017 by Sweden, Luxembourg, Norway, Denmark and the UK.

In addition to official development assistance, private organisations such as churches, foundations and associations also make contributions. This private development assistance, which does not qualify as ODA, amounted to 1.3 billion euros in 2017, equating to a share of 0.04 % of gross national income. Private direct investment in developing and emerging countries totalled 10.9 billion euros in 2017 (before revision).
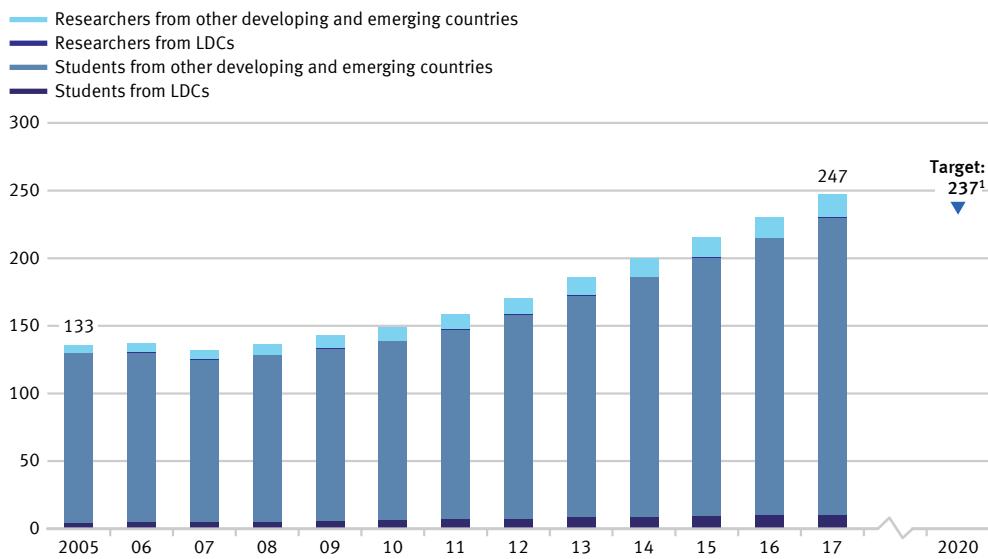
Knowledge transfer, especially in technical areas – *Sharing knowledge internationally*

17.2 Number of students and researchers from developing countries and LDCs per year

Students and researchers from developing and emerging countries in Germany
Thousands

- Researchers from other developing and emerging countries
- Researchers from LDCs
- Students from other developing and emerging countries
- Students from LDCs

2017 provisional data.

1 The target is to increase the number of students and researchers by 10 % until 2020 compared with 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 per year or semester. Here, the number of students and researchers from the least developed countries (LDCs) is listed separately.

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Target and intention of the indicator

Knowledge is a key driver of sustainable development not only at national level but also in global terms. The strengthening of the international exchange of knowledge by Germany is an important measure in this context. For this reason, the target of the Federal Government is to increase the total number of students and researchers from developing and emerging countries by 10 % from 2015 until 2020 and to stabilise the number at the same level thereafter.

Content and progress of the indicator

The data basis of the indicator is the statistics of students and the statistics of higher education staff conducted by the Federal Statistical Office. Both are complete surveys based on the administrative data of the institutions of higher education. The indicator includes the students in the winter semester of each year. However, the researchers are covered on the reference date of 1st of December. Researchers in this context are defined as academic personnel at German institutions of higher education in primary and secondary employment (excluding student assistants). Doctoral candidates who are enrolled as students at an institution of higher education and who are also working as member of the academic personnel may be counted twice by the indicator.

The total number of all students and researchers from developing and emerging countries at German institutions of higher education was 247,433 in 2017. With 92.9 %, students by far accounted for the largest share of the indicator value.

In the winter semester of 2017/18, 229,881 students from developing and emerging countries were enrolled in German institutions of higher education. This corresponds to 8.1 % of all enrollees. The number of students from developing and emerging countries has increased steadily since 2005 (126,672 students) – the only decline recorded was during the year of 2007. The increase in the winter semester of 2017/18 was around 7.0 % compared to the previous year (214,813 students in the winter semester of 2016/17). In the winter semester of 2017/18, a total of 10,574 students came from LDCs, 4.5 % more than in the previous year.

Of the 229,881 students from developing and emerging countries who were enrolled at German institutions of higher education in the winter semester of 2017/18, 39,338 came from Turkey, 39,541 from China and 17,570 of the students came from India. In total, 43.2 % of these were female students. Whereas the European developing and emerging countries sent roughly equal numbers of women and men to study in Germany (53.5 %), a third of the students from Oceania were women (33.3 %). The proportion of women among students from LDCs was one quarter (25.5 %).

In 2017, 17,552 researchers from developing and emerging countries were part of the academic personnel at German institutions of higher education. They accounted for 4.4 % of all academic staff at German institutions of higher education. Compared to the previous year, their numbers increased by 10.6 %, and more than doubled since 2005. A total of 649 researchers came from LDCs in 2017 (0.2 % of all academic personnel). This compares with a figure of 558 researchers in the previous year. This was an increase of 16.3 %.

Overall, the number of students and researchers from developing and emerging countries has been continuously increasing since 2007. If this development continues as it has to date, the target for 2020 could be achieved.
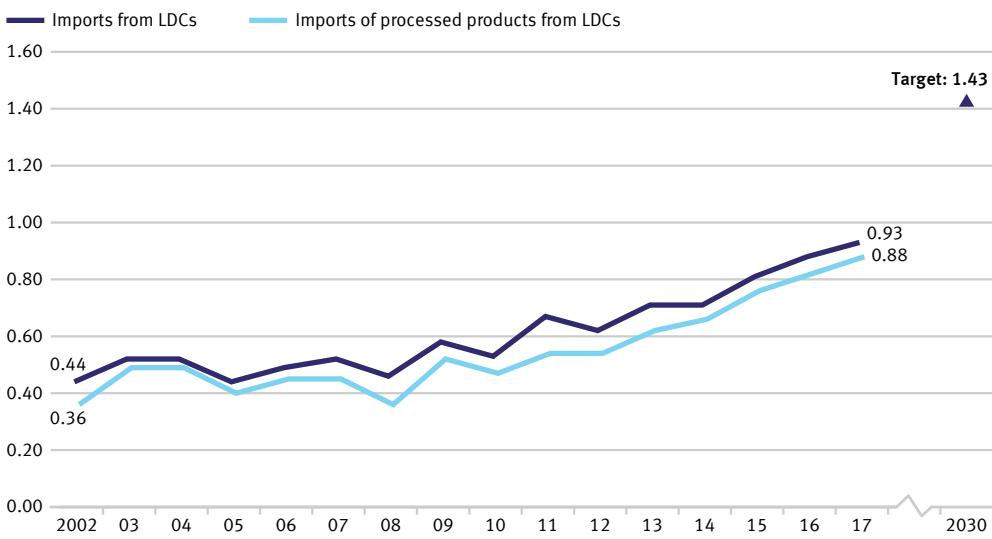
Opening markets – *Improving trade opportunities for developing countries*

17.3 Imports from least developed countries (LDCs)

Imports from the least developed countries
Percentage share of total imports to Germany

— Imports from LDCs   — Imports of processed products from LDCs

2017 provisional data.
Source: Federal Statistical Office

Definition of the indicator

The indicator shows the imports from the least developed countries (LDCs) as a proportion of all imports to Germany, measured in euros.

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Target and intention of the indicator

To promote global sustainable development, it is important to improve trading opportunities of developing and emerging countries. Developing and emerging countries 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 Federal Government has therefore set itself the target of doubling the proportion of imports from LDCs between the years 2014 and 2030.

Content and progress of the indicator

Information about imports to Germany is compiled from the foreign trade statistics of the Federal Statistical Office. In this case, the type of the imported goods is also recorded in detail in addition to their country of origin, their value and weight. The service sector is excluded from foreign trade statistics.

The various countries are classified as LDCs based on the list of recipients of official development assistance kept by the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD). The classifications valid in the respective year according to the OECD-DAC are used for this indicator. If the status of a country changes, this will impact the indicator even if the value of imports from this country remains unchanged. However, changes in the status of countries are scarcely relevant to the development of the indicator in the period shown.

Various factors can influence the value and development of the indicator. These can include technology transfers or changes in customs duties, but also the political stability of a country or the infrastructure. The additional provision of figures for processed products should address, at least to some extent, the question as to whether Germany mainly uses the LDCs as sources of basic materials for industrial products or whether the LDCs themselves are able to gain benefits from the value added by participating in the production process.

Due to reimports, duplicate counting in the numerator and denominator of the indicator cannot be excluded. The fact that the imports from LDCs are viewed in relation to all German imports must also be taken into account. This means 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.

In addition to Germany's overall imports from LDCs, the graph also shows the share of processed products. This includes all goods that are not classified as "raw materials" in the classification by product group of the food and industrial economy (EGW). Accordingly, unprocessed or barely processed goods extracted from nature, such as crude oil, ores, logs or plant-based textile fibres, are not included. In contrast, cereals, vegetables, live animals, meat and milk are classified as processed products.

Imports from LDCs as a proportion of all imports to Germany was 0.93 % or 9.6 billion euros in 2017 (provisional results). This is an increase of more than 113 % compared with 2002, when the share was just 0.44 %. However, the positive development has been observed only since 2008. The share of imports of processed products from LDCs increased even more sharply between 2002 and 2017 (+146 %). It has now reached 0.88% of total imports to Germany (2002: 0.36 %), which equates to a value of around 9.1 billion euros. If the increase of the last five years continues, it can be assumed that the target will be reached.

Closer analysis of the various countries of origin reveals that almost three quarters of imports from LDCs in 2017 came from Bangladesh (55.51 %) and Cambodia (16.04 %). Considering not only the LDCs but all developing and emerging countries, their share of total imports to Germany in 2017 was 21.86 %, and the share of processed products was 20.09 % (from 13.67 % and 12.17 % in 2002, respectively). Consequently, the imports from LDCs both in terms of all goods as well as processed goods accounted for a rather small share of imports from developing and emerging countries. As is shown above, their share of total imports has however increased more strongly over time. China plays the most important role among all developing and emerging countries. Imports from China alone as a proportion of all German imports was 9.74 %, and 9.7 % for processed goods. This makes China the leading country in terms of imports to Germany.

Indicator status summary

As means of providing at-a-glance information on the status of the sustainability indicators, every indicator is assigned, if calculable, one of four "weather symbols" in the report. 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 explanatory texts, further analyses and background information. The manner in which the symbols are assigned to the individual indicators 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, first the average annual change over the last five years is calculated by means of the last six data points. This value is imputed for all years 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 on the resulting difference between these two values, the indicators are assigned one of the following symbols:

If the trend continues, the target value will be met or the difference between the target value and the current value will be less than 5 %.

If the trend continues, the indicator will presumably 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 moving in the right direction but if the trend continues, the target value will be missed by more than 20 % in the target year.

The indicator is not moving in the right direction so that the gap to the target value is widening.

In exceptional cases where there are not enough data for the above mentioned calculation to be carried out, the last four consecutive points of time for which data are available will, as a minimum, be used to calculate the average change. In the case of less than four suitable annual values, there will be no calculation.

Indicators with target intervals

If the target is not an exact value but a specific interval (for example indicator 11.1.a), the weakest of the targets in the target interval will be used to determine the status. If several target values have been specified for one indicator that are to be reached in different years (for example indicator 4.2.b), the next target year will be used to determine the status.

Indicators with a constant target for each year

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

- If the target value or an even better value was reached in the last year and the average trend does not indicate that there may be a setback, a sun is shown.

- If the target value or an even better value was reached in the last year but the average trend indicates that there may be a setback, a sun is shown which is, however, partially hidden by a cloud.

- If the target value has not been reached but the average trend is not moving away from the target, only a cloud is shown.

- If the target value has been missed and the indicator is not moving towards the target, which indicated by the average change of recent years, a thunderstorm is shown.

This procedure is used also when an indicator is supposed to reach a concrete target value by an exact target year and has reached the goal already. In such cases the standard procedure cannot provide reliable information on the direction in which the indicator is moving.

Indicators with directional targets without specific target values

In cases where only the targeted direction of the indicator trend is given but no concrete target value (for example indicator 1.1.a), two pieces of information are combined for evaluation: primarily, the average change over the last five years and, subordinately, the last annual change.

- If both the average value and the last annual change point in the right direction, the symbol shown is a sun.

- If the average trend is moving in the right direction but the last year was characterised by a trend in the wrong direction or no change at all, the sun is partly hidden by a cloud.

- If, on the contrary, the average value points in the wrong direction or indicates stagnation while the last year appears to mark a turn in the desired direction, a cloud is shown.

- If neither the average value nor the last change point in the right direction, the symbol shown 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 individually for each target. The most negative evaluation determines the weather symbol to be assigned to the indicator.

Comparison of evaluations over time

The synoptic table provides information also about the evaluation of an indicator in previous years. It shows if the weather symbol assigned to an indicator was rather stable or volatile in the past years.

No.	Indicators	Targets	Evaluation in previous years				Current evaluation
1	**No Poverty**						
Proverty – *Limiting poverty*							
1.1.a	Material deprivation	Keep the proportion of persons who are materially deprived considerably below the EU-28 level by 2030	2014 ☀	2015 ⛅	2016 ⛅	2017 ⛅	
1.1.b	Severe material deprivation	Keep the proportion of persons who are severely materially deprived considerably below the EU-28 level by 2030	2014 ☀	2015 ⛅	2016 ☀	2017 ⛅	
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	2011 ☀	2012 ☁	2013 ☁	2014 ☁	
2.1.b	Organic farming	Increase the proportion of organically farmed agricultural land to 20 % by 2030	2014 ☁	2015 ☁	2016 ☁	2017 ☁	
Food security – *Realising globally the right to food*							
2.2	Support for good governance in attaining appropriate nutrition globally	Increase adequately the proportion of disbursements used for good governance for 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 – *Living healthy longer*

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
3.1.a	Premature mortality (women)	To be reduced to 100 deaths per 100,000 inhabitants by 2030	2012 (cloud)	2013 (cloud)	2014 (cloud)	2015 (cloud)
3.1.b	Premature mortality (men)	To be reduced to 190 deaths per 100,000 inhabitants by 2030	2012 (cloud)	2013 (cloud)	2014 (sun behind cloud)	2015 (cloud)
3.1.c	Smoking rate among adolescents	Reduce the proportion to 7 % by 2030	2013 (sun)	2014 (sun)	2015 (sun)	2016 (sun)
3.1.d	Smoking rate among adults	Reduce the proportion to 19 % by 2030	2014 (sun)	2015 (sun)	2016 (sun)	2017 (sun)
3.1.e	Obesity rate among adolescents	Not to be allowed to increase any further	No evaluation possible			
3.1.f	Obesity rate among adults	Not to be allowed to increase any further	2014 (storm cloud)	2015 (storm cloud)	2016 (storm cloud)	2017 (storm cloud)

Air pollution – *Keeping the environment healthy*

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
3.2.a	Emissions of air pollutants	Reduce emissions to 55 % of the 2005 value by 2030	2013 (cloud)	2014 (cloud)	2015 (cloud)	2016 (cloud)
3.2.b	Share of the population with excessive exposure to PM_{10} in Germany	WHO particulate matter guideline value of 20 micrograms/ cubic metre for PM_{10} to be adhered to as widely as possible by 2030	2012 (sun)	2013 (sun)	2014 (sun)	2015 (sun)

No.	Indicators	Targets	Evaluation in previous years				Current evaluation

4 Quality education

Education – *Continuously improving education and vocational training*

No.	Indicators	Targets	2014	2015	2016	2017	
4.1.a	Early school leavers	Reduce the proportion to below 10 % by 2020	☀	☀	☁	☁	
4.1.b	30 to 34-year-olds with a tertiary or post-secondary non-tertiary level of education	Increase the proportion to 42 % by 2020	☀	☀	☀	☀	

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

No.	Indicators	Targets	2015	2016	2017	2018	
4.2.a	All-day care provision for children (0 to 2-year-olds)	Increase the proportion to 35 % by 2030	☁	☁	☁	☁	
4.2.b	All-day care provision for children (3 to 5-year-olds)	Increase the proportion to 60 % by 2020 and 70 % by 2030	☁	☁	☁	☁	

5 Gender equality

Equality – *Promoting equal opportunities in society*

No.	Indicators	Targets	2014	2015	2016	2017	
5.1.a	Gender pay gap	Reduce the gap to 10 % by 2020, maintain that proportion up to 2030	☁	⛈	☁	☁	
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				2018 ☀

Equality – *Strengthening the economic participation of women globally*

No.	Indicators	Targets					
5.1.c	Vocational qualification of women and girls through German development assistance	Increase gradually by one third by 2030 compared with base year 2015	No evaluation possible				

No.	Indicators	Targets	Evaluation in previous years			Current evaluation

6 Clean water and sanitation

Water quality – *Reducing the pollution of water with substances*

No.	Indicators	Targets				
6.1.a	Phosphorus in flowing waters	Not exceeding benchmark values for specific types of water bodies at all monitoring points by 2030	2013 ☁️	2014 ☁️	2015 ⛈️	2016 ⛈️
6.1.b	Nitrate in groundwater	Not exceeding the threshold value of 50 mg/l of nitrate in groundwater by 2030	2012 ⛈️	2013 ⛈️	2014 ⛈️	2015 ⛈️

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	2015 ☀️	2016 ☀️	2017 ☀️

7 Affordable and clean energy

Resource conservation – *Using resources economically and efficiently*

No.	Indicators	Targets				
7.1.a	Final energy productivity	Increase energy productivity by 2.1 % per year from 2008 to 2050	2014 ☀️	2015 ☁️	2016 ☁️	2017 ☁️
7.1.b	Primary energy consumption	Reduce consumption by 20 % by 2020 and by 50 % by 2050 compared with 2008	2014 ☁️	2015 ☁️	2016 ☁️	2017 ⛈️

Renewable energies – *Strengthening a sustainable energy supply*

7.2.a	Share of renewable energies in gross final energy consumption	Increase the proportion to 18 % by 2020, to 30 % by 2030 and to 60 % by 2050	2014 ☀️	2015 ☀️	2016 ☁️	2017 ☁️
7.2.b	Share of electricity from renewable energy sources in electricity consumption	Increase the proportion to at least 35 % by 2020, to at least 50 % by 2030 and to at least 80 % by 2050	2014 ☀️	2015 ☀️	2016 ☀️	2017 ☀️

No.	Indicators	Targets	Evaluation in previous years				Current evaluation
8	**Decent work and economic growth**						
Resource conservation – *Using resources economically and efficiently*							
8.1	Raw material input productivity	Trend of the years 2000 – 2010 to be continued up to 2030	2011 ☁	2012 ☀	2013 ☁		2014 ☀
Government debt – *Consolidating public finances – Creating intergenerational equity*							
8.2.a	Government deficit	Annual government deficit less than 3 % of GDP, to be continued up to 2030	2014 ☀	2015 ☀	2016 ☀		2017 ☀
8.2.b	Structural deficit	Structurally balanced government budget, general government structural deficit must not exceed 0.5 % of GDP, to be continued up to 2030	2014 ☀	2015 ☀	2016 ☀		2017 ☀
8.2.c	Government debt	Ratio of government debt to GDP must not exceed 60 %, to be continued up to 2030	2014 ⛈	2015 ☁	2016 ☁		2017 ☁
Provision for future economic stability – *Creating favourable investment conditions – Securing long-term prosperity*							
8.3	Gross fixed capital formation in relation to GDP	Appropriate development of the ratio, to be continued up to 2030	2014 ☀	2015 ⛅	2016 ☁		2017 ☀
Economic output – *Combining greater economic output with environmental and social responsibility*							
8.4	Gross domestic product per capita	Continued and appropriate economic growth	2014 ☀	2015 ☀	2016 ☀		2017 ☀
Employment – *Boosting employment levels*							
8.5.a	Employment rate, total (20 to 64- year-olds)	Increase the rate to 78 % by 2030	2014 ☀	2015 ☀	2016 ☀		2017 ☀
8.5.b	Employment rate, older people (60 to 64-year-olds)	Increase the rate to 60% by 2030	2014 ☀	2015 ☀	2016 ☀		2017 ☀

No.	Indicators	Targets	Evaluation in previous years			Current evaluation

Global supply chains – *Enabling decent work worldwide*

| 8.6 | Number of members of the Textiles Partnership | Increase the number significantly by 2030 | No evaluation possible | | 2017 ⛅ | 2018 🌤️ |

9 Industry, innovation and infrastructure

Innovation – *Shaping the future with new solutions*

| 9.1 | Private and public expenditure on research and development | At least 3.5 % of GDP per year by 2025 | 2013 ☁️ | 2014 ☁️ | 2015 ☁️ | 2016 ☁️ |

10 Reduced inequalities

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

| 10.1 | Foreign school graduates | Increase the proportion of foreign school leavers with a least a secondary general school certificate by 2030 | 2014 🌤️ | 2015 ☀️ | 2016 ⛈️ | 2017 ⛈️ |
| | | Bring their proportion into line with that of German school graduates by 2030 | 2014 ☁️ | 2015 ☁️ | 2016 ⛈️ | 2017 ⛈️ |

Distributive justice – *Preventing excessive inequality within Germany*

| 10.2 | Gini coefficient of income distribution | Gini coefficient of income after social transfers to be below the EU-28 average by 2030 | 2013 ☀️ | 2014 🌤️ | 2015 🌤️ | 2016 🌤️ |

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
11	**Sustainable cities and communities**					
Land use – *Using land sustainably*						
11.1.a	Expansion of settlement and transport area	Limit to 30 ha minus x per day by 2030	2013 ☀️	2014 ☀️	2015 ☀️	2016 ☀️
11.1.b	Loss of open space area	Reduce the loss of per capita open space area	2013 ☀️	2014 ⛅	2015 ☀️	2016 ☀️
11.1.c	Density of settlements	No decrease in the density of settlements	2013 ⛈️	2014 ⛈️	2015 ☁️	2016 ⛈️
Mobility – *Guaranteeing mobility – Protecting the environment*						
11.2.a	Final energy consumption in goods transport	Reduce by 15 to 20 % by 2030	2013 ☁️	2014 ⛈️	2015 ⛈️	2016 ⛈️
11.2.b	Final energy consumption in passenger transport	Reduce by 15 to 20 % by 2030	2013 ⛈️	2014 ⛈️	2015 ⛈️	2016 ⛈️
11.2.c	Accessibility of medium-sized and large cities by public transport	Reduce the 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 overburdened to 13 % by 2030	2014 ⛈️	2015 ⛈️	2016 ☁️	2017 ☀️

No.	Indicators	Targets	Evaluation in previous years			Current evaluation

12   Responsible consumption and production

Responsible consumption – *Making consumption environmentally and socially compatible*

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
12.1.a	Market share of products certified by publicly managed eco-labelling schemes	34 % by 2030	No evaluation possible		2015 [sun behind cloud]	2016 [cloud]
12.1.b	Energy consumption and CO_2 emissions from consumption	Reduce energy consumption continuously	2012 [cloud]	2013 [thunderstorm cloud]	2014 [sun]	2015 [sun behind cloud]

Responsible production – *Increasing the proportion of sustainable production continuously*

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
12.2	EMAS eco-management	5,000 locations of organisations by 2030	2014 [thunderstorm cloud]	2015 [cloud]	2016 [cloud]	2017 [cloud]

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

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
12.3.a	Recycled paper bearing the Blue Angel label as a proportion of the total paper consumption of the direct federal administration	95 % by 2020	No evaluation possible			
12.3.b	CO_2 emissions per mileage of motor vehicles of the public sector	Reduce significantly	No evaluation possible			

No.	Indicators	Targets	Evaluation in previous years				Current evaluation

13   Climate action

Climate protection – *Reducing greenhouse gases*

13.1.a	Greenhouse gas emissions	Reduce by at least 40 % by 2020, by at least 55 % by 2030, by at least 70 % by 2040 and by 80 to 95 % by 2050 – in each case compared with 1990	2014 ☁	2015 ☁	2016 ☁		2017 ☁

Climate protection – *Germany's contribution to international climate finance*

13.1.b	International climate finance for the reduction of greenhouse gases and adaption to climate change	Double finance by 2020 relative to 2014	2014 ☀☁	2015 ☀	2016 ☀		2017 ☀

14   Life below water

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

14.1.aa	Nitrogen input to the Baltic Sea through German inflows	Maintain a good quality in accordance with the Ordinance on the Protection of Surface Waters (keep annual averages of total nitrogen below 2.6 milligrams per litre)	2013 ☁	2014 ☁	2015 ☁	2016 ☁	
14.1.ab	Nitrogen input to the North Sea through German inflows	Maintain a good quality in accordance with the Ordinance on the Protection of Surface Waters (keep annual averages of total nitrogen below 2.8 milligrams per litre)	2013 ☁	2014 ☁	2015 ☁	2016 ☁	
14.1.b	Proportion of sustainably fished stocks of fish in the North and the Baltic Sea	Manage sustainably all fish stocks used for economic purposes in accordance with the MSY approach by 2020	2013 ☀	2014 ☁	2015 ☀	2016 ☁	

No.	Indicators	Targets	Evaluation in previous years				Current evaluation

15 Life on land

Biodiversity – *Conserving species – Protecting habitats*

No.	Indicators	Targets	2012	2013	2014	2015	
15.1	Biodiversity and landscape quality	Increase to an index value of 100 by 2030	(cloud)	(thunderstorm)	(thunderstorm)	(cloud)	

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

No.	Indicators	Targets	2012	2013	2014	2015	
15.2	Eutrophication of ecosystems	Reduce the proportion by 35 % compared with 2005	(sun)	(cloud)	(cloud)	(sun behind cloud)	

Forests – *Preventing deforestation*

No.	Indicators	Targets	2014	2015	2016	2017	
15.3	Preservation or restoration of forests in developing countries under the REDD+ rulebook	Increase by 2030	(sun behind cloud)	(thunderstorm)	(sun)	(sun)	

16 Peace, justice and strong institutions

Crime – *Further increasing personal security*

No.	Indicators	Targets	2014	2015	2016	2017	
16.1	Criminal offences	Reduce the number of criminal offences recorded per 100,000 inhabitants to less than 7,000 by 2030	(thunderstorm)	(thunderstorm)	(thunderstorm)	(sun)	

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

No.	Indicators	Targets	2013	2014	2015	2016	
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	By 2030 at least 15 projects each year	(sun)	(sun)	(sun)	(sun)	

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
Good governance *– Combating corruption*						
16.3.a	Corruption Perceptions Index (CPI) in Germany	Improve by 2030	No evaluation possible	2015 ☀️	2016 🌥️	2017 🌥️
16.3.b	CPI in partner countries of German development assistance	Improve by 2030	No evaluation possible	2015 ☀️	2016 🌥️	2017 🌥️

17 Partnerships for the goals

No.	Indicators	Targets	Evaluation in previous years			Current evaluation
Development cooperation *– Supporting sustainable development*						
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 LDCs per year	Increase by 10 % by 2020, than stabilise	2014 ☀️	2015 ☀️	2016 ☀️	2017 ☀️
Opening markets *– Improving trade opportunities for developing countries*						
17.3	Imports from least developed countries (LDCs)	Increase the proportion by 100 % by 2030 (base year: 2014)	2014 ☁️	2015 ☀️	2016 ☀️	2017 ☀️

1   No poverty

Poverty – *Limiting poverty*

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		percentage share of persons						
1.1.a	**Material deprivation**							
	Germany	12.4	11.3	11.6	11.3	10.7	9.7	9.1
	EU-28 [1]	18.5	19.8	19.5	18.5	17.0	15.7	14.7
1.1.b	**Severe material deprivation**							
	Germany	5.3	4.9	5.4	5.0	4.4	3.7	3.4
	EU-28 [1]	8.8	9.9	9.6	8.9	8.1	7.5	6.7

1 Estimated values for 2017.
Sources: Federal Statistical Office, Eurostat

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		kilograms per hectare						
2.1.a	**Nitrogen surplus in agriculture**							
	Moving five-year average [1]	98	97	97	99	97	. . .	. . .
	Calculated annual values [2]	95	111	96	97	87	105	102

1 Moving five-year average, referring to the middle year.
2 2016 provisional data.
. . . = 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	2011	2012	2013	2014	2015	2016	2017
		percentage share of organically farmed land in total utilised agricultural area						
2.1.b	**Organic farming**							
	Data from the Federal Statistical Office	.	5.8	6.0	6.2	6.3	6.8	6.8
	Data from the Federal Ministry of Food and Agriculture	6.1	6.2	6.4	6.3	6.5	7.5	8.2

. = Numerical value unknown or not be disclosed.
Sources: Federal Statistical Office, Federal Ministry of Food and Agriculture

Food security – *Realising globally the right to food*			
No.	Indicator	2012	2014	2016
		millions of euros		
2.2	**Support for good governance in attaining appropriate nutrition globally** Total official development assistance regarding food security	613.2	760.7	1,471.7
	Official development assistance to support good governance for food security	.	.	476.1

. = Numerical value unknown or not be disclosed.

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	2009	2010	2011	2012	2013	2014	2015
		deaths per 100,000 population below the age of 70 [1]						
	Premature mortality							
3.1.a	Women	157	155	157	153	156	149	153
3.1.b	Men	305	301	299	292	292	281	288

1 "Old" standardised European population below 70 years (excluding those less than 1 year old).

Source: Federal Statistical Office

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		percentage share						
	Smoking rate							
3.1.c	Adolescents	12	12	.	10	8	7	.
	Girls	12	13	.	9	8	. . .	.
	Boys	11	12	.	11	8	. . .	.
3.1.d	Adults	.	.	25	.	.	.	22
	Women	.	.	20	.	.	.	19
	Men	.	.	29	.	.	.	26

. = Numerical value unknown or not be disclosed.

… = Figure will be available later.

Sources: Federal Centre for Health Education, Federal Statistical Office

No.	Indicator	2003 – 2006	2014 – 2017
		percentage of those surveyed	
3.1.e	Excess weight among		
	adolescents (11 – 17 year-olds)	18.1	18.7
	Girls	17.8	17.8
	Boys	18.3	19.6
	Including:		
	Obesity rate among adolescents	8.3	8.0
	Girls	8.2	7.2
	Boys	8.4	8.7

The definition of overweight and obesity is not based on fixed thresholds but on percentiles. The comparison between the KiGGS baseline study (2003 to 2006) and the KiGGS Wave 2 is based only on metadata and has been age-standardised to the population in 2015.

Source: Robert Koch Institute

No.	Indicator	2005	2009	2013	2017
		percentage of all adults [1]			
3.1.f	Obesity rate among adults				
	(18 years and older) [2]	12.5	13.3	14.1	14.6
	Women	11.8	12.4	12.8	12.9
	Men	13.0	14.2	15.4	16.3

1 Age-standardised results based on the new European population of 1990.
2 People with a BMI of 30 are classified as "obese".

Source: Federal Statistical Office

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		2005 = 100						
3.2.a	Emissions of air pollutants [1]	91.1	89.4	86.4	86.3	83.3	83.5	82.5
	SO_2	86.8	84.7	80.8	79.1	75.9	77.0	75.2
	NO_x	86.0	85.0	82.6	82.5	80.1	78.6	77.1
	NH_3	100.1	104.9	102.9	105.6	105.8	107.2	106.0
	NMVOC	93.0	86.6	84.6	83.5	77.8	78.5	79.5
	$PM_{2,5}$	89.7	85.9	81.2	80.9	77.0	76.4	74.7

1 Average index of measurement data regarding SO_2, NO_x, NH_3, NMVOC und $PM_{2,5}$.

Source: German Environment Agency

No.	Indicator	2010	2011	2012	2013	2014	2015
		population, millions					
3.2.b	Particulate matter exposure (PM_{10}) of least 20 µg per m^3 air on average per year	28.9	36.6	12.2	14.3	12.4	4.3

Sources: German Environment Agency, World Health Organization

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		percentage of all 18 to 24-year-olds						
4.1.a	Early school leavers	11.6	10.4	9.8	9.5	9.8	10.3	10.1
	Women	10.6	9.7	9.3	9.0	9.5	9.6	9.0
	Men	12.5	11.0	10.3	10.0	10.1	11.0	11.1
		percentage of all 30 to 34-year-olds						
4.1.b	30 to 34-year olds with a tertiary or post-secondary non-tertiary level of education	42.2	43.4	44.5	45.7	46.8	47.9	48.8
	Women	44.4	46.0	46.8	48.4	50.5	51.3	52.6
	Men	40.1	40.9	42.2	42.9	43.1	44.6	45.2
	Tertiary total[1]	30.7	31.9	33.1	31.4	32.3	33.1	34.0

1 Until 2013: ISCED 97; the indicator refers to ISCED categories 5A, 5B and 6. As of 2014: revised ISCED; the indicator refers to ISCED categories 5, 6, 7 and 8.

Source: Federal Statistical Office

Prospects for families *– Improving the compatibility of work and family life*								
No.	Indicator	2012	2013	2014	2015	2016	2017	2018
		percentage of all children in the same age group						
	All-day care provision for children[1]							
4.2.a	0 to 2-year-olds	12.7	13.7	15.3	15.9	16.2	16.2	16.5
4.2.b	3 to 5-year-olds	36.9	39.1	41.4	43.7	44.5	45.3	45.9

1 Childcare provision of more than seven hours in day-care facilities, excluding day care in private homes.

Source: Federal Statistical Office

5 Gender equality

Equality *– Promoting equal opportunities in society*

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		percentage of men's earnings						
5.1.a	Gender pay gap	22	23	22	22	22	21	21

2011 to 2014: revised data. 2015 to 2017: provisional data.

Source: Federal Statistical Office

No.	Indicator	2012	2013	2014	2015	2016	2017
		persons reached, millions					
6.2	Access to drinking water and sanitation subsidised by Germany	10.6	11.6	31.0	10.8	14.3	28.6

Source: Kreditanstalt für Wiederaufbau

7 Affordable and clean energy

Resource conservation – *Using resources economically and efficiently*

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
		2008 = 100						
7.1.a	Final energy productivity	105.0	105.1	102.6	110.6	110.0	110.5	109.6
7.1.b	Primary energy consumption	94.6	93.5	96.1	91.7	92.2	93.8	94.5

1 Provisional data.

Sources: Federal Statistical Office, AGEB (Energy Balance Association)

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
		percentage share						
7.2.a	Generation of renewable energies relative to gross final energy consumption	12.5	13.8	13.9	14.3	15.0	14.8	15.6
		percentage share in gross electricity consumption						
7.2.b	Electricity generated from renewable energy sources	20.3	23.5	25.1	27.4	31.5	31.6	36.0

1 Data updated: August 2018, provisional data.

Sources: Working Group on Renewable Energies Statistics, Federal Ministry for Economic Affairs and Energy

8 Decent work and economic growth

Resource conservation – *Using resources economically and efficiently*

No.	Indicator	2000	2009	2010	2011	2012	2013	2014[1]
		2000 = 100						
8.1	Raw material input productivity [2]	100	122	117	115	121	122	126
	Raw material use for consumption, investments and exports	100	93	103	109	104	104	104
	Consumption, investments and exports (price-adjusted)	100	113	120	126	126	127	131

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	2011	2012	2013	2014[1]	2015[1]	2016[1]	2017[1]
		percentage share of gross domestic product (at current prices)						
8.2.a	Funding balance	− 1.0	− 0.0	− 0.1	0.6	0.8	0.9	1.0
8.2.b	Structural governmental funding balance	− 1.1	0.2	0.6	1.3	1.2	1.3	1.5
		year-on-year percentage change						
	Gross domestic product (price-adjusted) [2]	3.7	0.5	0.5	2.2	1.7	2.2	2.2

1 Provisional data.

2 Previous year's prices chain-linked, 2010 = 100.

Sources: Federal Statistical Office, Federal Ministry of Finance

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
		percentage share of gross domestic product at current prices						
8.2.c	Government debt	78.6	79.9	77.4	74.5	70.8	67.9	63.9

1 Provisional data.

Sources: Federal Statistical Office, updated: August 2018; German Bundesbank, updated: September 2018

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

No.	Indicator	2011	2012	2013	2014[1]	2015[1]	2016[1]	2017[1]
		percentage share of gross domestic product at current prices						
8.3	Gross fixed capital formation	20.3	20.1	19.7	20.0	19.9	20.1	20.3

1 Provisional data.

Source: Federal Statistical Office

No.	Indicator	2011	2012	2013	2014 [1]	2015 [1]	2016 [1]	2017 [1]
		price-adjusted, thousands of euros						
8.4	Gross domestic product per capitar	33.3	33.4	33.5	34.1	34.4	34.9	35.5

1 Provisional data.
Source: Federal Statistical Office

Employment – *Boosting employment levels*								
No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		Percentage shares of persons in employment in the population of the same age						
	Employment rate							
8.5.a	Total (20 to 64-year-olds)	76.5	76.9	77.3	77.7	78.0	78.6	79.2
	Women	71.3	71.6	72.5	73.1	73.6	74.5	75.2
	Men	81.7	82.1	82.1	82.2	82.3	82.7	83.1
8.5.b	Older people (60 to 64-year-olds)	44.3	46.6	50.0	52.6	53.3	56.0	58.4
	Women	36.5	38.8	42.8	46.2	47.9	50.8	53.3
	Men	52.4	54.9	57.7	59.4	59.1	61.5	63.7

Sources: Federal Statistical Office, Eurostat

Global supply chains – *Enabling decent work worldwide*						
No.	Indicator	4/2014	4/2015	4/2016	4/2017	3/2018
		Number of members				
8.6	Partnerships for Sustainable Textiles	59	172	188	147	130

Source: Deutsche Gesellschaft für internationale Zusammenarbeit GmbH

9   Industry, innovation and infrastructure

Innovation – *Shaping the future with new solutions*

No.	Indicator	2010	2011	2012	2013	2014	2015	2016 [1]
		percentage share of gross domestic product						
9.1	Private and public expenditure on research and development	2.71	2.80	2.87	2.82	2.87	2.92	2.93

1 In part estimated.
Source: Federal Statistical Office

10   Reduced inequalities

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

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		percentage share of all foreign leavers in a year						
10.1	Proportion of foreign school graduates, total	88.2	88.6	89.3	88.1	88.2	85.8	81.9
	Foreign female school graduates	90.3	90.6	91.1	89.4	90.3	89.1	86.4
	Foreign male school graduates	86.2	86.7	87.6	86.8	86.2	82.9	78.1
	Proportion of German school graduates, total	95.0	95.1	95.4	95.1	95.0	95.1	94.8

Source: Federal Statistical Office

Distributive justice – *Preventing excessive inequality within Germany*

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
10.2	Gini coefficients of equivalised disposable income							
	Germany	0.29	0.29	0.28	0.30	0.31	0.30	0.30
	EU-28	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	Gini coefficients of equivalised income before social transfers[1]							
	Germany	0.36	0.36	0.35	0.36	0.37	0.36	0.36
	Gini coefficients of market income							
	Germany	0.49	0.51	0.50	0.51	0.50	0.50	. . .
	Gini coefficients of wealth							
	Germany	0.76	.	.	.	0.76	.	.
	Eurozone	0.69	.	.	.	0.69	.	.

1 Social transfers do not include pensions.
. . . = Figure will be available later.
  . = No figure available.

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	2010	2011	2012	2013	2014	2015	2016
		hectares per day						
11.1.a	**Expansion of settlement and transport area**							
	Four-year moving average[1]	87	81	74	73	69	66	62
	Annual value	77	74	69	71	63	61	/
	Transport area	21	17	11	19	23	10	/
	Building and adjacent open area, commercial/ industrial area[2]	33	30	40	29	22	40	/
	Recreation area, cemeteries	23	27	18	23	18	12	/

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.
2 Commercial or industrial area excluding exploitation area.
/ = No figure due to limited reliability.
Source: Federal Statistical Office

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		four-year moving average, square metres per year						
11.1.b	**Change in per capita open space area**							
	Total	− 4.0	− 4.2	− 3.8	− 3.6	− 3.7	− 2.9	/
	Non-rural areas	− 1.5	− 1.4	− 1.2	− 1.2	− 1.1	− 1.0	/
	Rural areas	− 5.9	− 6.3	− 5.7	− 5.5	− 5.7	− 4.3	/

A new catalogue of types of use has been applied since the data basis was changed as of 31 December 2016 so that the relevant change from 2015 to 2016 cannot be determined. Comparability over time is therefore very limited.
/ = No figure due to limited reliability.
Source: Federal Statistical Office, Federal Institute for Research on Building, Urban Affairs and Spatial Development

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		2000 = 100						
11.1.c	**Density of settlements**[1]							
	Total	92	91	91	90	90	91	91
	Non-rural areas	96	96	97	97	98	99	99
	Rural areas	89	88	88	87	87	87	87

1 Inhabitants per square kilometre of settlement and transport area.
Census-based corrections in 2011 and methodological changes in the official land register in 2016 caused jumps in the time series. Comparisons over time only make sense in the time intervals 2000 to 2010, 2011 to 2015 and from 2016 onwards.
Source: Federal Statistical Office, Federal Institute for Research on Building, Urban Affairs and Spatial Development

Mobility – *Guaranteeing mobility – Protecting the environment*								
No.	Indicator	2010	2011	2012	2013	2014	2015	2016 [1]
		2005 = 100						
11.2.a	Final energy consumption for the carriage of goods	103.3	105.5	102.8	103.9	106.2	108.1	110.0
	Goods transport performance	108.5	108.7	106.8	109.6	111.1	112.4	112.9
	Final energy consumption per tonne-kilometre	95.2	97.1	96.2	94.8	95.6	96.1	97.5
11.2.b	Final energy consumption in passenger transport	97.9	98.5	97.8	97.5	98.2	98.9	98.9
	Passenger transport performance	102.9	104.0	104.3	105.1	106.7	108.1	110.5
	Final energy consumption per passenger-kilometre	95.2	94.7	93.7	92.7	92.0	91.5	89.5

1 Partly provisional data.

Source: Federal Ministry of Transport and Digital Infrastructure, German Institute for Energy and Environmental Research, Federal Statistical Office

No.	Indicator	2012	2016
		minutes	
11.2.c	**Accessibility of medium-sized and large cities by public transport** Travel time by public transport to the nearest medium-sized or large city	23.5	22.4

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

Housing – *Affordable housing for all*								
No.	Indicator	2011	2012	2013	2014	2015 [1]	2016	2017 [2]
		percentage share of all persons						
11.3	**Housing cost overload** People in households that spend more than 40 % of their disposable income on housing	16.1	16.6	16.4	15.9	15.6	15.8	14.5

1 Revised data.

2 Provisional result.

Source: Federal Statistical Office

12   Responsible consumption and production

Responsible consumption – *Making consumption environmentally and socially compatible*

No.	Indicator	2012	2013	2014	2015	2016
		percent				
12.1.a	Market share of products certified by publicly managed eco-labelling schemes	3.6	4.4	5.9	7.5	8.6

Provisional data.

Source: Gesellschaft für Konsumforschung, Federal Motor Transport Authority, Agricultural Market Information Company (AMI), Bund Ökologische Lebensmittelwirtschaft e. V., Verkehrsclub Deutschland e.V., German Environment Agency

No.	Indicator	2010	2011	2012	2013	2014	2015[1]
		2005 = 100					
12.1.b	Energy consumption by households	101.9	97.8	96.5	98.5	92.3	94.3
	Direct energy consumption	41.1	37.4	37.7	39.7	35.4	37.0
	Indirect energy consumption (consumer goods)	60.7	60.4	58.9	58.7	56.9	57.4
	CO_2 emissions	105.1	102.9	102.3	103.6	97.4	99.0

1 Provisional data.

Source: Federal Statistical Office

Responsible production – *Increasing the proportion of sustainable production continuously*

No.	Indicator	2012	2013	2014	2015	2016	2017
		number					
12.2	**EMAS eco-management**						
	Locations of EMAS registered organisations	1,822	1,856	1,900	1,998	2,067	2,176
	Employees	772,774	772,883	785,432	800,635	842,301	985,195

Revised data from 2012.

Source: Association of German Chambers of Commerce and Industry

No.	Indicator	2015	2016	2017
		2015 = 100		
12.3.a	Recycled paper bearing the Blue Angle label as a proportion of the total paper consumption of the direct federal administration	100	136.8	147.7

Source: Monitoring of the Sustainability Programme by the Competence Center for Sustainable Procurement, subsequent survey conducted by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH)

No.	Indicator	2015	2016
		2015 = 100	
12.3.b	CO_2 emissions per mileage of motor vehicles of the public sector[1]	100	98.2

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.

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

13 Climate action

Climate protection – *Reducing greenhouse gases*

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
		1990 = 100						
13.1.a	Greenhouse gas emissions[2] in CO_2 equivalents	73.5	73.9	75.3	72.1	72.4	72.7	72.3

1 Provisional near real-time forecast.
2 Greenhouse gases = carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulphur hexaflouride (SF_6), nitrogen trifluoride (NF_3), hydroflourocarbons (HFC) and perflourocarbons (PFC).

Source: German Environment Agency

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		billions of euros						
13.1.b	Germany's climate finance flows primarily to developing and emerging countries	1.56	1.66	1.95	2.34	2.68	3.36	3.65

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	2010	2011	2012	2013	2014	2015	2016
		concentration, mg/l (moving discharge-weighted average of the previous 5 years)						
	Total nitrogen concentration in the North and the Baltic Sea							
14.1.aa	Baltic Sea[1]	3.8	3.8	3.4	3.4	3.4	3.1	3.0
14.1.ab	North Sea[2]	3.4	3.3	3.2	3.2	3.1	3.0	2.9

1 Inflowing rivers are Peene, Trave, Warnow, Langballigau, Füsinger Au, Koseler Au, Schwentine, Kossau, Goddesdorfer Au, Oldenburger Graben, Aalbeck, Schwartau, Lippingau, Hagenauer Au, Barthe, Duvenbaek, Hellbach, Maurine, Recknitz, Ryck, Stepenitz, Uecker, Wallensteingraben and Zarnow.
2 Inflowing rivers are Eider, Elbe, Ems, Weser, Rhine, Treene, Aarlau, Bongsieler Kanal and Miele.

Source: German Federal Agency using information from the Länder and river basin communities

No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		percent						
14.1.b	Sustainably fished stocks of fish in the North and the Baltic Sea as a proportion of all MSY examined stocks	37.2	38.5	38.5	38.5	38.5	37.2	38.5
	Including:							
	Sustainably managed stocks, total	37.9	53.3	40.0	60.0	50.0	55.2	56.7
	North Sea	42.9	54.5	40.9	59.1	40.9	57.1	59.1
	Baltic Sea	25.0	50.0	37.5	62.5	75.0	50.0	50.0

Source: International Council for the Exploration of the Sea

No.	Indicator	2010	2011	2012	2013	2014	2015
		2030 = 100					
15.1	Biodiversity and landscape quality (stocks of selected bird species)	68.0	66.6	70.8	68.0	67.2	70.3
	Sub-index forests	79.2	79.8	87.0	86.4	84.0	90.1
	Sub-index settlements	66.5	71.4	71.4	68.6	70.4	73.2
	Sub-index farmland	62.7	58.4	62.6	58.1	57.4	59.2
	Sub-index inland waters	68.2	69.5	72.6	73.4	73.6	74.6
	Sub-index coasts/seas	62.2	62.4	56.1	56.6	56.2	58.5
	Sub-index Alps	/	/	/	/	/	/

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

Source: Federal Agency for Nature Conservation, August 2018

No.	Indicator	2010	2011	2012	2013	2014	2015
		percentage share of the assessed sensitive ecosystem area					
15.2	Ecosystems where critical loads for eutrophication are exceeded due to nitrogen input	73	68	69	70	69	68

Source: German Environment Agency

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
Forests – *Preventing deforestation*								
		millions of euros						
15.3	Payments to developing and emerging countries for the verified preservation or restoration of forests under the REDD+ rulebook	12.0	24.9	36.3	31.0	15.7	59.8	68.0

Source: Federal Ministry for Economic Cooperation and Development

No.	Indicator	2011	2012	2013	2014	2015	2016	2017
		recorded cases per 100,000 inhabitants						
16.1	Criminal offences, total Including:	7,468	7,466	7,404	7,530	7,797	7,755	6,982
	Fraud	1,157	1,186	1,165	1,200	1,190	1,094	1,103
	Domestic burglary	165	179	186	188	206	184	141
	Dangerous and serious bodily injury	173	169	159	156	157	170	166

Source: Federal Criminal Police Office, Federal Statistical Office

Peace and security – *Taking practical action to combat proliferation, especially of small arms*								
No.	Indicator	2010	2011	2012	2013	2014	2015	2016
		number of projects						
16.2	Projects to secure, register and destroy small arms and light weapons carried out by Germany in affected regions of the world	3	11	15	14	15	26	26

Source: Federal Foreign Office

No.	Indicator	2012	2013	2014	2015	2016	2017
	Corruption Perceptions Index (100 corresponds to "no perception of corruption")						
16.3.a	Rating of Germany	79	78	79	81	81	81
16.3.b	Number of partner countries of German development assistance whose rating has improved compared to 2012	x	18	39	43	43	42

x = Cell blocked for logical reasons.

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

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
		percentage share						
17.1	Expenditure for official development assistance as a proportion of gross national income	0.39	0.37	0.38	0.42	0.52	0.70	0.66

1 Provisional data.
Source: Federal Statistical Office, Federal Ministry for Economic Cooperation and Development

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
		thousands						
17.2	Students and researchers from developing and emerging countries	158.7	170.7	185.9	200.3	215.3	230.7	247.4
	Students from LDCs	6.9	7.6	8.3	9.2	9.7	10.1	10.6
	Students from other developing and emerging countries	140.3	150.9	164.1	176.8	190.4	204.7	219.3
	Researchers from LDCs	0.5	0.5	0.6	0.5	0.5	0.6	0.6
	Researchers from other developing and emerging countries	10.9	11.7	12.9	13.8	14.6	15.3	16.9

1 Provisional data.
Source: Federal Statistical Office

No.	Indicator	2011	2012	2013	2014	2015	2016	2017[1]
Opening markets – *Improving trade opportunities for developing countries*								
		percentage share of total imports to Germany						
17.3	Imports from LDCs	0.67	0.62	0.71	0.71	0.81	0.88	0.93
	Imports of processed products from LDCs	0.54	0.54	0.62	0.66	0.76	0.82	0.88

1 Provisional data.
Source: Federal Statistical Office