Voluntary Local Review 2023 Cologne

Implementing the 2030 Agenda and the Sustainable Development Goals at the local level

Stadt Köln

Publication details

Foreword

Dear readers,

In 2017, Cologne City Council adopted a resolution on the "Agenda for Sustainable Local Development". By doing so, Cologne made the Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development a guiding framework for its local policy actions. To announce Cologne's sustainability activities, we published our first Sustainability Report last year. With this Voluntary Local Review, we are now showing the United Nations how we in Cologne are working with the 17 SDGs.

Cologne's first sustainability report was based on the prescribed reporting framework for "sustainable municipalities". As a model municipality of the "Municipalities for Global Sustainability - NRW" project, Cologne was supported in preparing its sustainability report, and subsequently selected to rework it into a Voluntary Local Review (VLR). The Cologne Sustainability Report is now also being published in English.

For this work, I would like to express my sincere thanks to all the offices and departments involved, as well as the North Rhine-Westphalian Working Party on Agenda 21, ENGAGEMENT GLOBAL's Service Agency Communities in One World, and the German Federal Ministry for Economic Cooperation and Development.

Cologne is an international, responsible and engaged city that is ready to make its contribution towards achieving the SDGs. This Voluntary Local Review shows that we are on the right track in many areas, but in some we still need to do more. Nonetheless, it is clear throughout that we can only achieve the goals of the 2030 Agenda together. Please support us, and get involved.

Henriette Reker
Mayor of the City of Cologne

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1   Introduction

Photo 1:   Example image - Green technology

1.1 Voluntary Local Reviews in the context of the 2030 Agenda

In 2015, the UN member states adopted the 2030 Agenda with its 17 Sustainable Development Goals (SDGs). In the 2030 Agenda, the global community agreed on a framework for a worldwide transition to sustainable development. The 17 SDGs (see Fig. 1) are translated into greater detail in 169 targets, covering the environmental, social and economic aspects of sustainability. The SDGs are universally applicable, addressing all UN member states in the Global South as in the North, and aim to bring about radical changes at political and societal levels. The outcomes of the Global Sustainable Development Report 2019 (to be updated in September 2023) make it clear that rigorous action will be needed during the ongoing UN Decade of Action 2020-2030 if the SDGs are to be achieved by 2030. As a universal framework of reference, the 2030 Agenda guides actions within Germany too, at federal, state and local levels.

Figure 2:   The 17 Sustainable Development Goals

To render visible the progress made towards achieving the SDGs, the 2030 Agenda calls for regular reviews.[1] At national level this takes the form of Voluntary National Reviews (VNR). The VNRs are presented annually at the UN High-Level Political Forum, the central platform for the follow-up and review of the 2030 Agenda at the global level. Every year the Forum focuses on different SDGs. In 2023, for instance, the focus is on SDGs 6, 7, 9, 11 and 17. In 2016 and 2021 Germany presented a Voluntary National Review to the High-Level Political Forum (HLPF).

Municipalities have a particularly vital part to play in the successful implementation of the 2030 Agenda, since this is the level at which the stage will be set in the most crucial way.[2] All 17 SDGs have targets that directly relate to local level responsibilities. Pertinent literature often points to the fact that at least 65 per cent of the 169 targets will only be achieved if municipalities are consistently involved in implementation and monitoring.[3] Accordingly, the 2030 Agenda underlines the key role to be played by local authorities and the importance of cooperation between different levels of action and actors.[4] Local actors are called on to identify and implement action required at local level based on the global goals. This is known as localising the Sustainable Development Goals. Three main areas of responsibility may be addressed: "at local level for local level" (measures that impact the municipality itself), "at local level for the

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1   Reporting takes place within the framework of the 2030 Agenda review mechanism ("conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven"; UN, 2015 - paragraph 79). It is also indicated that the local level should be involved ("follow up and review at the regional and subregional levels can, as appropriate, provide useful opportunities for peer learning, including through voluntary reviews"; UN, 2015 - paragraph 80). By 2030 all UN member states are to have published a minimum of two national reports. Official requirements apply to the structure and content of reviews at nation state level.

2   See UCLG, 2021 and Gustafsson & Ivner, 2018.

3   See OECD, 2020.

4   UN, 2015 - Paragraph 45.

world" (local measures with a global impact), and "in and through other countries" (measures that are realised worldwide and in conjunction with other municipalities).[5] Municipalities thus play a pivotal role as trailblazers for change and as the level closest to citizens. Against this backdrop, over 200 German municipalities have already signed the specimen resolution "The 2030 Agenda for Sustainable Development: Building Sustainability at the Local Level" (Association of German Cities, German Association of the Council of European Municipalities and Regions (CEMR)).

As awareness grows of the importance of the local level for achieving the SDGs, an increasing number of municipalities around the world are reporting on their own individual contributions. In contrast to national reviews, local reviews of SDG implementation have no official status and thus no UN mandate with concomitant reporting requirements. Since 2018 (when New York and the three Japanese cities of Shimokawa, Toyama and Kitakyushu were the first to report on their progress), more and more municipalities have taken the initiative and reported voluntarily on the status of their local-level implementation of the SDGs. The reports are thus known as Voluntary Local Reviews, or VLRs. Local reporting has now become an extremely dynamic global movement, with several new VLRs published every year.[6] The first German municipalities to produce a VLR were Mannheim in 2019 and Bonn in 2020. In 2022, Dortmund, Düsseldorf, Hannover and Kiel followed suit. VLRs offer a huge potential to feed practical experience at local level into national and regional reporting, thus enhancing overall coordination, accountability and transparency. The dovetailing of the different levels (known as vertical integration) is pivotal. In this regard, the relevance of VLRs transcends mere monitoring, since VLRs accelerate localisation of the

SDGs and the transition to greater sustainability in the spirit of bottom-up processes, while also supporting reciprocal learning.[7] This is also reflected in the growing trend to firmly integrate the local level in the UN High-Level Political Forum (e.g. as part of the Local and Regional Governments Forum) and involve local actors in national reviews.[8]

Given that there have not so far been any uniform standards for the production of VLRs, it is not surprising that the reviews published around the world vary widely in terms of structure and content. A growing number of publications do, however, offer guidance (including for instance UCLG & UN-Habitat Guidelines for Voluntary Local Reviews, the European Handbook for SDG Voluntary Local Reviews, the UNDESA Global Guiding Elements for Voluntary Local Reviews of SDG implementation and, in German, Engagement Global's Handreichung zu VLRs).[9] This VLR has taken account of the international guidelines in terms of the methodology used and the structure of the review.

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5   See also the similar breakdown of measures in the German Sustainable Development Strategy.

6   For an up-to-date list of VLRs published to date see the Voluntary Local Review website of the UN Department of Economic and Social Affairs (UN DESA). Comparative analyses can be found in UN-Habitat & UCLG, 2021.

7   See also Deininger et al., 2019; Pipa & Bouchet, 2020 and Koch et al., 2019.

8   See German Institute of Urban Affairs & Bertelsmann Stiftung, 2021.

9   Cf. UCLG & UN-Habitat, 2020; Siragusa et al., 2020; UNDESA, 2020; Engagement Global, 2022; see also IGES, 2021 and UNESCAP, 2020.

1.2   Context, methodology and structure of this report

Photo 3:   Example image - circular economy concept

This Voluntary Local Review reflects the status quo in 2023 in terms of sustainable local development and provides a round-up of the progress made towards achieving the SDGs. The VLR has been produced within the framework of a project of Engagement Global's Service Agency Communities in One World on behalf of the Federal Ministry for Economic Cooperation and Development (Voluntary Local Reviews for Globally Sustainable Municipalities - Local-level support and advice on producing VLRs). In Germany, the Service Agency is the central contact point for local development policy. It enables municipalities to get involved in action for global sustainability and a more equitable world, as set out in the United Nations 2030 Agenda, with actions both at local level and in the Global South. During the project term from July 2022 to October 2023, six German municipalities (the City of Freiburg, the District of Fürstenfeldbruck, the Free and Hanseatic City of Hamburg, the City of Cologne, the Municipality of Bad Köstritz and the Municipality of Rottenburg am Neckar) were given support to help them draw up individual VLRs in German and in English. The municipalities involved could report on either all 17 SDGs or on the five focal SDGs to be addressed by the 2023 UN High-Level Political Forum (SDGs 6, 7, 9, 11 and 17). The VLRs were published to coincide with the HLPF in summer 2023. Alongside the ongoing support for the participating municipalities, inter-municipal exchange was important within the scope of the project, to encourage municipalities to learn from one another. Overall this has helped make German VLRs stronger and more uniform.
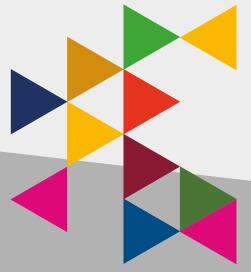
The individual municipalities put in place working groups to elaborate the VLRs. They conducted an extensive baseline survey to gather the information needed for the report. The process involved firstly forming a project team within the administration that brought together people from all relevant local divi-

sions (e.g. planning, environment, transport, social affairs, international affairs, public health and economic development). The project team was managed by a coordinator or coordinators (one or two individuals), who were responsible for organising the process at local level. With the help of information provided by the members of the project team, a systematic baseline survey was conducted, covering both qualitative and quantitative elements. The qualitative analysis looked at all core activities of the municipality that help achieve sustainable development. This included guiding strategies and concepts, measures and activities, projects, permanent responsibilities, programmes, political decisions, specific goals, cooperation arrangements and networks, as well as organisational structures. Additionally, key achievements and outcomes in recent years were identified in the various thematic areas. To complement this, general information was gathered on overarching aspects of sustainability. The quantitative analysis evaluated firstly a fixed set of indicators (SDG indicators for municipalities) and then supplementary municipality-specific indicators. The set of fixed indicators was developed by the Bertelsmann Stiftung and other institutions.[10] The project aims to identify indicators capable of illustrating the implementation of the SDGs at local level in Germany. An online portal (the SDG Portal) provides data available from a number of centralised sources for all German municipalities with a population of at least 5,000. The six municipalities participating in the Service Agency project were able to supplement these indicators with their own indicators, particularly in areas where little data was available, enabling them to take account of the specific local context. These data were then provided by the municipalities themselves. Within the framework of the baseline survey, various source materials (Excel tables broken down by SDG and overarching questionnaires) were combined in the project. A draft report was drawn up on this basis, and discussed at various project team workshops and in local consultation processes. The draft was expanded accordingly and subsequently finalised.

Overall, this process surmounted traditional barriers within administrations, and allowed information to be compiled across departments and units. Given the thematic breadth and interconnected nature of sustainability issues, this horizontal integration was crucially important.

This VLR is broken down into two main sections. The first of these provides a general introduction to sustainability processes on the ground. Alongside a thumbnail sketch and a presentation of the main milestones in realising sustainability, this section includes an explanation of how sustainability is being mainstreamed at strategic and organisational level. The second part presents specific progress made towards achieving the individual SDGs in recent years. This includes both qualitative and quantitative elements, in line with the baseline survey. Firstly, all core activities undertaken to implement the SDGs are presented, and the individual activities indicated in the text. The indicators selected are then outlined (with illustrations for the key indicators). The indicators used map progress over the last decade, illustrating longer-term developments. At the start of each SDG section, all activities and indicators are summarised concisely. Every SDG section also contains an introductory text, which presents the SDG and its specific relevance for German municipalities.

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10   See Bertelsmann Stiftung et al., 2022.

02

2 Sustainability in the City of Cologne - an Introduction

Photo 4: Aerial view city of Cologne

2.1 Cologne in the context of sustainable development

Like many other cities, Cologne is facing the challenges brought by current trends and developments, including population growth, demographic change, climate change, structural economic change and the consequences of globalisation and digitalisation. Urban development in the city aims to identify the specific factors and responsibilities in Cologne, and make the best possible use of the city's strengths in its future development. The principle of resilience to a wide spectrum of challenges and crises is particularly important.

With a population of some 1.1 million, Cologne is currently the most populous municipality in the federal state of North Rhine-Westphalia and Germany's fourth largest city. And the city's population is forecast to rise further. As well as the many positive aspects of growth (including a larger and more diverse workforce, a higher concentration of cultural offerings, and a more efficient mobility structure), there is a downside. Increasing demand for housing results

in shortages on the housing market, more and more land is needed for construction and the competition among different land use options is heightened. Land is needed, for instance, for housing, commercial purposes, cultural offerings, education and social services, traffic and transport, and for green and open spaces. Uncontrolled growth is not generally compatible with the objectives of sustainable development. The direction that this development will take in the City of Cologne thus depends in no small way on how growth is managed and steered.

The consequences of climate change are already plain to see. The impacts of global climate change will become particularly obvious in urban areas. This includes worsening extreme weather events with extreme rainfall and significantly longer periods of high temperature in summer, as daytime temperatures top 30°C, especially in densely built-up areas. High summer temperatures impact human health, especially in vulnerable sections of the population,

and can even result in higher excess deaths. Cologne too is contributing to global climate change, with its CO_2 emissions. Saving the climate is a global task we all share - every municipality can and must do its bit. Reducing CO_2 emissions is an important lever.

Motorised private transport is responsible not only for about one quarter of all urban greenhouse gas emissions. Moving and stationary vehicles also occupy a huge percentage of public space in the city. Together, the areas used for traffic and transport in Cologne account for about 16 per cent of the total metropolitan area of the city. The transition to more sustainable mobility, and concomitantly, the reduction in the area used for motorised transport also offers an opportunity for the city to develop sustainably.

Alongside population growth, the demographic structure of Cologne's society is in a state of constant flux. Although the population as a whole is age-

Photo 5:   Cologne Perspectives 2030+ Future Forum 2019

ing, there are expected to be more children and young people again in future. Despite the high per capita GDP, a relatively large percentage of Cologne's inhabitants depend on basic income support. This is particularly true of households with children. Against this backdrop, cohesion is to be enhanced between generations and among different ethnical and social groups, to create socially mixed, safe quarters within the city, offering a high quality of life. It is the individual neighbourhoods, or "Veedel" as they are affec-

tionately known in Cologne, that play an important role in integrating the different sections of society. This is where society pulls together - at local level.

2.2 Urban development strategy: Cologne perspectives 2030+

Cologne City Council adopted the Cologne Perspectives 2030+ urban development strategy at the end of 2021. This strategy gives Cologne a compass for forward-looking, strategic and sustainable urban development. The integrated strategy addresses the challenges that will face Cologne in future and identifies key action required in the field of urban development. It also identifies opportunities, areas where actors from the realms of politics, the administration and the city's civil society can and should pull together in the years to come, and points to ways this could be done, to ensure that the City of Cologne continues to develop as a metropolis offering a good quality of life. While the strategy was being developed a decision was made not to produce any additional sustainability strategy for Cologne, but to take the 17 Sustainable Development Goals (SDGs) as guidelines when elaborating the Cologne Perspectives 2030+. The urban development strategy is based on a large number of papers and preliminary studies. It builds on the decisions taken by the City Council on strategic urban development, the 2020 vision, sustainable urban development and the growing city, and develops these. The urban development strategy is an overarching instrument that can be used to guide the actions of those working at administrative and political level, as well as actors in urban development and

	Guiding principle 1 **Cologne will provide compact districts that are attractive to live in.**
	Guiding principle 2 **Cologne will create space for a dynamic, sustainable economy and diverse working worlds.**
	Guiding principle 3 **Cologne will ensure education, equal opportunities and participation.**
	Guiding principle 4 **Cologne will reinforce its role as a multi-networked metropolis.**
	Guiding principle 5 **Cologne will grow in a way that is compatible with climate and environmental imperatives and will ensure healthy living conditions.**

Figure 6:   The guiding principles set out in Cologne's urban development strategy

civil society. To realise the strategy, a number of key projects were developed on the basis of central recommendations for action, allowing the city to gradually translate the objectives identified into practice.

The 17 Sustainable Development Goals (SDGs) were drawn up by the United Nations in 2015 along with the 2030 Agenda for Sustainable Development and came into effect on 1 January 2016. The 17 SDGs have 169 targets for achieving sustainable development in social, economic and environmental terms. Cologne's City Council decision on 28 September 2017 affirmed its commitment to the resolution for sustainable development in municipalities. The basic principles of the SDGs can be found in the objectives set out in the Cologne Perspectives 2030+.

They consist of five guiding principles, which identify the future priorities of the actions of the City of Cologne, providing a compass that can or must be used by the administration and other groups of actors in their various future activities, plans and measures. The guiding principles are worded at an overarching level. Each one of the five guiding principles compris-

es five or six specific objectives that illustrate the spectrum of issues covered by the guiding principle and translate it into more specific terms.

Photo 7:   Cologne Perspectives 2030+ Future Forum 2019

Guiding principle 1

Cologne will provide compact districts that are attractive to live in.

Objective 1.1:   Cologne will actively manage its development in line with the imperatives of effective mobility services and strong centres.

Objective 1.2:   Cologne will make careful use of land, which is a scarce resource.

Objective 1.3:   Cologne will maintain and develop its neighbourhoods as centres of social life in the community.

Objective 1.4:   Cologne will ensure attractive parks, squares and streets and safe public spaces.

Objective 1.5:   Cologne will develop its infrastructure and public services in line with demand.

Guiding principle 2

Cologne will create space for a dynamic, sustainable economy and diverse working worlds.

Objective 2.1:   Cologne will strengthen its broad-based economic mix.

Objective 2.2:   Cologne will develop its position as a leading centre for science and research.

Objective 2.3:   Cologne will develop commercial and industrial locations with clear profiles.

Objective 2.4:   Cologne will develop spaces and structures for the cultural and creative industries.

Objective 2.5:   Cologne will optimise land use in industrial and commercial zones and make them more accessible.

Objective 2.6:   Cologne will integrate those of working age and ability permanently in the formal labour market.

Guiding principle 3

Cologne will ensure education, equal opportunities and participation.

Objective 3.1:   Cologne will foster diversity in the different parts of the city.

Objective 3.2:   Cologne will ensure affordable housing and a variety of types of housing.

Objective 3.3:   Cologne will actively foster an inclusive society.

Objective 3.4:   Cologne will make the city children-, youth- and family-friendly.
Objective 3.5:   Cologne will foster access to education and qualification, as the
key to citizen participation.
Objective 3.6:   Cologne will support civic engagement and encourage the broad
involvement of citizens in the development of the city.

Guiding principle 4

Cologne will reinforce its role as a multi-networked metropolis.

Objective 4.1:   Cologne will develop its mobility services with the region in a way
that is innovative and environmentally sound, and will strengthen
local public transport.
Objective 4.2:   Cologne will create more space for cyclists and pedestrians.
Objective 4.3:   Cologne will strengthen its network of green spaces for leisure
purposes and develop this network within the region.
Objective 4.4:   Cologne will develop its role as pioneer in the field of digitalisation.
Objective 4.5:   Cologne will step up regional and international cooperation.

Guiding principle 5

Cologne will grow in a way that is compatible with climate and environmental imperatives and will ensure healthy living conditions.

Objective 5.1:   Cologne will foster physical activities and sport.
Objective 5.2:   Cologne will ensure access to health care, health education and
preventive health services in all situations.
Objective 5.3:   Cologne will consistently adapt to climate change.
Objective 5.4:   Cologne is actively protecting the climate and will be climate-neu-
tral by 2035.
Objective 5.5:   Cologne will develop regional value chains and sustainable materi-
al cycles.

2.3   Sustainability monitoring

In 2019 Cologne City Council decided that all relevant administrative papers were to be assessed for the climate impact of the actions to be taken. In 2021 it was then decided to launch a one-year test phase during which decisions would be examined for their relevance for achieving the objectives set out in the Cologne Perspectives 2030+. The "objectives structure screening" of administrative papers is intended to mainstream the objectives of the Cologne Perspectives 2030+ in the thoughts and actions of the administration. It is hoped that this will provide motivation to keep the entire city on course for the developments set out in the strategy.

Ongoing sustainability reporting in the years to come will offer a way of establishing steering mechanisms that will be triggered if certain sustainability goals are not met. These mechanisms can also be integrated into the urban development strategy as a way of ensuring that objectives are in fact attained.

2.4   Mainstreaming sustainability within the municipal administration

At its meeting on 28 September 2017, Cologne City Council adopted a resolution on the Agenda for Sustainable Local Development. This confirmed that the 2030 Agenda for Sustainable Development, adopted by the United Nations in 2015, along with its 17 Sustainable Development Goals (SDGs), which address UN member states and are to be realised especially through local participation and responsibility, would henceforth inform and guide actions at local policy level. The municipal administration has a key role to play in implementation. Against this backdrop it was decided that sustainable development should be decreed a cross-cutting issue for all municipal offices

that make up the administration, thus helping implement the SDGs at local level.

As a general rule, all official bodies of the City of Cologne are also involved in implementing the Sustainable Development Goals (SDGs): the City Council with all its technical committees, district councils, works councils and other bodies (such as the Integration Council, the Senior Citizens' Representation, the City Working Groups for Disabled People, Lesbians, Gay and Transgender People and Senior Citizens, as well as the Conservation Council of the Local Nature Conservation Authority). Another informal body is the Cologne Climate Council, which delivers impetus for attaining climate neutrality and thus more generally for realising different aspects of sustainability. The Climate Council was founded in 2020 as an advisory body of experts who are to support the City of Cologne in its endeavours to develop a strategy that will allow it to become climate neutral.

The focus on implementing the SDGs, which guides the actions of the city, is provided by the urban development strategy Cologne Perspectives 2030+. This is seen as the key overarching strategy for the way forward. With a view to responsibilities within the administration, a distinction must be made between different levels:

1. Discussion and recommendations level - City Development Team: A City Development Team was established to manage implementation of the Cologne Perspectives 2030+. It is headed by the Councillor for Urban Development, Economic Affairs, Digitalisation and Regional Affairs. The City Development Team brings together the heads of all city offices and units that are strategically important for urban development in the City of Cologne. The Strategic Urban Development Unit (15/1) that is part of the Office for Urban Development and Statistics manages the City Development Team.

2. Working level - departments and units: The technical expertise can be found in the city's departments and units, making this the working level.

When it comes to detailing recommendations for action and key projects in particular, cooperation, responsibilities and integrated project perspectives are agreed between the different offices and units within the City Development Team.

3. Executive level - Administrative Board: The Administrative Board constitutes the executive level. It is informed once a year about the key projects recommended by the City Development Team, and supports the technical offices and units with the implementation of these projects. If necessary, the Administrative Board can make additional recommendations regarding key projects, issues or tasks for discussion by the City Development Team.

2.5   Sustainability in companies (partly) owned by the municipality

Stadtwerke Köln (SWK) companies cover a wide spectrum of markets and branches, with each company responsible for its own area of business in line with the principle of subsidiarity. It is thus primarily the responsibility of each individual company to ensure sustainable development, from which it follows that each company is essentially also responsible for its own sustainability management.

Additionally, SWK companies have addressed sustainability issues jointly for some years, and have adopted initial mandatory sustainability goals that apply to the entire SWK group. Their understanding of sustainability is also based on the Sustainable Development Goals (SDGs) set out in the 2030 Agenda for Sustainable Development. SDG 9 (Industry, innovation and infrastructure), SDG 7 (Affordable and clean energy) and SDG 13 (Climate action) alone clearly illustrate the special responsibility of *Stadtwerke Köln,* which traditionally supplies essential services to the city, when it comes to developing Cologne and making it a sustainable city.

Breathing life into the SDGs and driving sustainable development in Cologne is the mission of *Stadtwerke Köln* and its constituent companies. Both the coordination of processes and measures and support for overarching corporation-wide objectives are the responsibility of SWK's Sustainability Coordination Unit, in close consultation with the individual companies that make up the group. Additionally, the specific consultation bodies responsible for the individual areas, and other experts from the companies are involved in implementing the goals.

As a municipally-owned company, *Stadtwerke Köln* assumes the overall responsibility for ensuring that infrastructure is safe, secure, stable, maintained to retain its value, and durable. It must also provide attractive and forward-looking offers and services for industry,

Photo 8:   Cologne Perspectives 2030+ Future Forum 2019

commerce and the population of Cologne and the region. The fields of business comprise energy and drinking water supplies, local public transport, networked logistics for rail and water transport of goods, developing the digital infrastructure, solid waste management, recycling, city cleansing, the provision of modern swimming pools and sports facilities and the development of vacant sites to build attractive residential and working quarters.
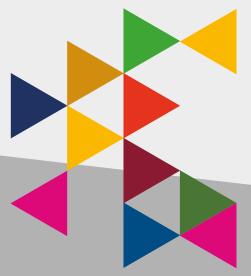
In close cooperation, *Stadtwerke Köln* companies have identified the issues and areas of action that are most relevant for them with respect to sustainability. In winter 2019/2020 they took these as the basis for drawing up the group's first sustainability strategy, which was entitled SWK 2030. Four areas of action (environment and climate, staff responsibility, sustainable business and stakeholder dialogue) together make up the heart of SWK 2030. In each of these areas, specific objectives have been set, which apply for all companies in the group. The objectives relating to environment and climate are aligned first and foremost with the (climate) objectives of the City of Cologne. The SWK thus lends the most effective support possible to the City of Cologne, helping it achieve the climate neutrality it aims for by 2035 with selected measures.

For many years, StEB *(Stadtentwässerungsbetriebe Köln, AöR),* the utility responsible for wastewater and flood protection, has been actively pursuing sustainability. StEB is a water-sector utility that is fully owned by the City of Cologne. It is an important building block in the provision of essential public services. Its competence in the fields of wastewater treatment and the climate-sensitive management of water resources has a direct impact on the urban environment in Cologne.

The work of StEB affects everyone who lives in the city, as well as all visitors. StEB is responsible for collecting and treating wastewater, ensuring the city is protected against flooding caused by rising river levels on the Rhine or extreme rain, and managing watercourses and ponds in parks in the city. It thus designs water cycles in the city, and makes them more resilient to the consequences of climate change.

StEB uses various channels to publicise the progress it has made in the field of sustainability. It thus makes genuine contributions to achieving the United Nations Sustainable Development Goals (SDGs). The EU's Green Deal and the requirements at national and local level that derive from it are also important references when it comes to identifying and realising strategic corporate goals.

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3 Implementation of the Sustainable Development Goals (SDGs) in the City of Cologne

3.1   SDG 1 - No Poverty

3.1.1   SDG 1 - Introduction and relevance for German municipalities

SDG 1 aims to end poverty in all its forms everywhere. Poverty can occur in many different forms. It is manifested not only by a lack of financial resources, but also by its effects on areas such as education, health, housing, and social and political participation. In a country like Germany, which has minimum protection systems that work, it is not so much absolute poverty (which sometimes threatens people's survival) that plays a role, but rather the distribution of income within society. Relative poverty manifests itself in limited opportunities for material, social and cultural participation. The fight against poverty cannot be viewed in isolation.

It depends to a large extent on progress in policies for education, gender equality, family, health, housing, infrastructure and the labour market.[11] For German municipalities, this makes the following themes especially relevant at the local level (please also compare these with the targets for SDG 1 in the annex):

❚   Preventing child, youth and old-age poverty
❚   Implementing social protection systems and measures
❚   Promoting access to basic municipal services for all
❚   Supporting homeless persons.

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11   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.1.2   Links to Cologne's objectives

**Cologne will ensure education, equal opportunities and participation.
(Guiding Principle 3, Cologne Perspectives 2030+)**
For the long-term sustainable development of Cologne, every person is to be enabled to participate at every stage of their lives and in every area (health, education, income, gainful employment, housing, and involvement in social, cultural and political life). Only then can there be social inclusion, equal opportunities and intergenerational justice.

3.1.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
▮ Poverty prevention and reduction
▮ Caring for homeless people

Indicators:
▮ Poverty - child poverty
▮ Poverty - youth poverty
▮ Poverty - poverty in old age
▮ Poverty - German Social Code (SGB-II-/SGB-XII) quota

3.1.4   Contributions of the City of Cologne to the SDG

Poverty prevention and reduction

The **1. Kölner Lebenslagenbericht 2020** (1st report on the circumstances of those living in Cologne) indicated that people with limited opportunities to participate include disproportionately many people with an immigrant background, single parents and large families. Their situation is worse than the average across all areas.

Improving the opportunities these people have to participate is seen as a major challenge, which is reflected in several priority areas for action:

- Health
- Education
- Income
- Employment
- Social, societal and political inclusion
- Housing.

In future the City of Cologne aims to mainstream and **develop integrated, strategic social planning** with a view to enhancing the participation opportunities especially for target groups with multiple disadvantages, as well as fostering integration overall. To this end, an integrated process for the city as a whole is to agree on the main priorities for action, and the order in which these should be addressed. Strategic objectives are to be identified and strategies to achieve these reviewed and taken to the next level. Against the background of the strategic objectives and strategies, as well as the social infrastructure already in place, specific needs are then to be identified.

To enhance living conditions and participation opportunities in disadvantaged neighbourhoods, the Handbuch **„Lebenswerte Veedel - Bürger*innen- und Sozialraumorientierung in Köln"** (Manual for neigh-

1

bourhoods you want to live in - Orientation for citizens and social spaces in Cologne) is to provide for the dovetailing of integrated strategic social planning and local-level plans for social spaces within the framework of the Lebenswerte Veedel (Neighbourhoods you want to live in) programme.

Cologne City Council adopted its overall strategy *Kölner Kinder stärken!* (Making Cologne's children strong) in 2019. This is a strategic concept to (further) enhance the participation and development opportunities of all children and young people in Cologne. It sets out a vision, strategic areas of action and objectives, a prevention monitoring scheme, and structural and practical measures (Session 3437/2019). *Kölner Kinder stärken!* is an important part of the urban development strategy Cologne Perspectives 2030+, contributing especially to Guiding Principle 3 (Cologne will ensure education, equal opportunities and participation) and to Recommendation for Action 7 (Education takes precedence). The overall strategy has been devised within the framework of the City of Cologne's ongoing involvement since 2017 in the state-level programme **kinderstark - NRW**

schafft Chancen (Strong Children - the state of North Rhine-Westphalia creates opportunities) (formerly known as "Leave No Child Behind" and "Local Preventive Chains"), with the support of the state-level Service Agency for Prevention and the Münster-based Institute for Social Work (ISA). Since the beginning of 2023 support for the state-level programme has been provided by the *Landschaftsverband Rheinland - Landesjugendamt* (State Youth Office).

Since 2020 the state of North Rhine-Westphalia has made available funding for the implementation of innovative preventive measures, also at the practical level, within the scope of the *kinderstark* programme. These activities are intended to effectively complement the chain of preventive measures already in place at local level. Programme funds, which currently stand at about 1 million euros a year for Cologne, are channelled into nine family primary school centres, health officers (paediatric nurses) at schools, education officers for refugee children, (outreach) family officers that visit family homes or local family offices, outreach museum services and the coordination at municipal level of the overall strategy and

the further development of the family portal *Guter Start NRW* (Good Start NRW). Some of the measures mentioned are new, supplementing the overall strategy *Kölner Kinder stärken!* at practical level.

Cologne, as a children-friendly municipality, sees the creation of a positive environment for young people including fair participation, as a central concern. The overall strategy provides a foundation for preventing and addressing disadvantaging in Cologne and focuses on creating equitable educational and participation opportunities and opening up health and development opportunities. It sets out strategic objectives with a focus on facilities such as nurseries and schools, education and health services, networks, and quality development. The strategy also provides guidance regarding the challenges involved in preventing and addressing disadvantages suffered by young people and their families in Cologne. On this basis, measures are devised for the structural and practical levels.

To support long-term unemployed individuals and help them integrate in the labour market, a separate local programme for work and employability has been designed that is to complement and expand existing federal and state level programmes. The ***Kommunales Programm für Arbeit und Beschäftigungsfähigkeit*** (Local programme for work and employability) aims to foster social participation and labour market integration for all long-term unemployed individuals in Cologne by placing them in lasting employment subject to social security contributions, irrespective of whether they receive welfare benefits. The following measures are being implemented within the scope of the programme:

1. Promotion of employment subject to social security contributions,
2. Support for the integration of long-term unemployed individuals into the labour market,
3. Stabilisation of employment for the long-term unemployed,
4. Improving entry opportunities on the general labour market through upskilling and

5. Measures in the field of health promotion, and (6.) Career guidance measures.

Caring for homeless people

The City of Cologne offers various forms of assistance to ***support homeless people and people at risk of becoming homeless.*** This includes financial assistance, as well as advice and support for people at risk of losing their homes. One focus of activities is for the Housing Unit to make use of the legal options as set out in the German Social Code (SGB II and SGB XII). The City Council adopted a resolution to ***extend assistance designed to prevent people losing their homes.*** Assistance for acute homelessness also takes the form of providing beds in emergency shelters as well as finding housing within the scope of cooperation arrangement with the housing sector. The City of Cologne has devised a funding programme for the Housing First project. The Housing First project and Self-managed Housing and Work Projects for Homeless People are two new approaches which are now being tested.

Photo 9:   Example image - children´s rights

3.1.5   Indicators

1 NO POVERTY

Poverty - child poverty
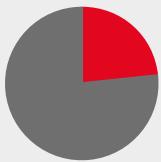
Percentage of under-15-year-olds receiving social welfare benefits under the German Social Code (SGB II) either in their own right or indirectly as part of the household. (Source: SDG Portal)

Child poverty is often the result of unemployment and poverty on the part of parents. Possible consequences can include an inability to meet essential needs like housing and food, and unequal opportunities regarding education and participation. In the City of Cologne, the percentage of under-15-year-olds who are affected by poverty had fallen to 21.5% by 2020. This trend can also be seen in other cities in North Rhine-Westphalia with similarly sized populations. The average for the state of NRW was 17.8% in 2020. The Sustainable Development Strategies at national level and state level in NRW do not contain any age-specific objectives in the field of poverty. Objective 1.1.a of the German Sustainable Development Strategy pursues the general goal of keeping the percentages of persons in Germany who are materially deprived (lack of specific consumer goods and the involuntary foregoing of discretionary consumption for financial reasons) considerably below the EU-28 level by 2030 (average for the 28 EU member states up to 31 January 2020).

Poverty - child poverty

| 23.5 % | 22.9 % | 21.5 % |
| 2010 | 2015 | 2020 |

Poverty - youth poverty

| 19.9 % | 20.6 % | 20.5 % |
| 2010 | 2015 | 2020 |

Poverty - youth poverty

1 NO POVERTY

Percentage of 15-17-year-olds receiving social welfare benefits either in their own right or indirectly as part of the household. (Source: SDG Portal)

Youth poverty can be a direct consequence of child poverty. The failure to meet basic needs is further aggravated by the fact that young people are undergoing a transition to independence. If poverty has hitherto prevented them benefitting from average education, however, their options, including career options, will be severely limited. In the City of Cologne, the percentage of 15-17-year olds affected by poverty has varied between 19.9 % and 20.5 % in the period under review. The figures are comparable in other cities in NRW with similar populations. In 2020 the state-wide average in NRW was 14.1%, putting it below the figure for the City of Cologne. As mentioned above, the Sustainable Development Strategies at national level and state level in NRW do not contain any age-specific objectives in the field of poverty.

1 NO POVERTY

Poverty - poverty in old age

Percentage of over-65-year olds receiving basic income support (Source: SDG Portal)

Poverty in old age reflects the problem of attaining statutory retiral age with an entitlement to a pension that puts the holder below subsistence level, irrespective of the number of years worked. This problem seems likely to worsen in the years to come as a result of demographic change, pension reforms and trends on the labour market. Older people often have few options to actively alter this situation, which can result in isolation in addition to poverty. In the City of Cologne, the percentage of over-65-year olds af-

fected by poverty has risen consistently. The same trend can be seen in the average figures for NRW, although in 2020 the average percentage for NRW was 4.0%, well below the figure of 8.0% for the City of Cologne. The Sustainable Development Strategies at national level and state level in NRW do not contain any age-specific objectives in the field of poverty.

Poverty - poverty in old age

5.9 %
2010

7.6 %
2015

8.0 %
2020

Poverty - German Social Code quota

14.6 %
2010

14.3 %
2015

14.2 %
2020

1

Poverty - German Social Code (SGB-II-/SGB-XII) quota

Percentage of the total population (under the age of 65) entitled to benefits under the German Social Code (SGB II or SGB XII) (Source: SDG Portal)

1 NO POVERTY

The SGBII / SGB XII quota reflects the percentage of the population that is entitled to basic income support for job seekers (SGB II) or social welfare assistance (SGB XII) and thus the percentage of people in a municipality in need of assistance. In the City of Cologne, the percentage dropped slightly from 14.6% to 13.3% in 2019, which is broadly similar to the percentages in other cities in NRW with similar

populations. In 2020 the figure rose again to 14.2%. The broadly downward trend can also be seen in comparisons across the state of NRW, where the average in 2020 was 12%, putting it slightly below the figure for the City of Cologne. There is no specific link to this indicator in the Sustainable Development Strategies at national level and state level in NRW.

2 ZERO HUNGER

3.2   SDG 2 - Zero Hunger

3.2.1   SDG 2 - Introduction and relevance for German municipalities

SDG 2 aims to end hunger, achieve food security and improved nutrition and promote sustainable agriculture. In Germany there is a particular focus on promoting sustainable agriculture and food production, along with an environmentally, economically and socially sustainable diet that is nutritionally balanced. Natural resources such as soil, water, air and biodiversity form the basis for food, nutrition and agriculture. It is therefore crucially important to ensure that these resources are managed responsibly. Sustainable and resilient agricultural practices aim to preserve ecosystems, build climate resilience, ameliorate soil quality and conserve genetic diversity. Thus organic farming, as an environmentally sound, animal-friendly and sustainable form of agriculture, can help to protect nature, species, soil, water and the climate alike.[12] Overall, the following themes are especially important for German municipalities in relation to SDG 2 (please also compare these with the targets for SDG 2 in the annex):

▎ Promoting sustainable agriculture and food production
▎ Supporting a balanced diet and reducing malnutrition
▎ Promoting access to quality food for all.

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12   See Germany´s Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.2.2   Links to Cologne's objectives

Climate and Green Objectives Map (Cologne Perspectives 2030+)
The most fertile soils within the city limits are to be used for agricultural production. As well as protecting the areas marked in the Climate and Green Objectives Map, the focus in this domain is on shifting agriculture towards sustainable production methods. In this way Cologne can contribute to regional food supplies while also being a role model within the region. Moving forward, the compatibility of sustainable agriculture with complementary forms of land use including recreation, cycling, climate action and species protection will have to be examined.

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3.2.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
▌ Sustainable agriculture

Indicators:
▌ Agricultural nitrogen surplus

3.2.4   Contributions of the City of Cologne to the SDG

Sustainable agriculture

In 2019 the decision to **lease farmland (urban agriculture in Cologne)** marked an important step forward to ensure that agricultural land owned by the City of Cologne was farmed sustainably. Urban agriculture makes a vital contribution to supplying the people of Cologne with regional, seasonal produce, while forging closer links between the urban population and food production. In line with the decision taken by the City Council on 8 December 2022 (**Strategie Klimaneutrales Köln,** Strategy to make Cologne Climate Neutral), a recommendation was issued to raise the percentage of sustainably farmed land inside the city limits to over 50 per cent by 2030 and over 90 per cent by 2035. In the course of the planned greening, farming on city-owned agricultural land is to be geared to the following objectives:

▌ Enhancing biodiversity and species protection
▌ Promoting nature-friendly, green agriculture
▌ Reducing and targeting the use of fertilisers and pesticides
▌ Banning the use of glyphosate
▌ Banning the use of genetically modified organisms
▌ Fostering regional and local marketing strategies (direct marketing)
▌ Supporting local initiatives aiming to produce food in proximity to the city.

The significant reduction in costs for packaging, transport and logistics that can be achieved by developing direct marketing approaches offers potential to protect natural resources and reduce greenhouse gas emissions.

Photo 10:   Nutrition Council

Photo 11:   Edible city

Photo 12:   Agriculture

Photo 13:   Example image - Organic farming

3.2.5   Indicators

| 2 ZERO HUNGER | **Agricultural nitrogen surplus**
Nitrogen surplus on agricultural land (Source: SDG Portal) |

Many environmental problems are caused by the excessive use of fertilisers in agriculture. This is an area in which the global planetary limits have already been surpassed. Nitrogen surpluses also result in the acidification of surface waters, oceans and diverse terrestrial ecosystems, as well as increasing the nitrate concentration in groundwater. In the City of Cologne, the nitrogen surplus on agricultural land has risen steadily, most recently recording a level of 94.3 kg / ha. National data indicate a similar upward trend in the period under review. Most recently (2018) the figure stood at 92.1 kg / ha (2010: 65.4 kg / ha).

This trend runs counter to Objective 2.1a (Reduction of the nitrogen surpluses of the overall balance for Germany to 70 kilograms per hectare of utilised ag-

Agricultural nitrogen surplus

| 52.8 kg/ha | 70.5 kg/ha | 94.3 kg/ha |
| 2010 | 2015 | 2018 |

ricultural area on an annual average between 2028 and 2032) set out in the German Sustainable Development Strategy.

3.3   SDG 3 - Good Health and Well-Being

3.3.1   SDG 3 - Introduction and relevance for German municipalities

SDG 3 aims to ensure healthy lives and promote well-being for all at all ages. Health is crucially important for individual well-being, as well as prosperity, social cohesion and participation in a society. Internationally, the German health care system is considered exemplary. To make it sustainable, however, the relevant structures need to be continuously developed in order to ensure nationwide, high-quality medical and nursing care with sufficient capacities. Besides ensuring high-quality health care for all, regardless of e.g. social status, a further focus is prevention. Demographic change poses a particular challenge in Germany. Given the country's ageing society, health and old-age care are becoming increasingly important as locational factors. Medical treatment and care close to home, and the strengthening of the care sector, are therefore particularly important.[13] or German municipalities, the following points are therefore especially important for localising this SDG (please also compare these with the targets for SDG 3 in the annex):

▮ Ensuring quality (physical and mental) health care, health promotion and prevention
▮ Strengthening care and support.

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3.3.2   Links to Cologne's objectives

Cologne will ensure access to health care, health education and preventive health services in all situations. (Objective 5.2, Cologne Perspectives 2030+) Health is an issue that affects everyone. That makes it important to keep sight of the quality of health services available to the entire population, and to ensure a good and adequate level of care at all times, in all parts of the city in the interests of social justice. A key factor in health care is ensuring accessibility. It is important to keep the requirements of different target groups in mind in this context. This also means encouraging or creating low-threshold services for special needs groups, such as people who are not part of the regular system, or who have few links to the regular system.

The goal of facilitating healthy living conditions for everyone in Cologne is a challenge not only for the health service. For a healthy population, disease prevention is pivotal. Firstly, the city health system must offer sufficient services. Secondly, it is important to expand and shape links to other areas including health education, emissions reduction and the provision of high quality spaces where people can exercise.

Demographic change and an ageing society will be major challenges in the years to come. We must work towards ensuring elderly people and those in need of nursing care can access quality health services in their own environment, so that they can continue to participate on an equal basis in neighbourhood life.

Healthy living conditions and development opportunities are to be encouraged by relevant service offerings to ensure that everyone without exception has access to health promotion and preventive health services as well as primary health care, and to ensure that they are protected against risks to their health.

**Cologne will foster physical activities and sport.
(Objective 5.1, Cologne Perspectives 2030+)**
Good health is a valuable asset that provides for a high quality of life even in advanced years. Sports and physical exercise do much to foster good health and a good quality of life, and are reflected in a general trend towards a greater health awareness in society. This is why Cologne promotes sport specifically as part of neighbourhood-based preventive health care.

3.3.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
▐ Ensuring high quality healthcare
▐ Nursing and care services
▐ Assistance for drug users
▐ Reducing urban pollution: Air quality and noise protection

Indicators:
▐ Premature mortality - women
▐ Premature mortality - men
▐ Number of hospital beds available
▐ Overweight/obese children at school entry (3-year average)
▐ Immission (ground level concentration) of air pollutants
▐ Day-evening-night and night noise levels
▐ Staff in care/nursing homes
▐ Staff in care/nursing services
▐ Places in care/nursing homes

3

3.3.4   Contributions of the City of Cologne to the SDG

Ensuring high quality healthcare

Under the provisions of the German Infection Protection Act (*Infektionsschutzgesetz* (IfSG)), an inspection must be conducted in all hospitals once a year to review hygiene protocols in place to prevent infection. Following the inspection, hospitals receive reports and plans of action with deadlines setting out shortcomings identified and steps to be taken to remedy these. Ideally, these inspections thus ensure that preventive action is taken to reduce the incidence of infectious diseases in hospitals.

Photo 14:   Seniors, Care and Active Aging

All districts and independent municipalities in the state of North Rhine-Westphalia (NRW) are supposed to ensure consistent monitoring of pharmacies and comparable workload among those covered by these regulations. Every pharmacy in NRW should undergo a (generally announced) complete audit on the premises at least once every three years. Depending on the results of this inspection, the period between audits may be extended to a maximum of five years on a case by case basis.

Various activities in the City of Cologne foster high-quality healthcare. **Social psychiatry centres** help people with mental health issues organise their daily lives. Medical specialists and therapists trained in psychosocial care offer counselling, contacts, leisure activities, assisted living services and support to find work and employment. Several times a year, Cologne stages health-related discussions, known as the **Kölner Gesundheitsgespräche.** These events, staged jointly by the Public Health Office and the adult education organisation Vokshochschule, offer health education on a number of different topics, with different speakers.

In 2020 Cologne published its **Cologne Drugs Strategy,** which sets out all services currently offered by the city to address drugs and drug users. The strategy was devised using participatory methods with the collaboration of all stakeholders involved in providing services for drug users. It sets out requirements, goals and steps to take for each of the milestones laid out (Ensure Survival, Foster Motivation to Make Changes, Support Change, Underpin Changes). The strategy was evaluated, guidelines drawn up and recommendations made for action. Cologne already has in place various **low-threshold drugs support services.** Examples include the drug addiction outreach service, which takes social workers out onto the streets of Cologne to offer support for drug users, a bus offering counselling services for young people and young adults, contact cafes and supervised drug consumption rooms.

To raise the awareness of Cologne's civil society in terms of dealing with the terminally ill, death and grieving, the network **Caring Community Köln** was founded in 2020, under the aegis of the Public Health Office and the Palliativ- und Hospiznetzwerkes Köln e. V. (Cologne Network of Palliative Care and Hospices). This integrated care network, that embraces both professionals and civil society actors, aims to realise model projects, put in place information platforms and establish a participatory round table, as well as conducting scientific evaluations so as to share knowledge and experience.

Within the scope of **youth work** and the **sex education offered by the Public Health Office,** special events and workshops on sex education for young people are provided (in various forms of secondary schools, special reception classes for international students, vocational education facilities and in refugee centres). Multipliers are also trained and upgraded in the field of sex education.

The **Netzwerk Frühe Hilfen** (Early-Years Support Network) funded by the Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ) and the Bundesstiftung Frühe Hilfen, a federal foundation that offers support for parents and during pregnancy, aims to network health services, child and youth support services and welfare services, putting in place the conditions needed for healthy child development from the outset. Local actors working in early-years support actively network and dovetail the services they offer in every district of the city. To this end, the heads of district youth services coordinate network meetings, which are held roughly every six months.

3

Nursing and care services

Demographic trends mean that massive efforts are needed to effectively ensure appropriate outpatient and nursing care for senior citizens in Cologne. Against this backdrop, the *Future of Nursing and Care* project was launched in 2019. By the end of 2024 it aims to achieve the following:

1. Secure municipal land for the construction of nursing and care facilities and demarcate land for the construction of nursing and care homes when new land is demarcated,
2. Speed up the process of obtaining building permits for ongoing projects
3. Conduct a neighbourhood-based needs analysis,
4. Attract skilled workers by making Cologne an attractive location to live and work in, (
5. Initiate a model project on cooperation in home-based nursing and care services,
6. Push and develop shared accommodation for elderly people as well as new forms of care and nursing services.

Photo 15: Barrier free living

In 2021 the project group to attract skilled workers drew up specific recommendations for action. Examples of ongoing activities include a kick-off workshop for experts involving key actors in nursing and care services, the private sector, the scientific and research community and the political arena, as well as representatives of civil society to drive forward the process in place to achieve the vision of CareCityCologne. Additionally, talks have been held with potential investors regarding the construction of care and nursing facilities, and guidelines for the construction of nursing and care (day) homes and housing for the elderly have been produced in collaboration with two experienced Cologne-based operators of nursing and care facilities. These guidelines are intended for reference purposes and provide information about the many requirements and provisions that apply to the planning and construction of nursing and care facilities. At the same time, the guidelines are intended

to share information and thus facilitate planning and help actors meet the requirements in place.

Since 2021, Cologne has been involved in the **Modellprojekt Guter Lebensabend NRW** (model project for a good end-of-life in NRW). The project aims to enhance the opportunities of all elderly people living in Cologne who have a migration background. Barriers to accessing assistance and nursing care services for senior citizens are to be overcome, and services made more intercultural and needs-driven. People who have emigrated to Germany are to have the same access to services in old age as all others. Accordingly, Cologne is drafting an action strategy for intercultural awareness on the part of providers of welfare and care for the elderly, and in the services delivered. Within the project the City of Cologne has, from the outset, worked closely with partners from the city's civil society that have extensive experience with the target group and have been an established part of the service operator landscape in Cologne for many decades. In addition to the City of Cologne, the NRW Ministry for Children, Families, Refugees and Integration has selected 21 other municipalities that are involved in the project.

The social isolation and loneliness suffered by elderly individuals is a key social problem that is set to worsen in future as a result of demographic change. **Senior citizen counselling services** in the individual districts of the city have since 2002 offered elderly people in need of support a team of professionals who can help them address the full spectrum of issues related to growing older. The aim is to counsel these people, providing a tailored, integrated range of services (an individual support network) such that they can continue to live an independent life in their own home. The counselling services in the various districts of Cologne have an average staff of 3.5 across the city. In 2019 they counselled 11,980 elderly people. A total of 4,717 home visits were conducted, 4,341 counselling sessions were held at the citizens' service centre and 7,648 in the district counselling units.

Since 2002, **Cologne's SeniorenNetzwerke** (Senior Citizen Networks) have been helping elderly citizens build a network in their own district on a self-help basis. The target group is made up of individuals with self-help capabilities. The programme was designed jointly by the City of Cologne, the welfare associations and the Senior Citizens' Representation, and is reviewed and refined on an ongoing basis. The objectives are laid out in a supplementary strategy (2020). They include encounters for elderly people and the development of shared activities, mutual support involving elderly and younger people, the promotion of voluntary engagement and stepping up general awareness and acceptance of elderly people in the districts of the city. The number of networks has continued to rise over recent years. Currently some 6,000 people in over 60 districts of the city make use of the services.

Haushaltsnahe Dienste (household services) address people who need support with their household activities but have limited financial resources and whose needs are not covered by the long-term care insurance. The services are intended to help these people cope with their everyday household work, enabling them to stay in their own homes for as long as possible. **Preventive house calls** address people aged 75 and over, who are not informed about social services and do not participate in communication in public spaces. Their purpose is to identify the needs of elderly people, spot risk factors in good time and facilitate access to existing counselling and support services, as well as social networks in place locally. In 2020, within the scope of preventive house calls, individuals were matched with household services in 417 cases (delivered by various providers).

Since 2006 Cologne has also had **services to make life easier for people with dementia and their families.** These services aim to uphold and strengthen the willingness of families to care for sufferers at home, and to enable people with dementia and their families to participate to a greater extent. The full-time staff of the service recruit voluntary assistants to relieve the stress on the families. They train, place and sup-

3

port these assistants. The goal is to enable people with dementia to retain their independence for as long as possible. A full-time coordinator works in every district of the city.
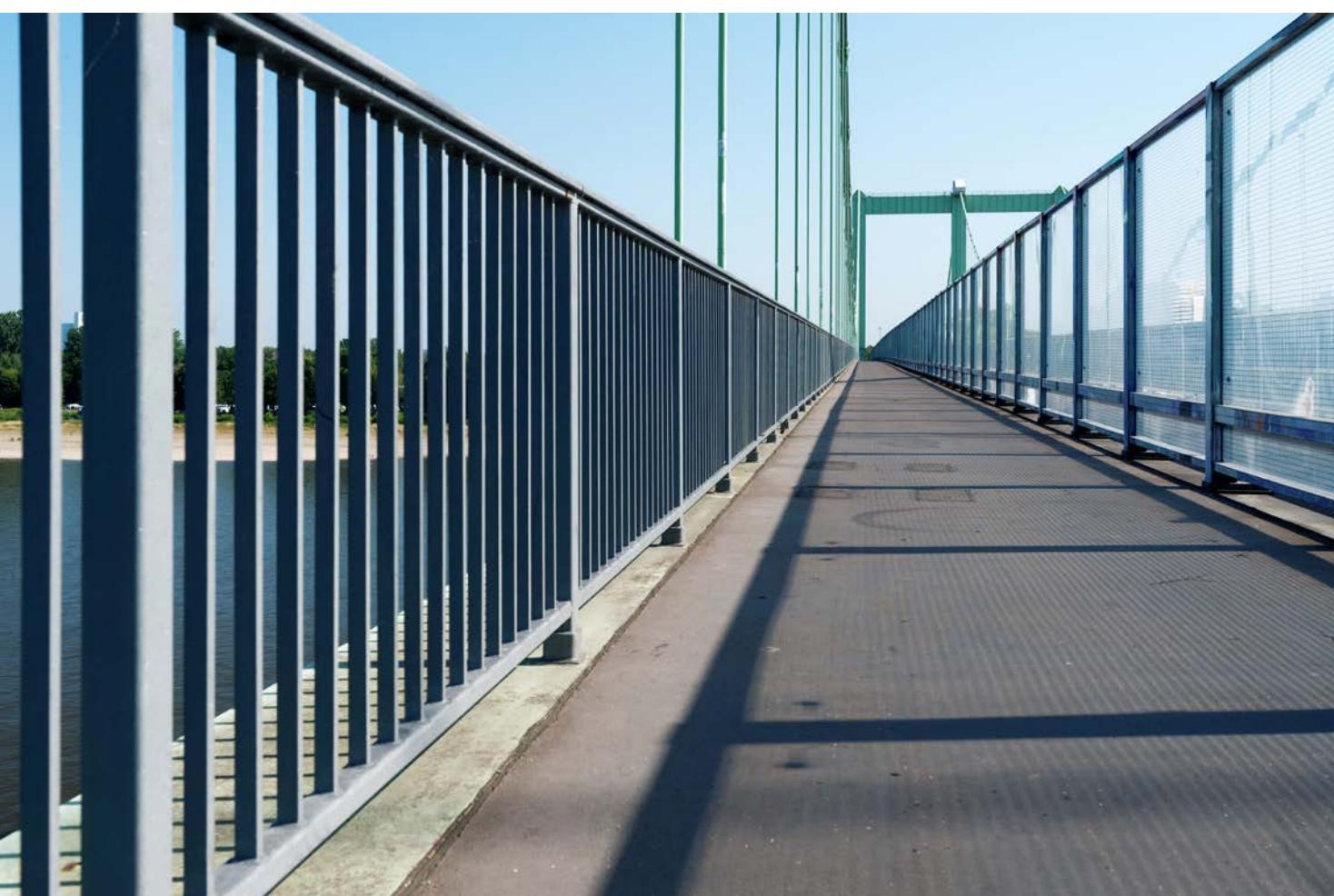
Assistance for drug users

In recent years the Public Health Office has expanded the range of *assistance available to drug users.* Mobile support services were launched in 2019, with a bus offering counselling and drug consumption facilities, while a drug consumption room with contact unit was opened at the Public Health Office in 2022. Users of illegal drugs now have a range of health services and support services to ensure their survival and help them stop using drugs. The two pillars of assistance (counselling by social workers and medical care) have thus been supplemented by a third pillar. Public spaces also benefit from a reduction in drug-consump-

tion-related conduct. The assistance team (medical specialists and social education workers) provide information about infections, wound management, safer drug use and lower-risk consumption. Over and above the initial counselling, users are informed about counselling and treatment services available that aim to help users end drug use. The overarching goal is to place users in further-reaching assistance services, including substitution treatment.

The next step is to further extend the opening times of the drug consumption room at the Public Health Office and to establish assistance services for drug users in city districts on the right bank of the Rhine.

Photo 16:   Example image - footpath of a highway bridge

Reducing urban pollution:
Air quality and noise protection

Reducing the pollution of soil, water and air is a central responsibility of the City of Cologne. In terms of air, in 2022 the NRW State Office for Nature, the Environment and Consumer Protection (LANUV) operated a total of 20 measuring stations within Cologne, to record air pollution. Depending on their locations, these stations record industrial, traffic-related and background pollution, meaning that the pollutants involved also vary. To reduce air pollution on a sustainable basis and comply with the immission limits, the updated **Clean Air Plan** was published in 2021, along with numerous packages of measures. 2019 saw the last failure to comply with immission limits for nitrogen dioxide (NO_2). Since then, levels measured at all stations have complied with the limits.

A high level of noise nuisance is a serious health risk. Against this background the EU Directive 2002/49/EC relating to the assessment and management of environmental noise aims to reduce environmental noise. The Directive has been translated into German law, requiring municipalities to draw up noise maps and devise plans on this basis to tackle environmental noise. Accordingly, the City of Cologne is realising its **Noise reduction-air pollution control concept study** along with a Noise Action Plan and a Noise Map. In 2016 the City Council adopted a list of activities and measures for its Noise Action Plan, as well as deciding to publicise the Noise Action Plan. In 2021 the additional conceptual study on air/noise was commissioned to prioritise roads demonstrating multiple problems and to bring together noise reduction and clean air planning.

Photo 17:   Cologne Perspectives 2030+ Future Forum 2019

3

3.3.5   Indicators

**3 GOOD HEALTH
AND WELL-BEING**

Immission of air pollutants

Median concentration of particulate matter with a maximum diameter of 10 micrometres (PM_{10}) measured in the air at LANUV measuring stations in the City of Cologne (Source: LANUV NRW, calculations of the City of Cologne)
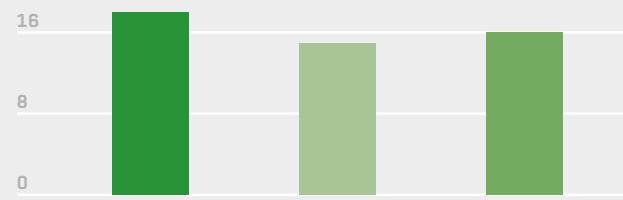
This indicator shows the impacts of disruptive factors on humans and the natural environment. Particularly high levels were recorded resulting from power generation, road traffic, agriculture and industry. Particulate matter (PM) is considered particularly prejudicial to human health and is particularly problematic in densely settled areas. Limits are set by the European Union and the World Health Organization. At the LANUV measuring stations within the City of Cologne the median concentration of airborne particulate matter with a maximum diameter of 10 micrometres (PM_{10}) was 15 µg/m³ in 2020 and 16 µg/m³ in 2021. Objective 3.2.b of the German Sustainable Development Strategy states, "WHO particulate matter guideline value of 20 µg /m³ to be adhered to as widely as possible by 2030". The City of Cologne was already below this limit in 2019, and has not

Immission of air pollutants

| **18** µg / m³ | **15** µg / m³ | **16** µg / m³ |
| 2019 | 2020 | 2021 |

since exceeded the mean. Since 2005 the daily mean limit of 50 µg/m³ may only be exceed on 35 days in any year. In 2021 the mean was exceed on only three days in Cologne, making it an exceedingly rare occurrence. In 2021 all measuring stations in Germany complied with the limit.

**3 GOOD HEALTH
AND WELL-BEING**

Day-evening-night and night noise levels
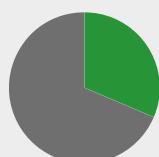
Percentages of the total population adversely impacted by road traffic noise levels (Source: City of Cologne)

Various road traffic measures are being taken in the city (e.g. laying noise-reducing road surfaces, reducing speeds, planning street environments, banning heavy good vehicles) to reduce noise and thus slightly decrease the number of people adversely impacted (if we compare the figures for 2013 with those for 2017), as well as changing the modal split. The available data are constantly improving, which might also affect the trends in terms of the numbers of people adversely impacted. Since 2019, the EU's Common Noise Assessment Methods (CNOSSOS) have provided a new basis for calculating noise levels, which is why we can expect an increase of up to 50% in the numbers of people affected calculated on this new basis. The aim is essentially to reduce the number of people affected by both day-evening-night and night noise levels arising from road traffic. In the internal administrative circular issued by the NRW Ministry for the Environment and Nature Conservation, Agriculture and Consumer Protection (2008) on noise action plans, levels of 70 dB(A) for LDEN and 60 dB(A) for LNight were stipulated. Priority noise reduction measures are to be taken on road sections where this trigger point is reached.
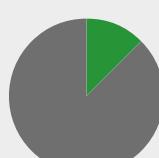
Day-evening-night (LDEN)
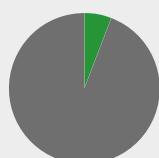
> 55 dB(A) **31.5** %   **28.7** %
2013   2017

> 65 dB(A) **12.7** %   **9.5** %
2013   2017
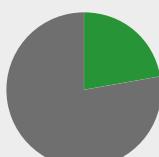
> 70 dB(A) **6.1** %   **2.3** %
2013   2017
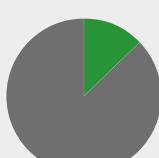
Night (LNight)
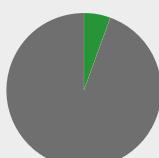
> 50 dB(A) **22.4** %   **20.8** %
2013   2017

> 55 dB(A) **13.0** %   **11.3** %
2013   2017

> 60 dB(A) **5.8** %   **3.7** %
2013   2017

3

3 GOOD HEALTH AND WELL-BEING

Number of hospital beds available
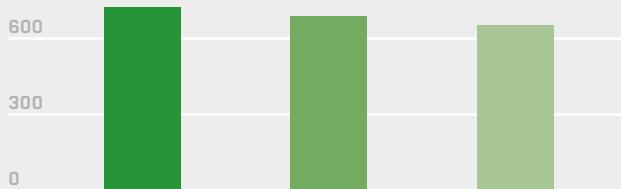
Number of hospital beds available per 100,000 inhabitants. (Source: SDG Portal)

Across-the-board hospital coverage is an essential service. Hospitals must act in line with strict, economic parameters while also guaranteeing a high quality of medical care. This can result in a reduction in available services. Rationalisation measures mean that hospital services close to home are increasingly a prerogative of urban areas, while inhabitants of rural areas are less likely to have this advantage.

Over the period under review the number of beds per 100,000 inhabitants has fallen slightly in Cologne (2019: 654.4 beds). The average for the state of NRW is similar, at 656.8 per 100,000 inhabitants according to the most recent figures available (2019). The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to this indicator.
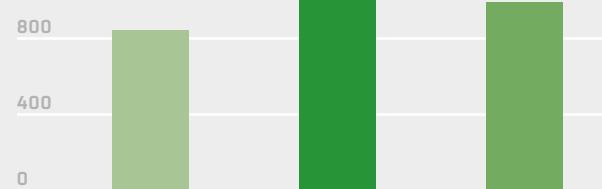
Number of hospital beds available

722.9 Quant. 2010   **689.5** Quant. 2015   **654.4** Quant. 2019

Staff in care/nursing homes

846.3 Quant. 2010   **1009.9** Quant. 2015   **995.2** Quant. 2020

Staff in care/nursing homes

Staff in care/nursing homes per 10,000 inpatients (Source: SDG Portal)

3 GOOD HEALTH AND WELL-BEING

Demographic developments mean that the number of people in need of (nursing) care is rising steadily, and rising life expectancy is also raising the average number of years for which people require (nursing) care. Together, these two trends are a major staffing and financial challenge for Germany's health system in its current form. The number of full-time equivalent posts per 10,000 people in need of (nursing) care

in the City of Cologne has declined slightly since 2015 to 995.2 in 2020. This is, however, still well above the NRW average of 919.7 full-time equivalent posts (2020). The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to staff working in nursing and care homes.

3 GOOD HEALTH AND WELL-BEING

Premature mortality - women

2010	2015	2020
0.9	**0.9**	**0.8**

Number of deaths of women under the age of 70 per 1,000 inhabitants (Source: SDG Portal)

The number of premature deaths among women under the age of 70 per 1,000 inhabitants can provide information on health risks and problems in the health system. It can be said that the probability of premature death among women under the age of 70 is significantly lower than it is for men. This might be a reflection of their choice of occupation, a healthier lifestyle or their willingness to attend health checks and screening. In the City of Cologne this indicator shows a slight downwards trend. 0.8% of 1,000 women under the age of 70 died prematurely. The average for NRW as a whole was 1.0 deaths per 1,000 inhabitants according to the latest figures (2020). This trend is in line with Objective 3.1.a of the German Sustainable Development Strategy (Premature mortality to be reduced to 100 cases per 100,000 inhabitants (women) by 2030).

3 GOOD HEALTH AND WELL-BEING

Premature mortality - men

2010	2015	2020
1.5	**1.3**	**1.3**

Number of deaths of men under the age of 70 per 1,000 inhabitants (Source: SDG Portal)

The number of premature deaths among men aged under 70 is the male equivalent to the above (Premature mortality - women). In the City of Cologne the figure has been unchanged since 2015 at 1.3 premature male deaths per 1,000 inhabitants. The average for NRW as a whole was 1.6 deaths per 1,000 inhabitants according to the latest figures (2020). This trend is in line with Objective 3.1.a of the German Sustainable Development Strategy (Premature mortality to be reduced to 190 cases per 100,000 inhabitants (men) by 2030).

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3 GOOD HEALTH AND WELL-BEING

Overweight/obese children at school entry (3-year average)

2015	2017	2019
10.8	**10.6**	**10.7**

Three-year average of the percentage of overweight children at the school entry examination (weight categories based on Kronmeyer-Hauschild) (Source: City of Cologne-Office for Urban Development and Statistics)

People who are overweight are at greater risk of developing many other diseases including high blood pressure, heart conditions and diabetes. Children who are overweight suffer not only impacts on their current and future physical health, but are at greater risk of suffering mental health issues too as a result of marginalisation by their peers. Between 2015 and 2019 the 3-year average percentage of overweight children at school entry was between 10.6% and 10.8% of all children attending the school entry examination. This means that more than one child in ten is overweight, which is about average in NRW. The lower the educational level of parents, the higher the percentage of children who are overweight. In families where the parents have only a low level of education about one child in five is already overweight before they go to school.

3 GOOD HEALTH AND WELL-BEING

Staff in care/nursing services

2010	2015	2020
0.20	**0.17**	**0.11**

Staff in out-patient care services per patient
(Source: SDG Portal)

Demographic developments are steadily pushing up demand for health services and rising life expectancy is also raising the average number of years for which people require (nursing) care. This is reflected above all in demand for out-patient (nursing) care services. Better working conditions with a lighter workload for staff is needed to ensure that people can be cared for with dignity and to protect the (nursing) care system in Germany from collapse. In the City of Cologne this indicator shows a downwards trend. In 2020 the city had 0.11 staff members (full-time) per patient in need of care. In 2015 the figure was 0.17. This trend is slightly below trends for NRW as a whole (2020: 0.12 staff members per patient in need of (nursing) care). The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to this indicator.

3 GOOD HEALTH AND WELL-BEING

Places in care/nursing homes

2010	2015	2020
43.5	**44.9**	**42.5**

Number of inpatient places available in (nursing) care homes per 1,000 inhabitants over the age of 65. (Source: SDG Portal)

Given the major staffing and financial challenges facing Germany's health system, the number of available inpatient places in (nursing) care homes is vitally important. Demographic change is altering demand for places in (nursing) care homes. The situation is further complicated by social needs, which dictate the need for a place in a nursing/care home close to the person's last home, to facilitate regular visits and allow residents to maintain their social contacts. The City of Cologne has seen a slight decline in the number of places available to 42.5 places in nursing/care home per 1,000 inhabitants aged 65 and over (2020). NRW as a whole has slightly more places per 1,000 inhabitants over the age of 65 (2020: 50.4) The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to this indicator.

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3.4   SDG 4 - Quality Education
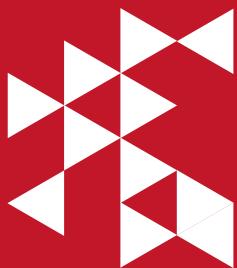
3.4.1   SDG 4 - Introduction and relevance for German municipalities

Education plays a key role in successfully implementing the 2030 Agenda. SDG 4 therefore aims to ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all. Education is the prerequisite for a self-determined life and for social, economic and political participation. In line with the concept of lifelong learning, this includes all phases from early childhood upbringing up to adult education. In Germany, social background is one factor that continues to have a major influence on educational opportunities. Accordingly, creating equal opportunities in all areas of education is an important goal. Besides personal education, Education for Sustainable Development (ESD) is another component of SDG 4. ESD is a form of education that enables people to think and act with a view to the future. It enables individuals to understand the effects of their actions and make responsible decisions.[14] Overall, the themes that are relevant to German municipalities can be summarised as follows (please also compare these with the targets for SDG 4 in the annex):

▌ Promoting quality education and lifelong learning for all (early childhood upbringing and schooling, adult education)
▌ Implementing and supporting Education for Sustainable Development.

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14   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.4.2   Links to Cologne's objectives

Cologne will foster access to education and qualification, as the key to citizen participation. (Objective 3.5, Cologne Perspectives 2030+)
One of the most important duties of the City of Cologne is to guarantee a wide spectrum of reliable, high quality education services that give all citizens an equal opportunity to access these services, enabling them to take charge of their lives and participate fully.

Local education management also lays the foundations for career prospects, individual career paths and lifelong learning. Since education is a key resource for Cologne as a centre of manufacturing, innovation and knowledge, it is also the foundation for the future viability of the region.

Learning, however, takes place not only in schools, but also in daycare, youth facilities, advanced training centres, museums, theatres, sports clubs and many other places and on other occasions, and of course across all age groups.

To future-proof Cologne's education services, new infrastructure and services must be put in place, and existing services better coordinated. Existing services are to be optimised in terms of quality and access through dialogue and cooperation, making a lasting improvement to services in all areas of lifelong learning in Cologne.

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3.4.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
▮ Lifelong learning at local level
▮ Education for sustainable development in local authority facilities
▮ Cooperation arrangements on sustainability issues with other education and cultural facilities

Indicators:
▮ Childcare (for the under-threes)
▮ Integrative nursery facilities
▮ Primary schools close to home
▮ School leavers without qualifications
▮ 30-34-year-olds with tertiary or post-secondary qualifications

3.4.4   Contributions of the City of Cologne to the SDG

Lifelong learning at local level

Cologne is a centre of education, with a wide spectrum of services offered by different facilities. In terms of schooling, the *Updated School Development Plan Cologne 2020* sets out measures to be implemented by 2030 in order to ensure that Cologne's school landscape develops in line with needs. The School Development Plan will be updated again in 2023 on the basis of the new localised population forecast for the city up to 2035. Cologne also has a *School Development Plan for Vocational Colleges in the City,* which is currently being updated. A vision and areas of action and measures are being drawn up using a strongly participatory process. Some of the main outcomes of the education monitoring system are indicator-based reports on progress made in the field of inclusion at Cologne's schools (published annually), on school education (published biannually and addressing topics such as the move from primary to lower secondary school, moving from one type of school to another, school leavers without qualifications, etc.) and on other areas of education such as early childhood education (as required). Many schools in Cologne are also involved in the *LESEMENTOR Köln* (Cologne Reading Mentor) project which has been helping children and young people develop their reading and language skills since 2010. At the end of 2021 Cologne City Council adopted the latest *Children and Youth Support Plan,* which presents the substance and financing of work to support children and young people, and sets out a plan of measures with financing for the period 2021 - 2025. In terms of daycare for children, regular *status reports on the extension of daycare services in Cologne* are published, setting out the current status and the planned development of daycare services. The Youth Unit is currently preparing an updated Youth Support Plan for the quantitative and qualitative development of daycare services for children, which will involve approved

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providers of youth welfare services at an early stage. A new strategic framework plan is to be submitted to the political level at the end of 2023 or the start of 2024.

With a view to the non-school sector, the services provided by the **Volkshochschule** adult education organisation in particular open up several further training options. The services offered are broken down into the subject areas political education, cultural education, health education, languages and technical and vocational education and training. Education for sustainable development is also a key concern of the Vokshochschule. The **Cologne Education Model,** devised by the Office for Social Affairs, Labour and Senior Citizens, with the support of the city's Kölner Bündnis für Arbeit (Cologne Alliance for Work), offers people over the age of 25 the opportunity to acquire vocational qualifications module by module.

The systematic networking of school and non-school actors is the responsibility of the **Regional Education Office.** Within the framework of a cooperation agreement between the state of North Rhine-Westphalia (NRW) and the City of Cologne, the Education Office, which manages the Cologne Education Network, supports systematic cooperation between actors in the city and the wider state of NRW. Common fields of action are updated regularly through the steering committee of the Regional Education Network.

Sports and physical exercise contribute in no small way to preventive health, integration and social learning. That makes them an indispensable part of local lifelong learning. The City of Cologne supports this with a **Sports Development Plan** which comprises numerous services. Special mention should be made of the low-threshold, free sporting activities that are on offer in all districts of the city in cooperation with the *Stadtsportbund* (city sports association) under the banners *Kölle Aktiv* and *Sundaach Aktiv,* as well as the networking with all sporting actors in the different districts of the city under the *Sport in Metropolen* programme and the model project to open school playgrounds for sports and general exercise.

Photo 18: Children, learning, school

Education for sustainable development in local authority facilities

Actors in Cologne shape the regional education landscape with a wide spectrum of education services for sustainable development. Education for sustainable development is first and foremost an education concept that addresses the entire chain of education with cross-cutting issues that affect every link in the chain.

Since 2021 Cologne has been part of a nationwide programme. It is one of 50 model municipalities involved in the Federal Ministry of Education and Research (BMBF)'s programme **Bildung - Nachhaltigkeit - Kommune - BiNaKom** (Education - Sustainability - Municipality). The goal in Cologne is to make education for sustainable development a mandatory cross-cutting issue and mainstream it as such in the structures of the regional education networks. Education for sustainable development is to be a shared and mandatory education concern of the whole of society in the city. A Cologne working group brings together the Office for Urban Development and Statistics, the Office for Advanced Training/Adult Education, the Youth Welfare Office, the Office for the Environment, the Youth Support and School Development Plans and the Regional Coordinator of School Inspectorates. Now that Henriette Reker, Mayor of Cologne, has signed the agreement on objectives for the model municipality, the first steps will involve revising the Education for Sustainable Development pages on the City of Cologne website, and planning the up and coming 2022/2023 education conference on Education for Sustainable Development in in the social sphere. The Regional Education Office coordinates the agreement on objectives for the model municipality and is involved in the content and organisation of both projects (website and education conference). It is the lead organisation for the education conference.

The **Holistic Environmental Education Strategy for Cologne,** adopted by Cologne City Council in 2018, offers a framework within which education for sustainable development is also to be developed on an ongoing basis in Cologne. It is thus a key building block in the city's work for sustainability. The strategy is to help network environmental actors in Cologne, enable them to undertake joint activities and harness synergies. To this end, the **BNE-Netzwerk Köln** (Education for Sustainable Development Network in Cologne) was founded by the city and the regional centre Querwaldein e.V. It brings together the networks on environmental education and education for sustainable development, within the scope of which education actors in Cologne discuss aspects of sustainability and network. To further support environmental education goals, a **Programme to Support Environmental Education Projects** was established in October 2020 (by April 2022 funding of EUR 100,000 had been approved).

The aim is to promote education measures in the fields of nature/biodiversity, climate, lifestyle and consumption, and resources. There is to be a special focus on introducing children and young people to the natural environment in a hands-on manner, and making them aware of the major ecological interdependencies, such as climate change and the impacts it has. To bring together environmental education services in one place, in 2017 Cologne City Council also decided to found the **Gut Leidenhausen Environmental Education Centre.** Examples of services currently on offer include a wild bee nature trail and a forest school.

These are only two examples taken from the wide spectrum of services available. The adult education organisation **Volkshochschule (VHS) Köln** has a key role to play in education for sustainable development. The VHS programme for 2022 has integrated "sustainability" as its topic of the year. Under the banner "Learning sustainably today for tomorrow" the topic of the year is fully aligned with the Sustainable Development Goals (SDGs) and is designed to clearly demonstrate how *Vokshochschule* and its programme can help achieve the SDGs. Sustainability has been made a strategic development goal at VHS in line with the "learner-oriented quality certification in advanced

education" model. One important VHS project in the field of education for sustainable development is the Thurner Hof organic garden. Environmental education courses are offered regularly in this, the oldest community garden with its own bee-keeping. Gardening and bee-keeping is in line with sound environmental principles (Environmental award: 30th anniversary of the launch of environmental education at Thurner Hof). In 2022 the "klimafit" course was incorporated in the VHS programme. This World Wide Fund for Nature Deutschland/Helmholtz Regional Climate Change and Humans programme offers participants facts and possible courses of action for local climate change mitigation.

Under the auspices of Cologne VHS, the partners involved in the project (TH Köln, Lernende Region-Netzwerk Köln, Veedel e.V., GAG Immobilien AG, Landesverband der Volkshochschulen von NRW e.V., VHS Viersen, VHS Minden, VHS Krefeld, VHS Köln) run the project of the NRW Ministry for Cultural Affairs and Science on **education for sustainable development in urban and rural social spaces.** It aims to translate sustainability into practical terms that relate to the everyday lives of all members of society, getting people in social spaces involved in realising sustainability in line with their own surroundings. By way of preparation, a conference on Practical Education for Sustainable Development for All is to be held. Based on a needs analysis and with civil society actors, content-specific and methodological/didactic strategies are to be elaborated during the conference that will help communicate education for sustainable development in a manner specifically tailored to different contexts. Subsequently, a pilot project entitled "Education for sustainable development as an educational topic in social spaces" is to be implemented in Cologne. The focus will be on self-efficacy of people at local level and internalising the imperatives of sustainability.

Within the scope of the annual **MINTköln Festival** staged by Cologne's Municipal Library, which enables young people to gain practical experience of science and technology, various sustainability-related issues will be addressed, including upcycling and zero waste. Additionally, the Municipal Library is offering a series of **Maker Kids** events to educate children in the field of technology and engineering.

For many years the City of Cologne has run a project to encourage schools to save energy under the banner **KLASSE - KlimaAktion: Schulen sparen Energie.** The **Cologne School Garden Network** project (with the pilot projects Gardening with Kids), which is coordinated by an Information Unit for Environmental Education at Schools, also allows school gardeners in Cologne to share information and experience. The **Programme to Support Municipal Nurseries** offers staff of municipal nurseries upskilling in a variety of areas including "Get Involved in Practical Education for Sustainable Development". With the help of the **Nature Explorer Toolbox** (material and newsletters for nurseries), a project which has been implemented since 2014, children are introduced to the importance of biodiversity. Other offers of education for sustainable development target diversity and inclusion (delivered by Cologne's Museum Service which is responsible for the educational services provided by the city's nine museums) as well as addressing racism and discrimination (delivered by the City of Cologne's Documentation Centre for National Socialism).

Cologne's municipal waste management and recycling company **Abfallentsorgungs- und Verwertungsgesellschaft (AVG) Köln** is actively engaged in the field of education for sustainable development. It runs educational services for citizens (guided tours Monday to Friday, a representative on the city's education portal, support for social facilities in the north of the city, financing neighbourhood culture under the Kultur im Veedel (Culture in the Neighbourhood) programme, and a forum for Cologne-based artists **Treff am Ofen** staged at an incineration plant) and for schools (in-service teacher training, age-appropriate guided tours for children and young people, company premises at Geestemünder Straße as an environmental education learning site, and support for the Out of School initiative for young people from social hotspots). The team of advisors from the municipal waste management utility **AWB** also provides

information for children, young people and adults in Cologne on waste avoidance, recycling stations and keeping the city clean. In its capacity as a waste management enterprise, AWB strives for sustainability and works for active environmental protection and the conservation of natural resources. AWB's educational specialists advise school classes at all levels and in all school types in Cologne. These services, which are available free of charge, aim to raise the awareness of children and young people by providing information and education at an early stage. AWB is involved in special events, where it presents these issues. As well as instructional materials for teachers and educational films, it also offers activities and guided tours of its premises.

These offerings in the field of education for sustainable development certainly foster sustainability in the everyday lives of the population. The programmes offered by *Vokshochschule* in the fields of the environment, climate and sustainability comprise a wide range of events which specifically aim to foster this awareness in daily life (with, for instance, seminars on sustainability in everyday life, sustainable consumption for parents, climate action at your front door, cycling for the mobility transition, and sustainable finance). The services offered by the Municipal Library are also particularly relevant in this context. Other examples in Cologne include urban gardening projects and garden laboratories (services for gardeners in the city that specifically address people in social spaces). At the regional education conference on 14 March 2023 a common understanding of education for sustainable development was hammered out with actors from the municipality and civil society, and the way forward explored from ambitious stand-alone projects to a cross-cutting issue that affects everyone. The pertinent recommendations are to be evaluated by the steering committee.

Photo 19:   ESD Experiment Kit New Energy
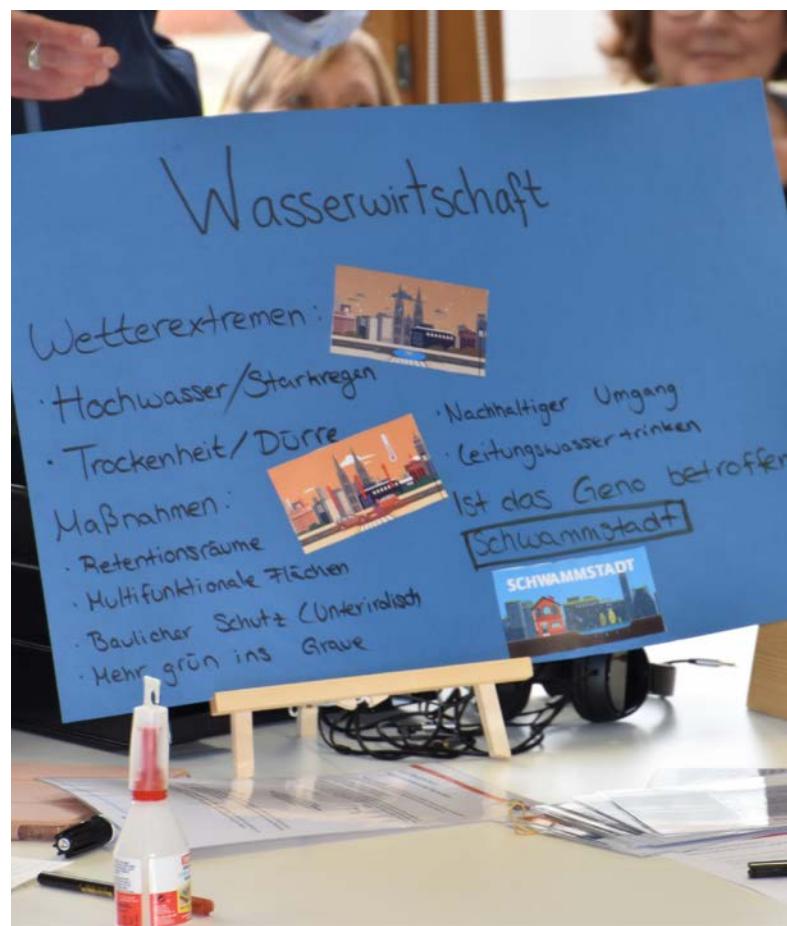
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Cooperation arrangements on sustainability issues with other education and cultural facilities

With a view to cooperation arrangements and education for sustainable development in facilities that are not operated by the municipal authorities, the Education for Sustainable Development Network that is jointly operated by the Office for the Environment and the association Querwaldein e.V. (regional centre for education for sustainable development) performs valuable work, as do a number of non-school learning sites. School classes in particular, and nursery groups, can visit these **environmental education sites and facilities** in Cologne and the wider region. Children, young people and adults can experience the natural environment here, in line with their motto "Get dirty - Get informed - Get involved". Examples include an organic farm, the water school, a waste disposal centre, a soil nature trail, an adventure museum and a natural park. To make scientific and research work on the Global South accessible to the population, the City of Cologne is cooperating with the **University of Cologne** on a number of projects, including Fairtrade University and Global South Studies Center.

Various annual events also aim to share knowledge relating to the field of sustainability. The **Seed Festival** is staged jointly by the *Verein zur Erhaltung der Nutzpflanzenvielfalt* (Association for the Preservation of Crop Diversity), the Cologne Community Gardens, *Volkshochschule* and the *Ernährungsrat Köln & Umgebung - Essbare Stadt* (Nutrition Advisory Council for Cologne and the Surrounding Area - the Edible City). Information booths, workshops and seed exchanges help communicate an understanding of biodiversity as well as fostering species diversity. The *Human Rights Forum* has been organised jointly by Amnesty International Cologne, *AWO Bezirk Mittelrhein* (Workers' Welfare) and *Volkshochschule* since 2015. It marks International Human Rights Day, providing information on different topics every year (e.g. human rights in the city - experience diversity and overcome inequalities).

Other networks should also be mentioned that engage in cooperation. They include the district conferences and topic-specific working groups within the districts of the city, the *Kölner Forum gegen Rassismus und Diskriminierung* (Cologne Forum against Racism and Discrimination), the *Arbeitskreis Behindertenpolitik* (Working Group on Policy for People with Disabilities), the *Arbeitskreis Diversity* (Working Group on Diversity), the *LESEMENTOR Köln,* steering group, the *Aktionsbündnis Kinderfreundliche Kommune* (Alliance for Action on Child-Friendly Neighbourhoods), the coordination group *NRWeltoffen,* the *Anti-Bias-Netzwerke gegen Diskriminierung und Ausgrenzung* (Anti-Bias Networks Against Discrimination and Marginalisation), the *Arbeitskreis zum Internationalen Tag der Menschenrechte* (Working Group on International Human Rights Day), the *Eine-Welt Stadt Köln* (One-World City Cologne Network) and the *Alphanetz NRW,* Region Süd.

Photo 20:   Teaching series "Climate & Water in Transition" of the Water School Cologne

3.4.5   Indicators

4 QUALITY EDUCATION

Childcare (for the under-threes)

Percentage and quota of under-threes in daycare facilities (nursery/daycare)
(Source: City of Cologne - Office for Urban Development and Statistics)

Nurseries and daycare offer early childhood educa-tion and prepare children for primary school. They also enable parents to go back to work. This indicator does not, however, allow us to make any deduction regarding the quality of early childhood education and visiting daycare is not a mandatory precondition for preparing children for primary school. In the City of Cologne the percentage of children under the age of 3 visiting daycare facilities has risen steadily, and stood at 35.9% in 2020. When interpreting the data it is important to note that the figures relate to one date and count the number of children enrolled in a nursery or daycare on that date who are (still) under the age of 3. A distinction must be made between this figure and the number of places available which is the

figure more often used by experts and which is thus taken as the basis for technical and political discus-sions. This refers to the number of places allocated to children under the age of 3. At the start of a nurs-ery year these places are always allocated to children under the age of 3, some of whom will however turn three during that nursery year. These children would not then be counted in the first figure. The coverage rate for children under the age of 3 for the nursery years 2013/14, 2018/19 and 202/21 were as fol-lows: 36.3%, 42.9% and 46.3%. The German Sustain-able Development Strategy sets the target (4.2.a) of providing all-day care for at least 35% of children aged 0 to 2 by 2030.

Childcare (for the under-threes) - Percentage
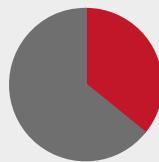
27.4 % 2013/14   **33.6** % 2018/19   **35.9** % 2020/21
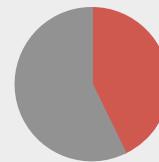
Childcare (for the under-threes) - Quota
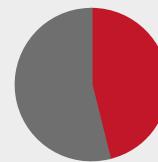
36.3 % 2013/14   **42.9** % 2018/19   **46.3** % 2020/21

4 QUALITY EDUCATION

Integrative nursery facilities
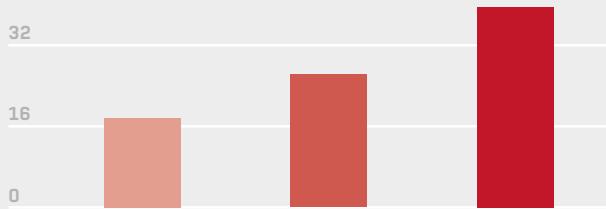
Number of integrative nursery facilities as a percentage of all daycare facilities
(Source: City of Cologne - Federal Statistical Office Education Monitoring)

In Cologne's municipal nurseries inclusion has been a self-evident and integral part of daily work for many years. The goal is for all children in Cologne to be able to participate in nursery life without restriction. The percentage of nursery facilities offering integration has more than doubled since 2011. In the course of
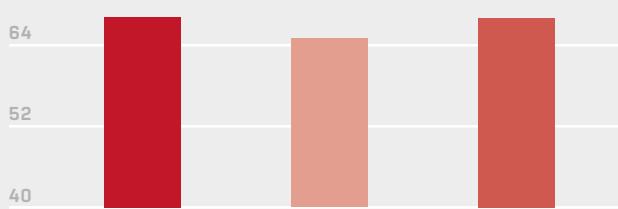
implementing the UN Convention on the Rights of Persons with Disabilities, all children with disabilities and children who face the risk of disability are to be offered a place close to their homes, ideally in the closest facility that is within easy walking distance.

Integrative nursery facilities

17.6 Num	**26.2** Num	**39.5** Num
2011	2015	2020

30-34-year-olds with tertiary or post-secondary non-tertiary qualifications

68.2 Num	**65.0** Num	**68.0** Num
2017	2018	2019

30-34-year-olds with tertiary or post-secondary non-tertiary qualifications

Number of 30-34-year-olds with tertiary or post-secondary non-tertiary qualifications)as a percentage of all inhabitants aged 30-34 (Source: Results of the microcensus IT.NRW 2022)

4 QUALITY EDUCATION

Key transitions in the lives of young adults are finding employment after completion of training or the phase of tertiary education followed by the entry into working life. Slightly more than two thirds of 30 to 34-year-olds in Cologne had a tertiary or post-secondary non-tertiary qualification during the period 2017-2019. This figure is significantly higher than

the NRW average which stands at about half of 30-34-year-olds. One of the most important duties of the City of Cologne is to guarantee a wide spectrum of reliable, high quality education services and to offer and develop education services and access to education for people in every situation.

4 QUALITY EDUCATION

School leavers without qualifications

School leavers without qualifications as a percentage of all school leavers (general schools/vocational schools offering general school leaving qualifications) (Source: SDG Portal)

The percentage of school leavers without even the lowest secondary school leaving certificate (Hauptschulabschluss) provides information on the percentage of individuals completing compulsory schooling without any school leaving qualifications, not even a leaving certificate from a special needs school. In the City of Cologne the percentage of school leavers without qualifications demonstrated a downward trend, and stood at 1.6% in 2020. This is equivalent to the average for municipalities in NRW: (2020: 1.6%). It is significantly more difficult to enter working life in Germany without a school leaving certificate (at least a Hauptschule certificate). Holders of leaving certificates from special need schools suffer the same difficulties. This percentage dropped from 2005 (8.3%) to 2017 (4.6%) and has since risen again (2018: 5.9% and 2019: 6%). The groups of authors on education reporting note that nationwide in Germany 26% of school leavers with only a middle school certificate (mittlere Reife) find themselves in a particularly precarious transition process. 24 months after leaving school almost half of them are either in unskilled

School leavers without qualifications
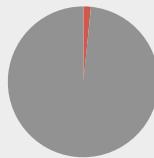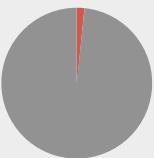
2.3 % 2010   **1.9** % 2015   **1.6** % 2020

jobs or unemployed. In Cologne these young people have been targeted for many years by the counselling service Unversorgtenberatung for Hauptschule school leavers. Since last year the service has been expanded to include Realschule school leavers. The counselling service is organised by the lower school inspectorate and youth careers assistance in cooperation with out-of-school advisory institutions. The German Sustainable Development Strategy's Objective 4.1.a aims to steadily reduce the percentage of early school leavers (18-24-year-olds without school leaving qualifications).

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4 QUALITY EDUCATION

Primary schools close to home

2010	2017	2020
n/a	496.0 m	n/a

Mean direct distance to the closest primary school (Source: SDG Portal)

The number of primary schools in a municipality has a major impact on the everyday life of young families. When children have to travel further to get to school the longer route is not the only problem. It also entails greater organisational difficulties for the family. There is not enough statistical data available in the City of Cologne to identify any trends. In 2017 the

mean direct distance to the nearest primary school was 496.0m. The average for the state of NRW was 833.0m in 2017. No figures are available for the national level and no objectives were found in the Sustainable Development Strategies at national level or state level in NRW.

3.5   SDG 5 - Gender Equality

3.5.1   SDG 5 - Introduction and relevance for German municipalities

SDG 5 aims to achieve gender equality and em-power all women and girls. The equality of all gen-ders is a universal human right, and includes equal participation in political, economic and public life. One focus of German gender equality policy is equal rights for women in the labour market. This includes women assuming leadership positions, achieving a work-life balance, reducing the gender pay gap and raising the status of social professions in which predominantly women are employed. Since gender-based discrimination and violence in all its forms is still widespread in Germany, preventing violence and supporting people affected by it also play an important role. It is also important to im-prove the relevant support structures. A further focus is creating an enabling environment for an equal distribution of gainful employment and care work between women and men (including work within the family, domestic work and voluntary work).[15] In summary, for German municipalities the following themes are particularly relevant (please also compare these with the targets for SDG 5 in the annex):

▎ Promoting the equality of all genders
▎ Reducing gender-based discrimination and vio-lence.

15   See Germany´s Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.5.2   Links to Cologne's objectives

Principle of gender equality as set out in the German Basic Law or constitution and the North Rhine-Westphalia State Gender Equality Act
In December 2020 the City Council of Cologne decided to establish a Gender Equality Committee. The cross-party expertise in the committee lends more weight to the advancement of women's interests, reducing gender-specific disadvantages, and ensuring gender equality in the workplace.
The Gender Equality Committee is involved in realising the constitutionally enshrined principle of gender equality as set out in Article 3(2) of the German Basic Law or constitution and the State Gender Equality Act of North Rhine-Westphalia. It also screens measures of the City of Cologne for gender-equality.

The European Charter for Equality of Women and Men in Local Life
The City of Cologne signed the European Charter in 2011, undertaking to devise and realise action plans involving specific measures to achieve greater equality at local level. The first Gender Equality Action Plan for Cologne (2016-2020) set out 126 measures relating to the role of the employer, the role of service provider, town twinning arrangements and international cooperation. The second Gender Equality Action Plan for Cologne was elaborated in an open dialogue with stakeholders and embraces the fields of education and cohesive society.

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**Cologne will make the city children-, youth- and family-friendly.
(Objective 3.4, Cologne Perspectives 2030+)**
In 2013 Cologne affirmed its commitment to the UN Convention on the Rights
of the Child. In February 2018 Cologne was the first German city with a popu-
lation of one million or more to receive the commendation of the UNICEF Child
Friendly Cities Initiative and the German children's charity Deutsches Kinder-
hilfswerk, when it was officially recognised as a child- and youth-friendly city.
Making a city child-, youth- and family-friendly is a cross-cutting task for all
stakeholders involved in municipal activities. It must be understood and taken
into account in all local areas of action, from affordable housing to medical
care, social infrastructure, education and training, childcare and urban devel-
opment.

To further improve the situation of children, young people and families in Co-
logne, their rights are to be enhanced and disadvantaged children and single
parents are to be accorded more support. This applies to childcare services
and to opportunities for physical exercise, playing, games and shared activ-
ities, both for children and for young people. In particular, efforts to reduce
child poverty will be stepped up.

3.5.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
▮ Gender equality
▮ Reduce gender-based violence and discrimination
▮ Family- and children-friendly structures and services

Indicators:
▮ Employment rates of women and men
▮ Income gap between women and men
▮ Women on the City Council

3.5.4   Contributions of the City of Cologne to the SDG

Gender equality

The **Else Falk Award** is presented in recognition of the exceptional engagement of women in Cologne to drive forward equality of women and men or girls and boys. The award is designed to raise public awareness for gender equality. Role models are presented that encourage citizens to follow their example and help ensure that the achievements of women are not forgotten. The prize is awarded once every two years at a reception to celebrate World Women's Day. The award comes with a EUR 5,000 cheque.

In November 2021 the foundation *Stiftung Frauen*leben,* the *Kölner Frauengeschichtsverein* (Cologne Women's History Association) and the Gender Equality Officer of the City of Cologne signed a cooperation agreement for the digital **Kölner Frauen*Stadtplan** (Cologne Street Plan for Women). The website provides users with information on women in history and contemporary women, women's organisations and women-relevant places in Cologne. The project is designed for a ten-year term and currently has 100 entries that can be consulted at www.frauenstadtplan.koeln.

With the support of FEMMALE RESOURCES, 15 Cologne businesses have together established an active network **Mit Frauen in Führung** (Leading with Women). The City of Cologne has been an active member of the alliance since it was founded in 2016. It has set itself the goal of fostering women's potential and actively raising the percentage of women in executive and managerial posts.

The City of Cologne and Düsseldorf, capital of the state of NRW, would like to get more women into top posts in the administration with the help of a joint mentoring project. It is the first time that the two cities have worked together in this way. Five wom-

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en, or mentees, from each city administration are to receive support under the programme. The mentors come from the executive management level. During the ongoing project term (15 months), these mentors will together support the 10 mentees. The focus will be on advice, discussion, questions and support. These aspects will be further enhanced by discussion and knowledge sharing between the two administrations. In addition to the tandem work, mentees will benefit from various seminars, workshops and network meetings, which are open to all 10 participants.

Reduce gender-based violence and discrimination

Cologne is strongly engaged in countering **violence against women.** It is involved in the state-wide Orange Days action week and is collaborating on the strategy paper *Konzeptarbeit zum Powerhaus* (NRW anti-violence package). This is designed to raise awareness of the services offered by protective facilities and counselling units in NRW. The "power houses" are ideally to offer a full range of services under one roof. In 2023 Cologne is also continuing its annual campaign to make civil society more aware of the problem of violence against women and girls. A number of different activities are planned. The problem of violence against men and boys will also be addressed as will work with perpetrators (male and female). The City of Cologne is closely networked with the local assistance system, particularly within the framework of the *Arbeitskreis gegen Gewalt an Frauen* (Working Group on Violence against Women) and the *Netzwerk gegen häusliche Gewalt* (Network against Domestic Violence). Work on a third women's shelter is also ongoing.

EDELGARD is a campaign to prevent sexualised violence and aims to protect women and girls in public spaces. The initiative was established in response to the sexual attacks on women in the city during the New Year celebrations in 2015. EDELGARD - be

Photo 21:   Example image - equality

proud - be self-assured - be able to defend yourself - accompanies and "guards" women and girls. It takes up their cause, so that they can move safely in public spaces. The message is that it is not women who need to adapt to ensure that they are safe. Society must learn to reject sexualised violence and offer concrete assistance. The campaign now has four mutually reinforcing elements (EDELGARD protect, EDELGARD mobile, EDELGARD inform and EDELGARD map).

The City of Cologne fosters gender equality and advocates a differentiated, pluralist presentation of people in advertising. In Cologne there is to be no advertising in public spaces that disrespects the dignity of women and men or which conveys a one-sided role model with restrictions. The Office for Gender Equality has thus produced guidelines on sexist advertising. They set out criteria and examples that help readers recognise sexist advertising and provide concrete recommendations on how to deal with this sort of advertising in public spaces.

To reduce **discrimination against lesbian, gay, bisexual, transsexual and intersex people (LGBTI)**, the LGBTI action plan *"Selbstverständlich unterschiedlich: Aktionsplan der Stadt Köln zur Akzeptanz von sexueller und geschlechtlicher Vielfalt"* (Naturally different: Action plan of the City of Cologne to foster acceptance of sexual and gender diversity) was adopted in 2021. The extensive local action plan brings together all LGBTI-related measures of the city for the first time. Under the banner "Sister Cities Stand Together" Cologne has worked for the rights of LGBTI communities in its twin cities since 2017. Within the scope of an exchange programme, human rights activists from twin cities are regularly invited to attend Cologne Pride/Christopher Street Day. Since 2006 there has also been a municipal working group for lesbians, gay and transgender people. This is an advisory body for local policies in Cologne. In 2015 the City Council also decided to join the Rainbow Cities Network, whose members work to advance the interests of LGBTI communities.

Family- and children-friendly structures and services

In 2018 Cologne was the first city in Germany with a population of over one million to be certified as a child-friendly city. Holders of this accolade undertake to strive to realise children's rights. In the **Aktionsplan Kinderfreundliche Kommune** (2018) (Action Plan for a Child-Friendly City), Cologne mainstreamed the provisions of the UN Convention on the Rights of the Child in the city's own constitution. The political and administrative levels, and civil society, thus undertake to respect and uphold the rights of children and young people. The goal is for all young people, irrespective of their own person situation, to receive the attention, support and encouragement they need to enable them to take charge of their own future. The association Kinderfreundliche Kommunen e. V. has elaborated four priorities for a child-friendly city on the basis of the UN Convention on the Rights of the Child. The wellbeing of the child takes precedence, child-friendly frameworks must be put in place, children and young people must be involved, and must have the right to information and monitoring. These priorities also form the basis for the action plan.

Pursuant to the NRW Child and Youth Support Act *(Kinder- und Jugendförderungsgesetz NRW)*, municipalities are obliged to draw up a child and youth support plan on the basis of the local youth support plan. The plan is to set out the actions for the ongoing parliamentary term and how these are to be financed. It can also be used as a range of instruments. The City of Cologne complied with these requirements with its **Kinder- und Jugendförderplan der Stadt Köln 2021-2025** (Child and Youth Support Plan for the City of Cologne (2021 - 2025)). The plan sets out measures to be implemented and the financial planning for the period 2021 to 2025.

The Cologne City Council fist adopted the interdisciplinary strategy for action **Sozialraumorientierte Hilfsangebote in Köln** (Outreaching Support Services in Cologne), which was jointly produced by the politi-

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cal and administrative levels and the working group of leading local welfare bodies. The strategy for action addresses child and family support, daycare for children and support for parents, as well as child and youth work. Against the backdrop of rising numbers of children in Cologne, the city is facing the challenge of providing a sufficient number of needs-appropriate daycare places for children. The decision of the City Council to expand daycare for children aged under three and for children aged three and over (2016) addressed the need to increase the number of daycare places for both age groups.

Photo 22:   Gender equity in family, leisure and culture

Photo 23:   Campaign image Orange Days

3.5.5   Indicators

5 GENDER EQUALITY

Employment rates of women and men

Employment rate for women as compared to employment rate for men (Source: SDG Portal)

The rates of women and men employed in posts subject to social security contributions provide important information on possible forms of gender-based discrimination on the labour market, although civil servants, self-employed individuals and people with a marginal number of hours (mini jobs) are not included. Also no distinction is made between full and part-time work, so that the number of hours worked has no impact on the indicator. The employment rate of women in the City of Cologne was 89.2% of the rate of employment of men in 2020. The figure has remained fairly stable in recent years. (If more women are employed than men in posts subject to social security contributions the figure will be over 100%, while a figure of under 100% indicates that more men than women are integrated into the labour market.) The figure for NRW as a whole was lower. In 2020 the

Employment rates of women and men
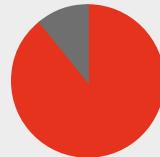
87.4 %
2010

89.2 %
2015

89.2 %
2020

employment rate for women was 85.3% of the rate for men. The employment rates of women and men are not specifically addressed in the Sustainable Development Strategies at national level or state level in NRW.

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5 GENDER EQUALITY

Income gap between women and men

Median income of employed women as a percentage of the median income of employed men
(Source: SDG Portal)

Significant income gaps persist between employed women and employed men. This results from several factors including differences in career choices, levels of the hierarchy and professional experience. Time spent away from the workplace as a result of family commitments impacts adversely on workers' salaries. In spite of the discrimination ban, women earn less than men, which impacts on their pensions in the long term. The indicator reflects the (gross) median income of women working full time as compared to the (gross) median income of men working full time. In the City of Cologne the median income rose slightly between 2015 and 2019. No more up-to-date data are available. The NRW average figures demonstrate a similar trend (2019: 85.8%), which is only slightly above the figures for Cologne and confirms the fact that women earn less than men. Thus more efforts will be needed to meet Objective 5.1.a of the German Sustainable Development Strategy (Reduce the gender pay gap to 10% by 2020 and maintain thus until 2030).

Income gap between women and men

83.4 %	84.4 %	85.1 %
2015	2017	2019

Women on the City Council

34.1 %	40.0 %	41.1 %
2013	2015	2019

Women on the City Council

Percentage of posts on the City Council held by women (Source: SDG Portal)

5 GENDER EQUALITY

In spite of intensive efforts the percentage of City Council posts held by women has remained unchanged at a low level across Germany. The use of party lists by political parties has been shown to increase the percentage of women on councils but has not yet had the desired effect. The data available for the City of Cologne allow us only to examine the period 2013 to 2019. In Cologne the percentage of City Council posts held by women was 41.1% in 2019. In the same year the average for NRW as a whole was only 35%. The percentage of council posts held by women is not specifically addressed in the Sustainable Development Strategies at national level or state level in NRW. Essentially, more efforts will have to be made to achieve gender parity.

3.6   SDG 6 - Clean Water and Sanitation

3.6.1   SDG 6 - Introduction and relevance for German municipalities

SDG 6 is designed to ensure availability and sustainable management of water and sanitation for all. It concerns access to drinking water and sanitation/hygiene for all. It also includes wastewater management, water protection, long-term water availability, efficient water use and the promotion of integrated water resources management. Groundwater is the major drinking water resource in Germany. However, water plays an important role not only for human supply, but also for instance in agricultural production and the preservation of ecosystems. To ensure the maintenance of natural and near-natural water cycles and water supply, water resources must be protected against pollution and overexploitation.

The key focus of implementing SDG 6 in Germany is therefore on improving water quality. However, the effects of climate change mean that seasonal/regional water scarcity will increase in the future. This also brings the responsible use of water resources into focus.[16] For German municipalities, the following themes are therefore especially relevant at the local level (please also compare these with the targets for SDG 6 in the annex):

❚ Ensuring water quality and avoiding water scarcity
❚ Protecting aquatic ecosystems
❚ Guaranteeing municipal sanitation and wastewater disposal.

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16   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.6.2   Overview: Qualitative aspects and indicators

Qualitative aspects:
- Collect and treat wastewater
- Reduce water pollution
- Protect and use water and allow citizens to experience it

Indicators:
- Wastewater treatment
- Record pollution of groundwater
- Drinking water consumption - private households

3.6.3   Contributions of the City of Cologne to the SDG

Collect and treat wastewater

StEB (Stadtentwässerungsbetriebe) Köln is responsible for collecting and treating wastewater for Cologne and the millions of people who live there. Wastewater travels through almost 2,400 km of pipes to one of five sewage treatment plants, where it is painstakingly cleaned and then returned to the Rhine. About 80 per cent of this sewage is treated at the large treatment plant in Stammheim. It is the largest treatment plant on the German section of the Rhine, with a population equivalent of 1.6 million. Non-contaminated rainwater is used on site where possible or allowed to drain into the soil.

In 2021 StEB treated about 100 million cubic metres of wastewater. By way of comparison, this is the volume of water in the Rhine between the historical old town of Cologne and the historical old town of Düsseldorf given an average water level in the river. A total of 570 tonnes of sand and 4,234 tonnes of other solids were removed from the wastewater. In the further course of the biological treatment process 66,700 tonnes of sludge were produced, and used to generate power.

Reduce water pollution

In terms of water, the City of Cologne primarily pursues the objectives set out in the EU's Water Framework Directive. It stipulates that surface waters should be in a good ecological and chemical state and that groundwater should have a good chemical status and a good quantitative status. Accordingly, *city-wide groundwater monitoring* has been conducted in Cologne since 2010 (which monitors the chemical status of the upper aquifers). The groundwater situation is examined and steps taken to address any contamination identified.

6

Protect and use water and allow citizens to experience it

In Cologne a total of 15 park ponds, 90 kilometres of open and 15 kilometres of channelled watercourses are managed by StEB. The aim is **to manage the water bodies in a way that is as natural as possible.** Thus recreational value is to be created for residents, biodiversity encouraged and the ecosystem strengthened. The fishing care project involves a regular inspection of fish stocks and the ecological quality of all ponds and streams. The temperatures in the water bodies is rising with increasingly marked periods of heat in the city. This means that living conditions for flora and fauna are deteriorating. To regulate temperatures and water levels, water must be added regularly.

Park ponds are a positive asset for the city and offer leisure and recreational value for residents. They also provide a habitat for a variety of flora and fauna. The shallow water level, however, impacts adversely because the water is not generally recharged. To counter this problem another floating plant island was installed in 2021, in the Adenauer Pond. The island, which is made of natural materials is about 50 square metres in size and, as well as helping clarify the water, it offers nesting space for water birds and retreats for fish and microorganisms in the water.

To ensure that Cologne's streams continue to offer recreational value while offering as much natural space for fauna as possible, channelled watercourses are being opened up and biotopes connected. In 2021, for instance, the Strunde/Flehback system was connected with the Rhine again. When work like this is carried out, special care is taken not to disturb habitats. Protected zones and demarcated access points create (new) habitats, helped by efforts to make the banks along watercourses and water bodies as natural as possible. The aim is to make 45 per cent of banks as natural as possible by 2027.

Photo 24:   Streams in Cologne Flehbach

Biotopes are also being specifically established, for instance to protect the endangered European green toad or the great crested newt. Along with partners from the conservation sphere and from academia, protective strategies have been drawn up for these endangered species, and habitats have been protected or restored.

Photo 25:   The way of the waste water

3.6.4   Indicators

6 CLEAN WATER AND SANITATION

Wastewater treatment
Percentage wastewater treated (denitrification and phosphorus removal) (Source: SDG Portal)

Wastewater is the term used to describe domestic, commercial and industrial effluent. If not properly treated it can cause significant harm to humans, animals and the natural environment. Denitrification and phosphorous removal can enhance the quality of wastewater treatment. In the City of Cologne 100% of wastewater has been treated since 2006. The average for NRW as a whole, at 96.6% (2018) also indicates that a high percentage of wastewater is treated. (Data at national level only available until 2015: 91%). Wastewater treatment is not specifically addressed in the Sustainable Development Strategies at national level or state level in NRW.

Wastewater treatment

100 %	100 %	100 %
2010	2015	2018

6 CLEAN WATER AND SANITATION

Record pollution of groundwater

Area of the City of Cologne displaying contamination of water: Total of individual areas in m²
(Source: City of Cologne Office for the Environment and Consumer Protection, city-wide groundwater monitoring)

The area of the City of Cologne displaying contamination of water bodies has decreased over recent years. More intensive efforts to record contamination and stricter criteria when assessing harm to groundwater can, however, result in higher figures being recorded. The data can be used to designate areas suffering groundwater contamination. As efforts proceed apace to remedy harm, the affected area can be expected to decline steadily.
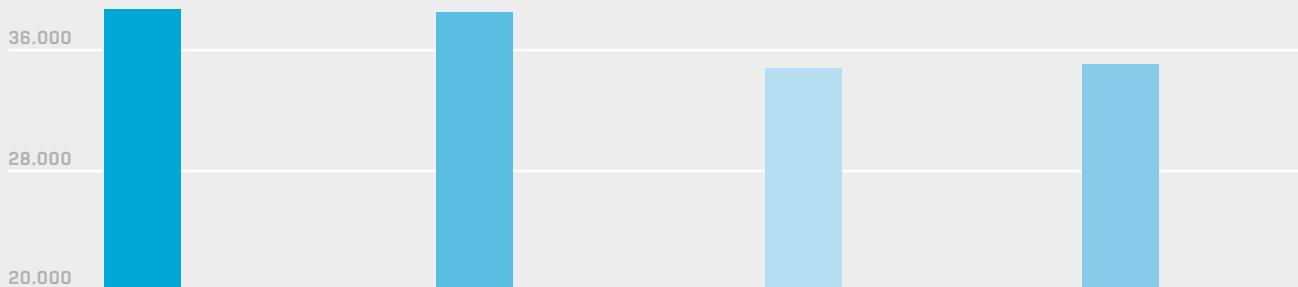
Record pollution of groundwater

38,740 Thousand m²	38,537 Thousand m²	34,780 Thousand m²	35,087 Thousand m²
2017	2018	2019	2020

36.000

28.000

20.000

6
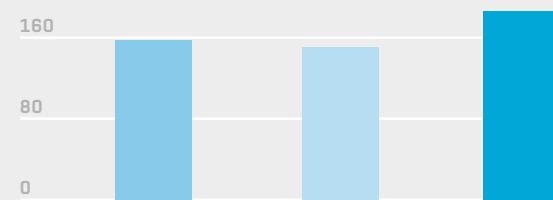
6 CLEAN WATER AND SANITATION

Drinking water consumption - private households

Drinking water consumption (households and small-scale industry) per inhabitant and day
(Source: SDG Portal)

Drinking water is one of our most valuable resources, particularly in view of the worsening periods of drought and the ever hotter summers. Germany is a water-rich country in principle, and direct consumption has remained broadly stable in recent years. This indicator does not, however, provide any information on the consumption of "virtual water" (global water consumption resulting from dietary or consumer decisions). In the City of Cologne, drinking water consumption per inhabitant and day has risen again slightly since 2015 and at 185.9 litres is above the average for NRW (2020: 162.3 litres per inhabitant and day). Consumption and trends in the City of Cologne do, however, correspond to the values recorded by other cities in NRW with similar populations. At national level data are only available for the period 2010 to 2018. They indicate a constant level of around 125

Drinking water consumption - private households

157.3 Litres	150.2 Litres	185.9 Litres
2010	2015	2020

litres per inhabitant per day. The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to the drinking water consumption of private households.

7 AFFORDABLE AND CLEAN ENERGY

3.7   SDG 7 - Affordable and Clean Energy

3.7.1   SDG 7 - Introduction and relevance for German municipalities

SDG 7 aims to ensure access to affordable, reliable, sustainable and modern energy for all. A secure, environmentally sound and affordable supply of electricity and heat is key to social and economic development. It is also directly linked to environmental protection and climate action. Energy and heat security, environmental compatibility and affordability form a triad of energy policy goals. In Germany, climate and energy policy as part of the energy transition aims to decarbonise energy systems by promoting renewables, reducing energy consumption and increasing energy efficiency. This is designed to achieve the overarching goal of carbon neutrality. The trans-formation towards a sustainable energy supply must be implemented in various sectors (energy and agriculture, industry, buildings and transport). Achieving digitalisation and innovation by investing in research and new technologies plays an important role in this.[17] When localising implementation of this SDG, German municipalities on the whole face the following thematic tasks (please also compare these with the targets for SDG 7 in the annex):

❙ Promoting renewable energy
❙ Increasing energy efficiency
❙ Ensuring access to an affordable and reliable energy supply.

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17   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.7.2   Links to Cologne's objectives

Climate action strategy 1: Take firm action for a climate neutral Cologne in 2035
By ratifying the Paris Agreement on climate change, the Federal Republic of Germany accepted the legal obligation to uphold the climate targets set out in the agreement. Global temperatures are to rise by significantly less than 2°C as compared to the pre-industrial temperature levels. The recommendation is that temperatures should not rise by more than 1.5°C. Although there is not yet any binding way forward for Germany and thus for the local level to achieve this target, it is clear that the issue of local climate action must be renegotiated and realigned.
The City of Cologne is very much aware of its role, torn between local and global responsibility, and has been actively involved in climate change mitigation for many years. At the start of 2019, for instance, the city adopted a package of climate action measures (KölnKlimaAktiv 2022) which complemented the already ongoing climate change mitigation activities, with additional specific projects proposed within the sphere of responsibility of the city.
In 2019 the City Council also declared a state of climate emergency in the City of Cologne. Building on this, it adopted the goal of becoming climate neutral by 2035, which marked a massive increase in the level of ambition of Cologne's climate targets.

Climate action strategy 2.2.3: A path forward in energy consumption sectors
To achieve the ambitious goal of greenhouse gas neutrality, it will not be enough simply to consume less energy. The fuels used to generate power will need to be decarbonised. Only this combination of reduced demand for energy and virtually climate neutral power generation will put the City of Cologne on course for climate neutrality.

The scenarios set out envisage 18 per cent savings in the light and power sectors. Heating demand will need to be reduced by 57 per cent by 2035. And in the mobility sector too, total energy consumption will have to be cut by about a quarter.

Oil-fired heating will need to be phased out by 2030 in line with the BDI's Klimapfade 2.0 study. Technical discussions with RheinEnergie have produced scenarios according to which the lion's share of heating can be generated using combined heat and power (CHP) (about 27 per cent) and heat pumps (36 per cent). Since it is almost impossible to gauge trends on the future heating market, a second scenario takes the lower figure of 16 per cent for heating pumps and makes good the 20 per cent gap with methane, produced using power-to-gas processes. The direct use of electric power for heating and warm water as well as converted industrial processes is put at 19 per cent. The remaining heating needs will be covered by a mix of solar thermal power, biomass and green gas.

Climate action strategy 2.2.4: A path forward in electricity generation
Given the increase in electricity that will be used in the heating and mobility sectors, as a result of electric mobility, the focus also turns to the generation of electricity from renewables at local level. The LANUV study analyses potentials for renewables in Cologne. It looks at all potential renewables and should be seen as the maximum possible, which does not necessarily take account of all conditions and constraints at local level. Since it is not possible to meet all of Cologne's electricity needs from regional sources, as of 2030 remaining demand for electricity will also have to be met by green power.

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Cologne is actively protecting the climate and will be climate-neutral by 2035. (Objective 5.4, Cologne Perspectives 2030+)

To achieve climate neutrality, energy requirements (heat, electricity and fuel) must be reduced and completely converted to renewable generation. The use of sustainable environmental technologies and the promotion of climate-friendly construction methods and climate-neutral neighborhoods have the potential to position Cologne as a sustainable and modern city and to open up new economic sectors. The transformation of the mobility sector must be geared towards supply-oriented, attractive and climate-friendly means of transportation. Reducing emissions in transportation can only be achieved through a combination of push and pull factors.

3.7.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
❙ Promoting renewables and enhancing energy efficiency in the municipality
❙ Promoting renewables and enhancing efficiency in the administration, and companies (partly) owned by the municipality

Indicators:
❙ Energy consumption
❙ Percentage of gross electric power consumption generated from renewables
❙ Electricity generated by photovoltaic plants
❙ Completed homes with renewables-based heating systems

3.7.4   Contributions of the City of Cologne to the SDG

Promoting renewables and enhancing energy efficiency in the municipality

The ***Förderprogramm Gebäudesanierung und Erneuerbare Energien - klimafreundliches Wohnen*** (Programme to support building upgrading and renewable energies - climate-friendly housing) is one of the main building blocks in achieving the goal the City of Cologne has set itself - becoming climate neutral by 2035. The funding has been increased from EUR 1 million to up to EUR 20 million. This programme replaces the former Building Upgrading and Energy Efficiency - Climate-friendly Housing Programme, which had been running for over three years, with a view above all to increasing the use of photovoltaic technology in Cologne. The new programme also helps provide additional funding for federally-financed measures more easily and more transparently. Now applications can be lodged for funding equivalent to 10 per cent of the costs eligible for funding under the existing federal programme. Cologne also sets its own local priorities that are not covered by other support programmes. One priority of the Cologne-specific measures is the drive to push solar power, with significantly more attractive funding now available. Funding for photovoltaic plants has been raised from EUR 150 to EUR 250 per kilowatt peak (kWp). Battery storage is now also eligible for funding of EUR 150 per kW/h gross storage capacity. Another change is that tenants of rented property can also apply for funding of up to EUR 200 for plug-in solar systems, enabling them to reduce their consumption of grid power.

On 7 September 2022, the ***Treffpunkt Solar*** was opened. It is a cooperative venture involving the City of Cologne, *RheinEnergie AG* and Cologne Chamber of Skilled Crafts and Trades. The three partners bring their own specific expertise in the field of photovol-

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taic technology, with a view to focusing efforts to promote the use of solar power in Cologne. The city's support programme has also got off to a good start. Efforts will be stepped up further in the coming years to expanding the use of renewables.

One example of a project to promote energy efficiency in existing neighbourhoods is the **GrowSmarter** project, within the scope of which *RheinEnergie AG* has put in place an integrated neighbourhood concept. To save energy used in public street lighting, all street lights are to be converted to use LED bulbs. The light master plan provides a framework for realising, upgrading and building street lighting units, covering energy efficiency, environmental protection and nature conservation, road traffic safety and public safety. Digital road signs to steer traffic flows and provide information were renewed in 2019 and fitted out with energy-efficient LED technology system.

Photo 26:   Example image - solar panels on the roof

Promoting renewables and enhancing efficiency in the administration, and companies (partly) owned by the municipality

Against the backdrop of Cologne's climate action goals, the city administration is a role model, as are the companies it owns or in which it holds a stake. *RheinEnergie AG,* for instance, is a regional energy utility that has made a voluntary commitment to fully decarbonise the electricity and heating it delivers. It aims to complete the transformation process no later than 2035, thus driving forward climate neutral energy supplies for Cologne. This voluntary commitment arose from a **mediation procedure involving the citizen action group Klimawende Köln and RheinEnergie AG,** organised by the City of Cologne in response to a Klimawende Köln petition. Within this framework it was noted, for instance, that RheinEnergie AG will extend its nationwide renewables farms and drive forward Cologne's "solar offensive".

Other companies within the Stadtwerke Köln group will also take steps to reduce emissions (see the **sustainability report published by the Stadtwerke Köln group** for more details). By way of example, mention should be made of the measures launched by Cologne local public transport *(Kölner Verkehrs-Betriebe)* as set out in an **environmental statement.** Since 2016 only certified green electricity has been used and the city's bus fleet is transitioning to electric vehicles. CO_2 emissions have been reduced from 65 g per passenger kilometre in 2013 to 20 g. By 2030 the figure is to be further reduced to only 10g. Another example is the use of photovoltaic plants on the roofs of the various premises of the Stadtwerke Köln group (e.g. *Abfallwirtschaftsbetriebe Köln* and *AVG Köln).* The use of waste as a fuel in biomass-fuelled power stations, in CHP units and in the city's residual waste incineration plants means that AVG is making a valuable contribution to generating power and reducing emissions in Cologne. Enough electricity can be generated from regional waste to supply some 250,000 people.

Replacing fossil fuels is saving about 300,000 tones of greenhouse gases.

The **Gebäudewirtschaft der Stadt Köln,** the authority responsible for the buildings sector, publishes an annual **energy report** on public buildings in the city (administrative buildings, schools, nurseries, structures in green spaces and cultural buildings). Within the scope of energy management, numerous measures have been implemented in recent years, including upgrading measures and fitting photovoltaic plants (of which about 30 are currently in operation). Cologne City Council decided in 2021 that the photovoltaic potential offered by all buildings used by the city and buildings belonging to the *Stadt Köln* group should be identified and fully exploited. Mandatory energy guidelines already apply to all municipal construction and building upgrading projects. The goal is to make more efficient use of energy. What will in future be the City of Cologne's largest photovoltaic plant (covering about 1 ha) will be fitted on the roof of the velodrome, which is being converted to a national training centre.

Stadtentwässerungsbetriebe Köln (StEB) aim to achieve climate neutrality by 2030 in terms of energy, within the framework of sustainable corporate development. One step in this direction, alongside the decarbonisation of the energy sector, is to reduce the CO_2 eq emissions of its vehicle fleet to zero and put in place incentives to encourage staff to use sustainable transport options. One specific measure in this regard has been subsidising job tickets, which staff can use to travel on public transport. Company vehicles are being replaced by electric vehicles at the end of their service life where this is indicated following an environmental assessment. To provide sufficient infrastructure for electric mobility, charging points are being established that can be used by staff and visitors.

The energy used to treat wastewater is generated almost entirely from the company's own electricity generation and heat production. A large percentage of this energy is generated from sewage sludge. In all five treatment plants the sewage sludge is loaded into airtight tanks called anaerobic digesters. As the sludge is broken down it releases biogas known as digester gas or sewage gas. This is then used in highly modern combined heat and power units to produce heat and electricity. In 2021 the treatment plants generated 98 per cent of the total electricity they used themselves (3.5 percentage points up on the 2019 figure). In 2021 the largest treatment plant, in Stammheim, generated more than 30.6 Kwh of electricity.

Also in 2021 some 21,000 tonnes of organic waste from the region increased the volume of digester gas by almost 6 per cent. By 2023, this volume is to rise further, to 50,000 tonnes of organic waste or 2.3 million cubic metres of digestor gas, which will translate as a saving of some 4,000 tonnes of CO_2 emissions every year.

To make electricity consumption at local level even more climate friendly over the next few years StEB plans to install more photovoltaic modules on all suitable areas. Sector coupling or integrated energy is an important building block in future local power generation. By taking electricity, heat and mobility together within municipal companies, new opportunities are opened for using renewables to generate power on site. The large wastewater treatment plant in Stammheim is an excellent example. The waste heat from generating electricity is currently heating 1,700 flats and 100 single-family houses in the neighbourhood using combined heat and power (SHP) technology.

In addition to power generation, wastewater offers huge potential for Cologne's heating supply, even in the sewers. Even in winter the temperature of wastewater in the city's sewage system is between 10 and 15 °Celsius. Given the right conditions, the right heat pumps can then use wastewater to heat buildings. Several schools in Cologne are already heated in this way. In 2021, StEB received a total of 37 enquiries for more information on this technology. To encourage the use of this renewable energy source, StEB pro-

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vides a wastewater heat potential map, which inter-
ested parties can consult on their website.

Photo 27:   Example image - wall insulation

3.7.5   Indicators

7 AFFORDABLE AND CLEAN ENERGY

Energy consumption
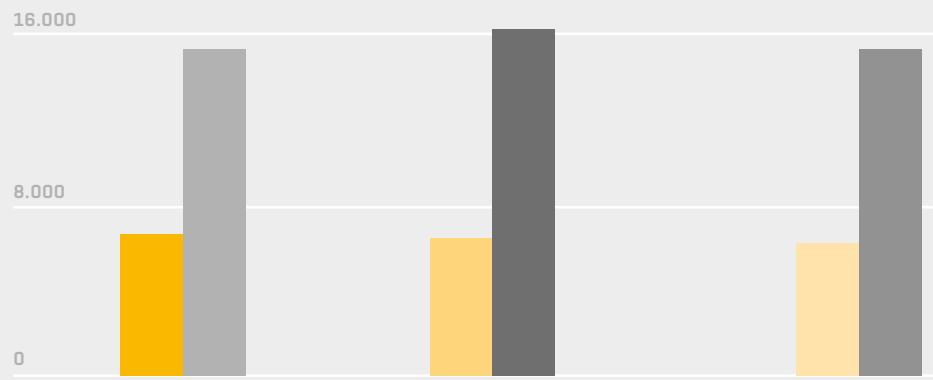
Energy consumption in GWh (Source: CO_2 balance by IFEU)

The energy consumption of private households showed a downward trend between 2015 and 2020. In 2020 the same trend could be seen in the industry, commerce, trade and services sectors as a result of the COVID-19 pandemic (more people working from home, more use of homes, short-time working in companies). In the context of the energy crisis, pressure is increasing to massively reduce energy consumption and thus facilitate the outstanding radical transition of the energy system (enabling Germany to become independent of energy imports).

Energy consumption

	2015	2019	2020
Private households	6,681 GWh	6,483 GWh	6,256 GWh
Industry, commerce, trade and services	15,358 GWh	16,290 GWh	15,377 GWh

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7 AFFORDABLE AND CLEAN ENERGY

Percentage of gross electric power consumption generated from renewables

Percentage of gross electric power consumption generated from renewables
(Source: Energieatlas NRW)

The state Office for Nature, the Environment and Consumer Protection of the State of North Rhine-Westphalia (LANUV) provides an energy atlas for the state showing potentials and installed capacity for renewable energy. Wind power, photovoltaic plants on free areas and roofs, bioenergy and hydropower are considered renewables. LANUV states that Cologne has the capacity to meet 55% of its energy needs from locally available renewable energies (particularly photovoltaic plants). Installed capacity currently (2020) accounts for 1.6%. The percentage of gross electricity consumption gener-

ated from renewables is to be radically increased in the coming years. Within the scope of the mediation procedure conducted in 2021 between the local energy utility RheinEnergie AG and the citizen action group, the utility made a voluntary commitment to deliver only heat and electricity generated from renewables as of 2035. As of January 2022, all existing and new customers from private households and the commercial sector will be supplied only with green electricity. As of 2035 100% of large-scale and special customers will join them. Gas supplies are also to transition to green hydrogen by 2035.
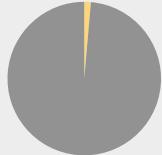
Percentage of gross electric power consumption generated from renewables

0.9 %	1.6 %	1.9 %
2015	2020	2021
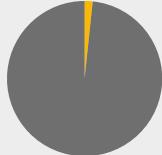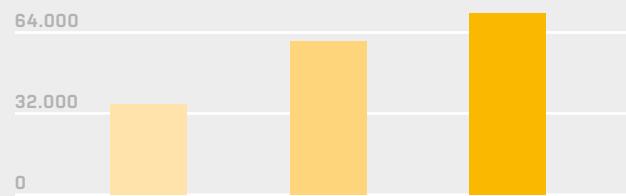
Electricity generated by photovoltaic plants

35,669 MWh	60,700 MWh	71,700 MWh
2015	2020	2021

Electricity generated by photovoltaic plants

Electricity generated by photovoltaic plants in MWh (Source: Energieatlas NRW)

7 AFFORDABLE AND CLEAN ENERGY
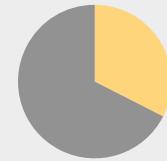
More photovoltaic plants are also to be installed over the next few years. As already mentioned, LANUV believes that the City of Cologne could meet 55% of its energy needs using locally available renewable energies, with a special focus on photovoltaic technology. In 2022 the City of Cologne launched a broad "solar offensive". At the heart of this is the move to focus all forces and capacities of stakeholders, both

those implementing the technology and those motivating target groups. Parallel to this, the City of Cologne hopes that attractive financial support will encourage people to invest in photovoltaic modules. The goal is to harness at least half of the potential offered by photovoltaic technology by 2030. This is equivalent to installing photovoltaic plants on around 15,000 roofs every year.
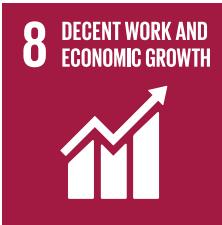
7 AFFORDABLE AND CLEAN ENERGY

Completed homes with renewables-based heating systems

Percentage completed homes with renewables-based heating systems (Source: SDG Portal)

The use of renewables-fuelled heating in the buildings sector can go a long way to reducing CO_2 emissions. Additionally, renewables-fuelled heating has a positive impact on the energy-related fixed costs of private households (e.g. lower costs of new heating plants and no carbon pricing). In the City of Cologne, 43.8% of homes completed in 2020 used renewables to heat the buildings, marking a rising trend. This figure is slightly below the average for NRW (50.2%). The German Sustainable Development Strategy aims to increase the percentage of gross energy consumption generated from renewables to 30% by 2030, to 45% by 2040 and to 60% by 2050 (Objective 7.2.a) The City of Cologne's activities in the housing sector are indirectly helping meet the goal set out in the German Sustainable Development Strategy.

Completed homes with renewables-based heating systems

16.1 % 2010

32.7 % 2015

43.8 % 2020

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3.8   SDG 8 - Decent Work and Economic Growth
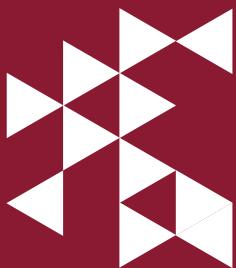
3.8.1   SDG 8 - Introduction and relevance for German municipalities

SDG 8 aims to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. Sustainable economic activity aims to strike a balance between economic performance, the protection of natural resources and social responsibility. In this way, a sustainable and globally just balance can be ensured, while at the same time increasing the prosperity of society as a whole. A sustainable economy is a key foundation for good jobs. Besides the goal of a high employment rate, it is important that everyone is able to lead a self-determined and secure life through their work. Other key goals include adequate pay, secure jobs, workers' rights, social security and good working conditions, e.g. regarding family-friendliness. This is designed to achieve stable social cohesion based on solidarity and a fair distribution of wealth. Aspects such as recruiting skilled labour and managing digitalisation also play a role.[18] For German municipalities, the following themes are therefore especially relevant (please also compare these with the targets for SDG 8 in the annex):

❙ Promoting sustainable economic activity
❙ Supporting companies in embracing sustainability
❙ Promoting decent jobs
❙ Supporting sustainable tourism.

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18   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.8.2   Links to Cologne's objectives

**Cologne will strengthen its broad-based economic mix.
(Objective 2.1, Cologne Perspectives 2030+)**
A mix of branches and economic sectors, i.e. the presence of different groups of companies, allows the city's economy to respond flexibly to structural changes and thus helps in no small way make the economy resilient to economic impacts and crises. Cologne already enjoys a high level of diversity in terms of the economic sectors found in the city. This is one of its greatest strengths, which is to be further cultivated with the help of different approaches. Cologne has thus set itself the goal of becoming a high-profile centre for start-ups and new businesses.

Cologne will integrate those of working age and ability permanently in the formal labour market. (Objective 2.6, Cologne Perspectives 2030+)
As many inhabitants of Cologne as possible must be enabled to take part in working life if the city's economy is to flourish and the city is to develop in a healthy manner. This applies to both people with fewer financial and educational resources and to mid-level and highly qualified members of the workforce. For this reason, one of Cologne's main goals is to integrate those of working age and ability into the formal labour market, so that they can be permanently integrated into society.

Cologne will develop its position as a leading centre for science and research. (Objective 2.2, Cologne Perspectives 2030+)
Research facilities and universities generate important impetus for the future. They thus have the potential to transfer knowledge, bringing innovation to society and driving the city forward. Universities and research in the city must then be rendered visible, with the help of effective links between the pri-

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vate sector, actual laboratories and civil society, for instance, or other events open to city residents that can enrich the cultural life of the city as a whole.

3.8.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
❚ Sustainable business in Cologne
❚ Promoting culture
❚ Sustainable tourism
❚ Work-life balance in the administration and companies (partly) owned by the municipality

Indicators:
❚ Gross domestic product
❚ Long-term unemployment rate
❚ Employment rate (15 - 64-year-olds)
❚ Employment rate (55 - 64-year-olds)
❚ Gainfully employed individuals on supplementary benefits
❚ Number of EMAS-certified locations in Cologne

3.8.4   Contributions of the City of Cologne to the SDG

Sustainable business in Cologne

To promote sustainable business, Cologne has run the *Ökofit Project* (ecological project for integrated environmental engineering) since 2011. In 2008 the City Council adopted a political resolution to implement the project. An advisory and upskilling programme helps participating companies introduce and upgrade corporate environmental management with a view to ensuring the more efficient use of resources (energy, water, waste) while also reducing operating costs. The project also provides a local network for sustainable business practices. Having successfully participated in the programme, businesses are issued with an ÖKOPROFIT certificate, which is awarded by the NRW State Ministry for Climate Action, the Environment, Agriculture, Nature Conservation and Consumer Protection. In Cologne, ÖKOPROFIT is a cooperative project involving the city, the local private sector and other partners including the Chamber of Commerce and Industry, the Chamber of Skilled Crafts and Trades, *RheinEnergie* AG, the Resource Efficiency Agency of NRW and *KölnBusiness,* which promotes private businesses in the city. Since 2011 four project cycles have been completed, with 49 businesses receiving ÖKOPROFIT certification. The fifth project cycle is currently at the preparatory stage.

The City Council decided in 2021 to implement a pilot project that was to take stock of activities for the common good. A total of 11 companies have been certified as serving the common good. To drive forward the energy and traffic transitions through the production, distribution and utilisation of hydrogen, the City of Cologne has joined forces with the Municipalities of Hürth, Brühl and Wesseling and the Rheinisch-Bergischen and Rhein-Sieg Districts within the framework of the *H2R - Hydrogen Rhineland* project. Hydrogen expertise in the region is to be fo-

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cused so as to actively drive forward the establish-
ment of a sustainable hydrogen sector. To this end a
detailed strategy has been developed that explores
the development of existing structures and plans for
new elements in hydrogen-based mobility and sector
coupling. It looks at the best possible ways of har-
nessing the region's technical, environmental and
economic potentials and at how to build a sustainable
hydrogen region by the cut-off points 2023, 2030
and 2035.

KölnBusiness Wirtschaftsförderung, which is fully
owned by the City of Cologne, encourages the devel-
opment of sustainable businesses in the city, by of-
fering businesses support on their way to becoming
climate neutral, networking Cologne's sustainability
ecosystem, and helping develop a sustainable profile
for the city. In areas such as the hydrogen sector, re-
source efficiency and sustainable logistics, *KölnBusi-
ness* initiates its own events and information chan-

Photo 28:   Retail and downtown Breite Straße Domblick

nels. The *KölnBusiness* compass offers companies an overview of selected public-sector assistance and programmes relating to sustainability issues such as digitalisation, innovation, climate action and mobility. For the first time in 2022, *KölnBusiness* promoted sustainable innovations in companies through its own assistance programme *Kölner Rahmen.* Social media channels, a newsletter and a calendar keep companies up to date with available services and developments in climate-appropriate business.

In 2013 the City Council adopted its latest ***Einzelhandels- und Zentrenkonzept*** (Retailing and Centres Strategy), which aims to retain the city's polycentric retail structure, ensuring that Cologne remains an attractive shopping centre and even develops further. This strategy is currently being updated. A special budget, known as the "centres budget" is available to help local initiatives take steps to make their own commercial centres more attractive.

Promoting culture

Cologne, a cultural centre, sees support for workers in the cultural economy, cultural businesses, associations and facilities as a key responsibility. The ***Kulturentwicklungsplan*** (Cultural Development Plan) is a steering instrument that is intended to identify potentials, basic principles and solutions for future cultural policy for the city of Cologne, as well as setting out prospects and objectives. In 2009 the first Cultural Development Plan was adopted. An updated Cultural Development Plan, drafted with the help of a multi-year participatory process, was adopted in 2019. The current Cultural Development Plan is to be driven forward along with representatives of cultural institutions, the working group *Freie Szene Köln,* associations working in the cultural sector, and the political and administrative levels.

The ***assistance strategies of the Office for Cultural Affairs*** are part of the Cultural Development Plan process. They set out specific goals and instruments as well as prioritising implementation to be assured by the different divisions of the Office for Cultural Affairs. As a result these strategies are accepted as a yardstick at political level and in the cultural scene, and are regularly updated in communication with the latter. The strategies are based on the outcomes of round table discussions, interviews with representatives of the cultural scene, meetings with cultural associations based in Cologne and NRW to explore the current situation and potential developments, such as the *freies Theater,* and visitor studies for Cologne.

In 2021 the additional ***Förderkonzept Kulturelle Teilhabe*** (Assistance strategy for cultural participation) was adopted. It aims to enable all inhabitants of the City of Cologne, irrespective of their background, sexual orientation and gender identity, level of education, age, disability and income, to participate to a greater extent in the cultural offerings of the city.

Sustainable tourism

KölnTourismus GmbH, responsible for destination management in the city, plays a key role in promoting sustainable tourism. It is the first point of contact for international travel and congress organisers and for business and leisure travellers. *KölnTourismus* takes a number of different approaches to environmentally, socially and economically sustainable actions, internally and externally, for products and services, and for customers and end consumers. Examples of internal sustainability include the energy-related upgrading of the tourist information office by 2024. The historical substance of the building is to be retained, and green electricity used. Externally, it passes on a compilation of the many sustainable options offered by local service providers, especially in terms of hotels and the events sector. In future it will focus more on encouraging tourists to use rail services to travel to Cologne, underpinning this with a strong appeal to the German market and neighbouring countries. All in all different sections of society are specifically analysed with a view to promoting sustainability,

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and then addressed with target-group-specific measures.
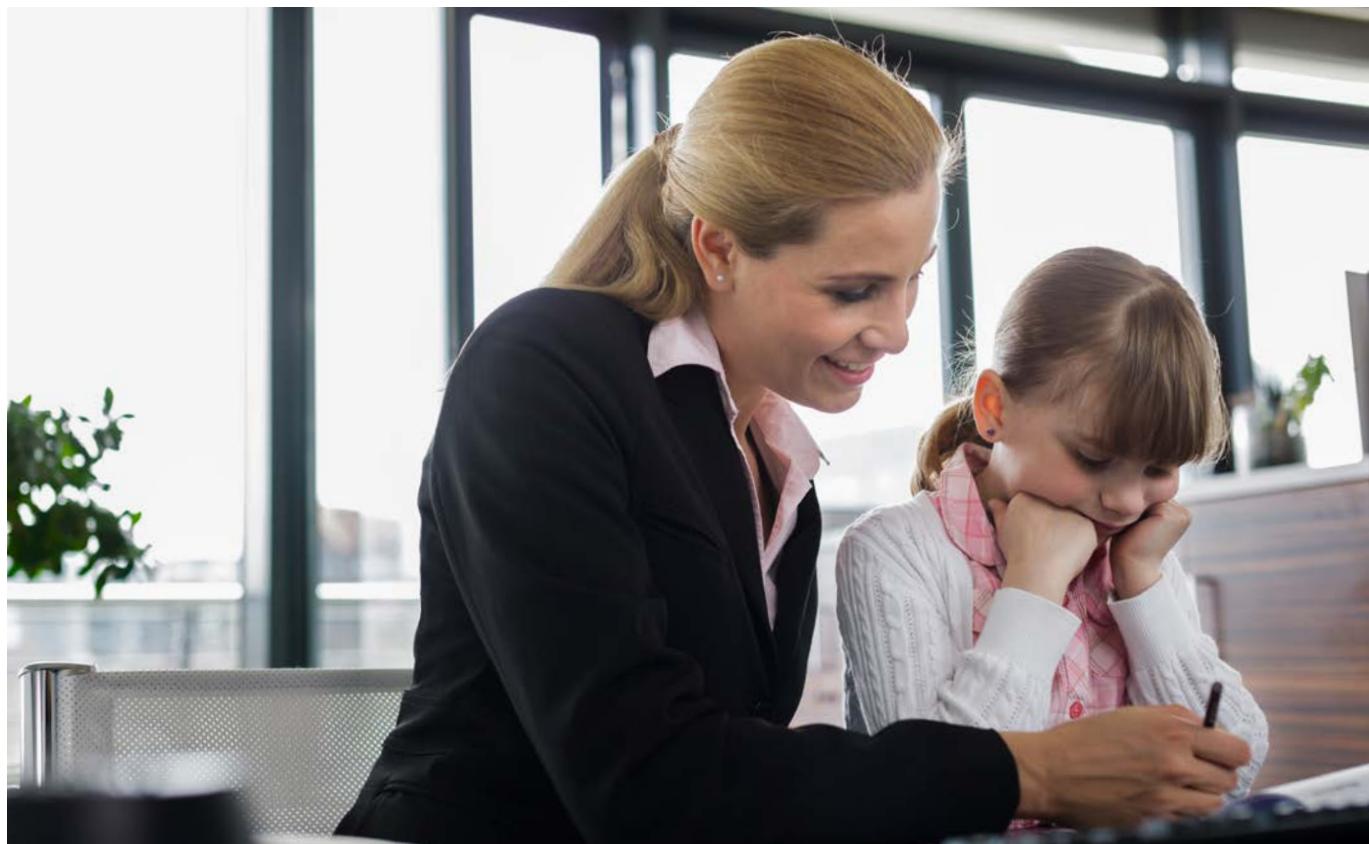
Work-life balance in the administration and companies (partly) owned by the municipality

The City of Cologne, a major employer in the region, was certified **as a family-friendly employer** in 2020. Following a comprehensive auditing process conducted by *berufundfamilie GmbH,* the certification was awarded by an independent body comprising representatives of the private sector, the science and research community, the political level and associations. Innovative prospects for the future were devised with the involvement of staff members from all departments. Areas of action such as leadership, work organisation and human resources development provided orientation. The City of Cologne of-

fers a variety of working models to enable staff to better reconcile professional and family commitments (part-time posts in all career paths and at every managerial level, flexi-time, working time accounts and home office). Since 2020 the Office for Gender Equality and HR and administration management have been working together within the framework of the **BündnisBerufLeben** to further improve work-life balances for staff of the municipal administration. A strategy paper, *Führen in Teilzeit* (Part-time Managers) has been published, an internal fathers' network founded, and daycare services for the children of municipal employees launched.
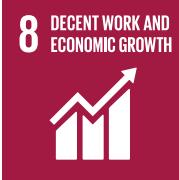
Municipally-owned companies and companies in which the municipality holds a stake also attach great importance to promoting family-friendly structures. *RheinEnergie AG, Kölner Verkehrs-Betriebe, KölnBäder* and *StEB,* for instance, are also involved in the **berufundfamilie** audit. The entire *Stadtwerke Köln GmbH* provides for many options including home

Photo 29:   Example image - work-life balance

office, job-sharing, family/holiday/emergency care, homecare/elderly care, its own nursery for the under-threes, a parent-child office and part-time working models as part of its ***diversity management.***

3.8.5   Indicators

8 DECENT WORK AND ECONOMIC GROWTH
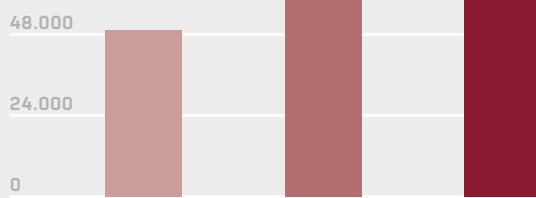
Gross domestic product

Gross domestic product per capita (Source: SDG Portal)
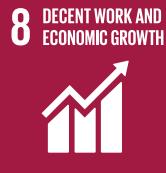
The gross domestic product is the total economic output of a national economy. At local level it is held to be the total monetary value of all goods produced by the formal economy and all documented services minus semi-finished items and imports. The GDP alone does not allow us to identify any specific local elements, such as companies based in the municipality or the commuter situation. Also no information is provided on the value created in relation to inputs (raw materials or energy products). The GDP per capita in the City of Cologne has risen slightly but steadily during the period under review and stands at a high level. The average trend for Germany as a whole is also upwards (most recent figure 2017: EUR 39,585 per capita, but this is significantly below the figure for Cologne. Objective 8.4 of the German Sustainable

Gross domestic product

| 49,296 € | 58,508 € | 59,443 € |
| 2010 | 2015 | 2018 |

48.000

24.000

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Development Strategy is to achieve "steady and appropriate economic growth". General trends in Germany meet this indicator, which is not specified in more detail.
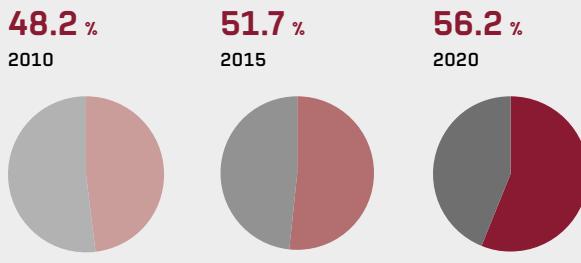
Employment rate (15 - 64-year-olds)

Percentage of all 15-64-year-old residents employed in jobs subject to social security contributions (Source: SDG Portal)
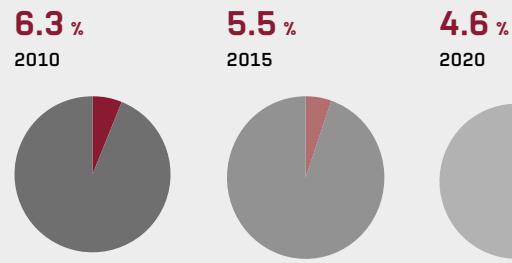
The employment rate reflects the percentage of the population of working age and ability (15-64-year-olds) who are employed in jobs subject to social security contributions. (This means that civil servants, self-employed individuals and those in marginal jobs that do not reach the income threshold for social security contributions are not included in the statistics.) It is equivalent to the employment rate for the population as a whole, since most people in employment fall within this age group. The employment rate provides information on the social situation of the population. Employment ensures individuals financial independence and contributes to the future viability of a municipality. In the City of Cologne the employment rate has risen steadily from 48.2% to 56.2%, which is broadly equivalent to the rate for NRW as a whole (58.7% in 2020). This trend also helps achieve Objective 8.5.a of the German Sustainable Development Strategy (Increase the employment rate to 78% by 2030).

Employment rate (15 - 64-year-olds)

48.2 %	51.7 %	56.2 %
2010	2015	2020

Long-term unemployment rate

6.3 %	5.5 %	4.6 %
2010	2015	2020
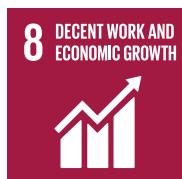
Long-term unemployment rate

Long-term unemployed as a percentage of the employable population (Source: SDG Portal)

The long-term unemployment rate identifies the percentage of individuals who have been registered unemployed for one year or longer with the employment agencies or the providers of basic income support for job-seekers. Persistent unemployment impacts severely on the financial, social and health situation of the affected individuals and their families and can also impact adversely on the financial situation of the municipality. The indicator, however, takes account neither or the gender nor of the age of the unemployed person, meaning that no statement can be made regarding gender-just improvements in the working situation, including young people. In the City of Cologne, the percentage of long-term unemployed persons has dropped steadily to 4.6% (2020), while the average for NRW, at 3.6% in 2020, is even lower. This trend will have a positive impact on Objective 8.5.a of the German Sustainable Development Strategy (Increase the employment rate to 78% by 2030).
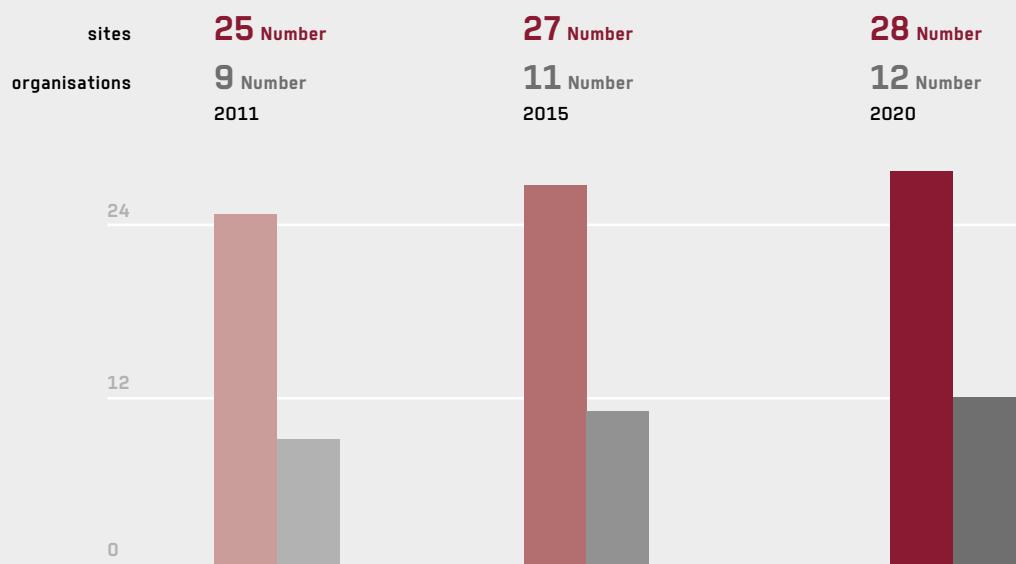
8 DECENT WORK AND ECONOMIC GROWTH

Number of EMAS-certified locations in Cologne

Number of sites in the City of Cologne certified and included in the EMAS register, categorised as Cologne for filter purposes and corresponding to the given years (Source: City of Cologne)

Companies and other organisations that participate in the EMAS scheme undertake to comply with all relevant environmental regulations and to organise a process to consistently improve their own environmental performance. They publish an environmental statement and have their performance audited by an independent environmental consultant. Bodies with EMAS registration also automatically meet the requirements of ISO 14001. Both the number of certified organisations and the number of sites has risen in Cologne since 2011.

Number of EMAS-certified locations in Cologne

	2011	2015	2020
sites	25 Number	27 Number	28 Number
organisations	9 Number	11 Number	12 Number

8 DECENT WORK AND ECONOMIC GROWTH

Employment rate (55 - 64-year-olds)

| 2010	2015	2020
35.1 %	42.8 %	49.7 %

Percentage of all 55-64-year-old residents employed in jobs subject to social security contributions (Source: SDG Portal)

The employment rate indicates the number of 55-64-year-olds in jobs subject to social security contributions as a percentage of the employable population and supplements the above indicator (employment rate among 15-64-year-olds). A high employment rate in this age group indicates financial independence, but also social inclusion, even if demographic change will, in the long term, lead to an imbalance between pensioners and the working population paying into social insurance schemes. In Cologne, the percentage of this age group in gainful employment has risen over the period under review from 35.1% to 49.7%. This trend also reflects the trend for NRW as a whole, where the figure in 2020 was slightly higher than in Cologne, at 52.1%. This trend also helps achieve Objective 8.5.b of the German Sustainable Development Strategy (Increase the employment rate among older people (from the age of 60 to the statutory pension age) to 60% by 2030).

8 DECENT WORK AND ECONOMIC GROWTH

Gainfully employed individuals on supplementary benefits

2010	2015	2020
24.7 %	27.3 %	23.0 %

Number of recipients of ALG II (income support) in gainful employment as a percentage of the employable recipients of benefits (Source: SDG Portal)

Those in gainful employment receiving ALG II (income support) because their pay is inadequate to meet living costs come under this category, as do ALG II recipients who supplement their benefits by working gainfully within the limits permitted by law. If benefits are accorded although a person is gainfully employed, this can be a reflection of structural shortcomings in the sector, resulting in a trend away from decent work and fair wages. Complex entitlement regulations and complex application procedures, as well as the shame felt by low earners point to a high number of unrecorded cases. In the City of Cologne this group as a percentage is declining slightly, to stand at 23.0% in 2020, which is very close to the trend in NRW as a whole (2020: 22.4%). The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to this indicator.

3.9   SDG 9 - Industry, Innovation and Infrastructure

3.9.1   SDG 9 - Introduction and relevance for German municipalities

SDG 9 aims to build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. These three elements touch on many areas - such as digitalisation, or information and communications technology. Innovation has the potential to make a key contribution to current challenges, such as climate action and resource conservation, or demographic change. Innovations also play an important role in promoting sustainable industrialisation, which aims among other things to achieve more resource-efficient and low-emission production. The term "infrastructure" includes both technical and social infrastructure (e.g. infrastructure for transport, energy and water/wastewater, as well as educa-tion and health care). When planning and designing infrastructure, various requirements (for instance concerning health, climate change mitigation and adaptation, securing natural resources or equal participation) must be taken into account simulta-neously.[19] For German municipalities, the following areas are therefore especially important for implementing this SDG (please also compare these with the targets for SDG 9 in the annex):

▮ Promoting innovation
▮ Supporting sustainable industrialisation and business start-ups
▮ Establishing sustainable infrastructure, especially for information and communications technology.

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19   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.9.2   Links to Cologne's objectives

Cologne will actively manage its development in line with the imperatives of effective mobility services and strong centres.
(Objective 1.1, Cologne Perspectives 2030+)
For future settlement development or expansion it is important to ensure effective local public transport connections. For this, the necessary mobility infrastructure must be provided and specific incentives put in place so that they are used. This local-public-transport-oriented settlement development pushes for the development of mixed use neighbourhoods and centres close to public transport stops and stations. Mixed use concepts and compact urban structures mean that the distances between homes, work, leisure activities and to the next local public transport connection can be kept short - ideally within walking distance. This can facilitate sustainable urban growth and raise the urban quality of neighbourhoods and the quality of life they offer.

Cologne will develop its infrastructure and public services in line with demand. (Objective 1.5, Cologne Perspectives 2030+)
Demand-driven infrastructure services allow city residents to access and participate in the life of society and are thus an essential component in the future development of the city. Demographic changes, city growth, climate change, pluralist lifestyles and digitalisation are only some of the factors that exert additional pressure to adapt urban infrastructure and public services in Cologne. In the coming years, further-reaching adaptations will become necessary, ranging from technical measures to radical transitions in a wide spectrum of areas from sustainable energy supplies to reforming medical care.
The city-specific challenges and options for action in the individual infrastructure and services sectors must be identified. Alongside quantitative demand, qualitative and spatially differentiated needs and forms of service will

play a role. Accordingly, it is not only about "whether" they should be provided but about "where, how and on what scale".

To improve the general quality of offerings, access to public services must be simplified and barrier-free access guaranteed. At this point digitalisation offers potential to improve the networking and provision of information about existing service offerings. The quality of health and social services in particular must not focus on individual sub-areas, but must be enhanced across the entire city, particularly in disadvantaged districts.

Cologne will develop spaces and structures for the cultural and creative industries. (Objective 2.4, Cologne Perspectives 2030+)

Cologne is a diverse metropolis, where many creative actors have left their mark on the economy. Many jobs and much income now depends on the cultural and creative industries. The city also has a rich cultural tradition and many different museums, alongside contemporary art and cultural offerings. Cologne aims to actively promote and further expand its position as a centre of art and culture.

**Cologne will develop its role as pioneer in the field of digitalisation.
(Objective 4.4, Cologne Perspectives 2030+)**

Cologne intends to make more use of SmartCity technologies in other areas too, also in its contacts with city residents wishing to apply for a trading license, a building permit or identification papers. Digital opportunities are to contribute more to keeping processes streamlined and pleasant for all stakeholders.

In terms of strategic management in particular, electronic data are set to be pivotal. Extensive public portals are already in place with the geoportal of the state of North Rhine Westphalia and the Open Data portal of the City of Cologne. Cologne has set itself the goal of dovetailing diverse data sets on demographic development, urban development, social structures, environmental factors etc. as well as optimising accessibility.

3.9.3   Overview: Qualitative aspects and indicators

Qualitative aspects:

❚ Cooperation for innovative solutions to achieve sustainability

❚ Supporting drivers of innovation

❚ Sustainability-orientation of start-up and business support services

Indicators:

❚ Business start-ups

❚ Broadband coverage - private households

❚ Highly-qualified professionals

3.9.4   Contributions of the City of Cologne to the SDG

Cooperation for innovative solutions to achieve sustainability

To optimise cooperation between the City of Cologne and *Stadtwerke Köln* group, a shared, overarching data ecosystem is being driven forward within the framework of the **Digitale Zukunftsstadt** (Digital City of the Future) initiative taking account of the city's data value creation cycle. Use cases help build a prototype for the ecosystem and prepare strategy recommendations for policy-makers. The City of Cologne and *KölnBusiness* also work closely with the city's science and research community. The office of the *Kölner Wissenschaftsrunde,* a network of 24 Cologne-based universities and research facilities, is hosted by *KölnBusiness*.

Photo 30:   Example image - startup sketch

Supporting drivers of innovation

Information and communication technology has become part of almost every aspect of daily life. Against this background, digital change needs to be managed at local level. In 2012 the City Council adopted the **Internetstadt Köln strategy,** making Cologne Germany's first city to adopt a digital agenda. The strategy aims to effectively optimise the online profile of the city and develop Cologne as a national and international centre of internet technology and infrastructure (Cologne is consistently ranked close to the top of several nationwide ranking lists, as a pioneer of the digital economy). The *Internetstadt* strategy covers all main aspects of digitalisation, from promoting the education network to foster internet skills to open government (online services for citizens and opportunities for citizen participation), support for the internet economy and structure, new work and lifestyle models, improving work processes within the municipal administration and fostering a multi-stakeholder approach. Numerous initiatives and projects have already been successfully implemented. Examples of these go from working models (mobile working, decentralised working, multi-level cooperation, joint vehicle registration) to business optimisation and administration-wide processes (electronic tendering, mobile investigative services at overarching level) and measures for holistic school IT at the city's schools, as well as modernising the city's online platforms.

In 2015 Cologne's **digital strategy was devised by the office for realising the Internetstadt Köln strategy.** The digital city stands apart by virtue of strongly networking all stakeholders in civil society and within the administration. In 2016 the **digital scouts model** was established against this background. The scouts act as contacts for the various city departments and their units. Within the scope of Cologne's digital strategy, regular events are staged to foster participation. These opportunities are then used to take the strategy to the next level. The **Digitalisation Task Force** brings together the diverse activities within the city. Within the framework of the annual *KölnDigital* event, residents of Cologne are informed about the digitalisation activities of the city, and have the chance to get involved.

Building on both established and modern communication channels like the mobile city online platform, established social media channels and the Service-App, transparency and openness is an important factor in digitalisation. In line with the City Council decision to adopt the *Internetstadt* strategy, the city has an **open data** policy. Open administrative data can be used, processed and shared by all people for any purpose. This gives people the opportunity to inform themselves using open data and to play an active role in shaping society and politics. Within the scope of big data and the development of new local business models, real-time data is not only used to improve internal steering, but is also made available publicly on the data platform to facilitate the development of new applications.

Sustainability-orientation of start-up and business support services

The City of Cologne has become the number one location for start-ups in NRW in recent years. Since 2020 the **Cologne Start-up Map** produced by *KölnBusiness* has provided an overview of the start-up ecosystem in the city, with detailed information about start-up and financial advisors. Sustainable start-ups receive targeted support from *KölnBusiness* with various networking and events in areas such as green tech, mobility, and female entrepreneurship. Within the scope of the annual SmartCity Cologne conference, there is a start-up pitch competition *(Kölns KlimaStar),* where start-up entrepreneurs can pitch their business ideas to an audience. The audience then votes for the winner, or climate star *(Klimastar).* Along with the cities of Hamburg, Munich and Berlin, *KölnBusiness* also stages the annual **Startup-Champs start-up pitch competition.** In 2021 there was a focus on green tech start-ups and in 2022 on mobility
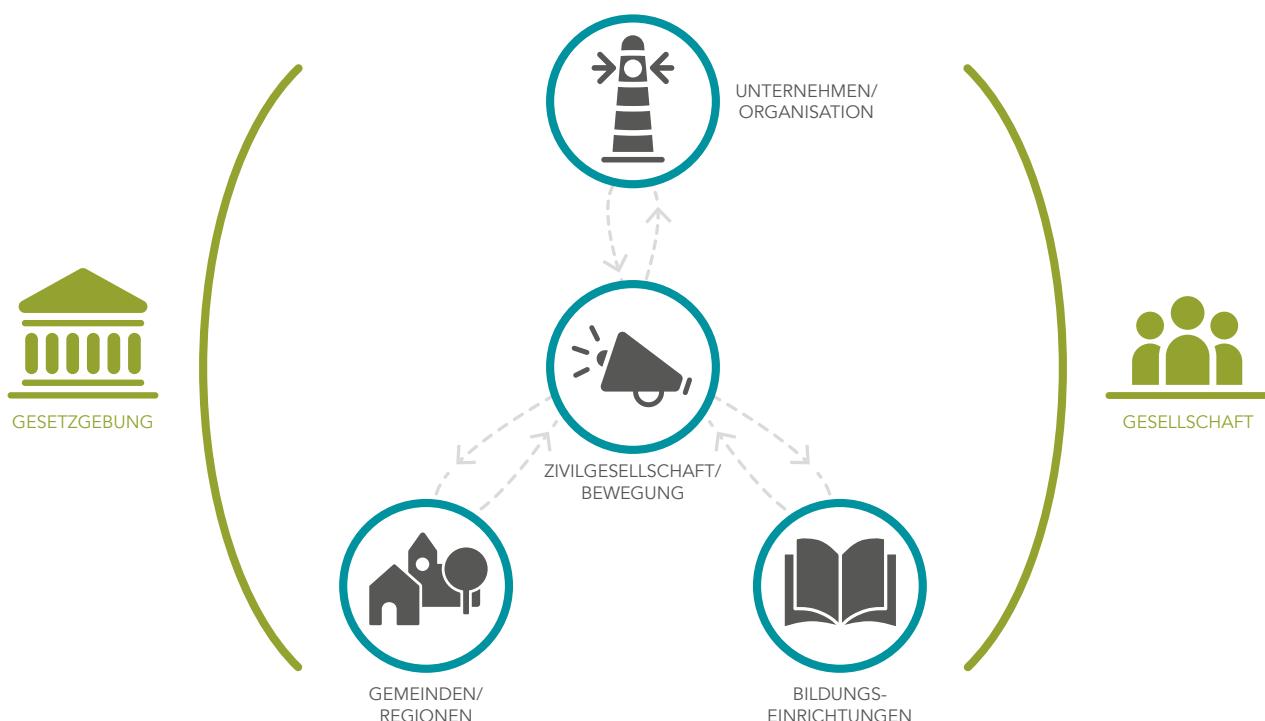
and logistics. Young start-up entrepreneurs from Cologne thus have a national stage where they can present their innovative, technology-based solutions for a sustainable future. In 2021, *KölnBusiness* also commissioned a ***feasibility study of establishing a Cologne hub in the field of sustainability,*** which is to focus on supporting start-ups with business models that help achieve the Sustainable Development Goals (SDGs). This study spawned the ***Impact.Cologne Initiative,*** which is helping Cologne's economy shift to a sustainable future.

In its capacity as a certified NRW start-up centre, *KölnBusiness* supports start-ups free of charge, with individual measures to help them on their way.

One focus is on ***social entrepreneurship,*** helped by membership of the *Social Entrepreneurship Netzwerk Deutschland e.V.* All staff receive further training in this area.

In 2018 and 2021 following an audit conducted by the Federal Ministry of Labour and Social Affairs under its ***Initiative for a New Quality of Work (INQA),*** Cologne's municipal waste management company AVG was certified as having a "sustainable corporate culture" The Federal Ministry certifies approaches that devise sustainable solutions to address the challenges of the digital working world of tomorrow and the use of artificial intelligence.

Photo 31:   Target group graphic common good economy

3.9.5   Indicators

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
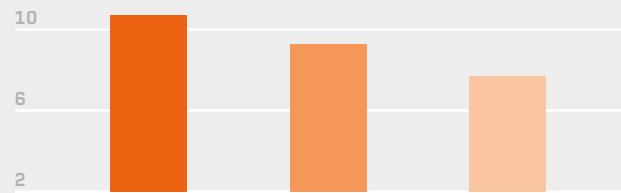
Business start-ups

Number of business start-ups per 1,000 inhabitants (Source: SDG Portal)

Start-ups can help create jobs and foster competition and can be an expression of an innovative, viable economic structure. The indicator provides information about the number of start-ups per 1,000 inhabitants without providing any information about the level of innovation of the start-up. It can thus provide limited information about the actual level of innovation in a municipality. In the City of Cologne, the number of start-ups per 1,000 inhabitants remained relatively constant during the period under review at about 9 or 10. In 2020 this figure dropped to 7.7. Even the 2020 figure, however, was above the average for NRW as a whole (6.5). Objective 9.1 of the German Sustainable Development Strategy sets the goal of "raising private and public expenditure on research and development, to a minimum of 3.5% of annual GDP by 2025". Visionary entrepreneurs geared to the future are, for instance, given tax breaks or support packages, and are able to raise the level of innovation in a municipality.

Business start-ups

10.7 Number	9.3 Number	7.7 Number
2010	2015	2020

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Broadband coverage - private households
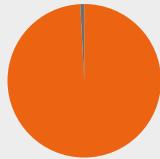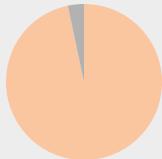
Percentage of private households able to use 50Mbit/s broadband connection (Source: SDG Portal)

Across-the-board broadband coverage for private households relates indirectly to sustainability, since the access to information and electronic services (e.g. e-medicine and e-government) and working from home can save households time and money. Online access to a wide range of educational and information services also helps foster inter-generational equity.

In the City of Cologne, 99.0% of private households were able to use a 50Mbit/s broadband connection in 2019, putting it above the average of NRW as a whole (93.2%). The City of Cologne is thus helping achieve Objective 9.1.b of the German Sustainable Development Strategy (universal gigabit network rollout by 2025).
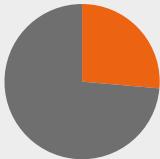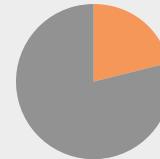
Broadband coverage - private households

96.7 %	**99.2** %	**99.0** %
2015	2017	2019

Highly-qualified professionals

20.4 %	**21.3** %	**26.5** %
2010	2015	2020

Highly-qualified professionals

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Number of people employed in jobs subject to social security contributions with academic degrees as a percentage of all people employed in jobs subject to social security contributions (Source: SDG Portal)

The percentage of highly qualified individuals in a municipality has various positive impacts. As well as increasing the economic output and thus the future viability of (local) businesses, the level of qualifications also has economic impacts, for instance trade tax earnings for the municipality. The percentage, however, says nothing about actual demand for highly-qualified workers or the level of specialisation re-

quired at any given location. The percentage has risen in Cologne during the period under review, standing most recently at 26.5% in 2020, significantly above the NRW average of 16.2%. The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to this indicator.

3.10   SDG 10 - Reduced Inequalities

3.10.1   SDG 10 - Introduction and relevance for German municipalities

SDG 10 calls on the world to reduce inequality within and among countries. Major economic and social inequality threatens the cohesion of societies and is a key cause of social tensions. Inequality can occur in various forms, and is manifested not only in the distribution of wealth and income. In may also be reflected for instance in access to education and health care, or in social, economic and political participation. To ensure equal opportunities and freedom from discrimination, as well as successful integration and inclusion, it is therefore important to promote the equal participation of all - regardless of gender and sexual orientation, origin, religious affiliation or disability. The potential of all citizens can then be harnessed for society as a whole, and appropriate participation in economic progress and social achievements can be enabled for all.[20] For German municipalities, this makes the following themes especially relevant (please also compare these with the targets for SDG 10 in the annex):

❚ Reducing economic and social inequality/discrimination, and promoting equal opportunities
❚ Promoting inclusion and integration.

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20   See Germany´s Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.10.2   Links to Cologne's objectives

Cologne will actively foster an inclusive society. (Objective 3.3, Cologne Perspectives 2030+)
Inclusion is diametrically opposed to marginalisation. So, when every individual, irrespective of their background, worldview, religion, sexual orientation, gender or disability, can participate in the life of society, whether at the workplace, in terms of education, in everyday life within their neighbourhood and in terms of leisure activities, the society can be said to be inclusive.
Cologne too has set itself this goal and aims to become a more equitable city. Diversity and commonalities are to become more of a focus, as was the case with the campaign Unsere Vielfalt - Kölns Stärke (Our diversity - Cologne's strength). Cologne intends to send a strong signal that the city rejects discrimination and marginalisation and embraces an open and diverse city. This will involve firstly putting in place the relevant offerings in terms of housing, leisure opportunities, ports and recreational activities, as well as ensuring barrier-free mobility.
Secondly, participation must genuinely be ensured. One of the most important instruments in this is education, specifically equal opportunities in education, since this is the bedrock of societal participation.

Cologne will foster diversity in the different parts of the city.
(Objective 3.1, Cologne Perspectives 2030+)
In 2007, the City of Cologne was the first German municipality to sign the German Diversity Charter. In 2013 it set up a Diversity Unit. Cologne was quick to recognise diversity as a potential, a resource and a great treasure. To ensure that people in Cologne can live together, showing mutual respect, and that the city can retain its diversity, active steps must be taken so that diversity continues to be seen as enriching the city. This must also be actively practiced and not just preached. The local, neighbourhood, level has a particularly import-

ant role to play here. This is where people from a wide spectrum of different backgrounds (in terms of income, educational background, age, employment status, religion, cultural background, disabilities, worldview and life plans) come together every day.

3.10.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
- Anti-discrimination, violence prevention and equal opportunities
- Preventing social segregation
- Inclusion and promotion of disadvantaged population groups
- Integration
- Universal access to municipal services
- Diversity and equal opportunities in the administration and companies (partly) owned by the municipality

Indicators:
- School leavers without qualifications - non-Germans
- Employment rate - non-Germans
- Naturalisations

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3.10.4   Contributions of the City of Cologne to the SDG

Anti-discrimination, violence prevention and equal opportunities

Cologne is well known as a city that is particularly active in addressing discrimination and fostering diversity. As a member of the ***European Coalition of Cities against Racism (ECCAR),*** Cologne has undertaken to implement the Coalition's 10 Points Action Plan, which sets out specific fields of action to tackle discrimination and racism at local level. Implementation is documented in the form of regular reports, that are then evaluated by an independent scientific committee of the Coalition and UNESCO representatives. The latest evaluation report praises Cologne's massive engagement. The city is also a member of the ***Kölner Forum gegen Rassismus und Diskriminierung*** (Cologne Anti-Racism and - Discrimination Forum), which was founded in 2009 by NGOs, units of the mu-

Photo 32:   Example image - hands

nicipal administration and other organisations. In 2020 the City Council adopted **Guidelines for the Promotion of Racism-critical Projects to Foster Democracy and Acceptance.** Anti-racist and racism-critical projects are promoted. Everyday racism and everyday discrimination are also addressed as part of the process launched in 2021 to address the City of Cologne's colonial legacy. This process looks at the impacts of colonialism on societal life and cohesion today, and embraces a wide spectrum of open events and participatory activities.

In 2007, Cologne was the first German municipality to sign the German Diversity Charter. To foster diversity in public administrations, in 2015 the City of Cologne founded a **diversity network of local and state administrations** in cooperation with other partners. In 2016 the City Council adopted the **Diversity Strategy 2020: Cologne lives and loves diversity.** Measures aim to reduce marginalisation and discrimination, while fostering participation and equal opportunities within and outside the administration. The strategy is backed by a financial control team, and a report on implementation (2018 - 2021) was recently published.

Preventing social segregation

In Cologne there is a certain polarisation among districts of the city in terms of the distribution of those on SGB II benefits (basic social protection for job-seekers), especially benefit recipients living in households with children. The same applies to the distribution of social housing. The level of segregation in Cologne is similar to that seen in other cities of this size in Germany. There is thus a need to devise appropriate action strategies to improve living conditions for residents. The programme **Starke Veedel - Starkes Köln** (Strong Neighbourhoods - Strong Cologne) is intended to improve the living conditions of Cologne residents in these neighbourhoods and take appropriate measures to prevent social marginalisation. Between 2016 and 2022, the programme addressed a total of 11 of the city's more vulnera-

ble neighbourhoods. It builds on the successful *Lebenswerte Veedel, Bürger- und Sozialraumorientierung* programme (Neighbourhoods you want to live in - Orientation for citizens and social spaces in Cologne). The programme taps several funding sources (European Social Fund, European Regional Development Fund and town and city planning funding). To make a lasting improvement to living conditions for residents, an integrated approach was chosen, which provides for the parallel implementation of an extensive package of measures in the city's 11 neighbourhoods designated as social spaces. The measures create new offerings for children, young people and families, as well as advisory and support services that help residents become engaged in their social spaces and encourage them to participate in educational and cultural offerings. Funding is also available for improving the residential environment too, with outside areas upgraded and playgrounds redesigned.

The German Federal Construction Code (Section 172) allows municipalities to adopt **social preservation orders** to retain the composition of the resident population of a designated area. This allows municipalities to influence the preservation of housing stock, the sizes of housing units and the use of those units. Upgrading processes can be managed in a more socially acceptable and circumspect manner, to prevent residents being driven out of their own neighbourhoods. A social preservation order has been adopted for two districts of Cologne (the inner-city Severinsviertel and Mühlehim in the south west of the city). Orders are currently under consideration for two more areas (Neustadt Süd-West in the inner city and Ehrenfeld Ost). The main goals are to retain the existing structure of housing on offer for different household and income types and to restrict modernisation projects to a socially acceptable level.

The programme **Förderprogramm: Gemeinwesenarbeit für die Stadt Köln** (Community Work for the City of Cologne) also aims to support quarters of the city facing particularly serious social problems. Community work gets residents actively involved and en-

Photo 33:   Ledo housing project

ables them to take charge of shaping and stabilising their own living conditions.

Inclusion and promotion of disadvantaged population groups

To support disadvantaged sections of the population, Cologne introduced an **Action Strategy for Cologne's Policy on Disabilities** in 2009. It is entitled "Cologne overcomes barriers - one city for all". The second update, adopted in 2016, sets out 105 individual measures in 12 different areas of action. The measures, which are coordinated by the Office of the Commissioner for People with Disabilities, pursue the overall goal of dismantling barriers that stand in the way of people with disabilities having equal opportunities in life, or make this more difficult. One example of activities in Cologne is the **establishment of district learning spaces** fitted out with technology and support to enable people with disabilities to develop their media competence. The **Cologne Innovation Award for Policies for People with Disabilities** has been awarded biannually since 2008. It is awarded to exemplary projects that involve people with disabilities. Back in 2004 a **City Working Group on Policies for People with Disabilities** was set up as part of Cologne's local political level. The office is attached to the Disability Unit. In 2006 the City Council set up a dedicated Office of the Commissioner for People with Disabilities. In 2021 the City Council also decided that simple language should become the standard in administrative communication. This means that the administration must, as far as possible, shift to using simple German in their external communication.

In terms of inclusion of children and young people, the City has since 2010 had an **Inclusion Plan for Cologne's Schools,** which is regularly updated. The plan aims to develop inclusive educational landscapes under the shared responsibility of the City and the state of NRW, against the background of the UN Convention on the Rights of Persons with Disabilities.

Under the Convention, the human right to participation includes the right of children to attend a regular school close to their home and receive the individual support they need at that school. In Cologne's municipal nurseries inclusion has been a self-evident and integral part of daily work for many years. In 2013 the first **Inclusion Strategy for Municipal Nurseries** was drawn up. In 2016 it was updated, using a participatory process that dovetailed closely with practitioners to ensure that all children could participate without restrictions.

The **Köln-Pass (Cologne Pass)** was developed to support people on a low income. Since 2007, the pass in its current form has offered a wide range of reductions, allowing people on a low income to participate in areas such as culture, sport, education and mobility. In 2020 over 153,000 people enjoyed the benefits brought by the *Köln-Pass,* with about 78,000 of this group recipients of SGB II benefits (basic social protection for job-seekers) and senior citizens (target for 2021: 153,133). In 2017 the City Council decided to expand the validity of the *Köln-Pass,* making it available to recipients of SGB II benefits and senior citizens on low pensions.

2006 saw the launch of the **Lebenswerte Veedel, Bürger- und Sozialraumorientierung** (Neighbourhoods you want to live in - Orientation for citizens and social spaces in Cologne) programme in six designated social spaces. The programme has been regularly honed and expanded to include areas with pertinent needs. Since the start of 2020 a total of 15 neighbourhoods have been designated as social spaces. On behalf of the city, Cologne-based welfare organisations employ social space coordinators on the ground. They work in close and ongoing consultation with the administration, through the *Lebenswerte Veedel* Office. One important goal is to network stakeholders within each neighbourhood, including citizens, politicians, social and educational facilities, associations, volunteers and the police. Together they find ways of cooperating better at local level to serve needs. New, appropriate service offerings are generated for citizens of all ages. The spectrum goes from citizen sur-

geries to public celebrations, educational offerings, sports courses, and leisure activities for children and young people, to violence prevention courses and educational courses on a variety of topics.

Over the last two years the programme has been further developed on behalf of the City Council with external support. Municipal staff, the social space coordinators, representatives of the political arena and welfare organisations have all collaborated. The results are documented in a manual: *Lebenswerte Veedel - Handbuch Bürger*innen- und Sozialraumorientierung in Köln* (Manual for neighbourhoods you want to live in - Orientation for citizens and social spaces in Cologne)

Integration

Cologne is a cosmopolitan, tolerant city. Its cultural diversity is characteristic of the city and one of its great strengths. Integration work is driven largely by the Office for Integration and Diversity and the affiliated **Local Integration Centre.** The centre has been in place since 2013. It is actively involved in integration through education and integration as a cross-cutting issue (including, for instance, the coordination and support of Cologne's renowned intercultural centres). The overarching strategy and key guideline for local integration work is set out in Cologne's **Strategy for strengthening integrative urban society** (2012). It aims to enable migrants to participate equally in public, economic, cultural and political life, and sets out the preconditions, goals and key areas of action. This strategy is adapted and updated within the scope of the annual **Interkulturelles Köln conference** which aims to network experts in the fields of migration and integration. It is supplemented by parallel measures under the **Interkulturelles Maßnahmenprogramm** (Intercultural Measures Programme (2014)) to promote integration, diversity and intercultural living. Since 2021 Cologne has also been part of the NRW state programme *Kommunales Integrationsmanagement* (Local Integration Management), which facilitates joined-up advisory services, especially those tar-

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geting young migrants. The **Integration Council of the City of Cologne** represents the interests of people with international family backgrounds living in Cologne, and brings their concerns to local policy discussions. Since 2016 the five working groups of the Integration Council have supported political work.

With a view to promoting integration in the education sector, the **Centre for Multilingualism and Integration** (a cooperative venture involving Cologne district government, the City of Cologne and the University of Cologne) helps education facilities foster German language skills and systematically implement multilingual education. The centre produced a key issues paper on integrating newly arrived children and young people in Cologne's schools (2018) to help ensure that migrant children and young people have equal access within the education systems,. The holiday project talentCAMPus, a project of Cologne *Volk-*

hochschule, the Local Integration Centre and the Learning Region - Network Cologne, also supports children and young people arriving in Cologne as migrants. Another important task is **rolling out low-threshold intercultural family education services.** To help people with a migrant background learn German, the Office for Advanced Training/Adult Education offers a wide range of services. It is the largest provider of language courses in Cologne.

Universal access to municipal services

To make the services of municipal authorities accessible to all citizens, irrespective of age, disability or migration background, the City of Cologne is implementing various measures. The Local Integration

Photo 34:   Cologne Perspectives 2030+ Future Forum 2019

Centre works to **foster an openness to intercultural issues within the administration.** This aims to enable all people in Cologne to participate and enjoy equal opportunities, irrespective of their background and cultural identity. By embracing the challenges and conditions posed by an immigrant society, the municipal administration can overcome barriers to accessing public services and ensure that opportunities to exert an influence and participate are more evenly spread. A racism-critical approach is adopted with respect to the process of intercultural opening.

Against this background, the administration provides multilingual information and application forms for use by citizens. All offices involved in the delivery of essential public services also use a video interpreter. (Cultural) interpreters are used city-wide. Regular training courses are also held for staff to develop their awareness regarding racism-critical thinking and to hone their diversity-related skills. Language skills on the part of staff are seen as a valuable resource and are encouraged.

Since 2015 Cologne has had a Partnership for Cologne as a Democracy, which works to counter right-wing extremism and to foster diverse, non-violent, democratic living in Cologne, with new focuses every year.

Diversity and equal opportunities in the administration and companies (partly) owned by the municipality

Intensive engagement for gender equality has a long tradition in Cologne's administration, as evidenced by the five plans to advance women which have been implemented since 2001. The administration has made huge progress in advancing the interests of women in recent years. Women now account for 62.8% of the permanent workforce of the City of Cologne, and 46% of managerial and executive posts are held by women. Following the five women's plans, **Cologne's first Gender Equality Plan** was adopted in 2019 for the period 2019 to 2023. Measures include raising gender-based quotas, public advertising of promotion posts, flexibilisation of work, expanding child daycare services along with efforts to retain staff and make it easier to go back to work after a break, and taking steps to ensure financial security and independence. The Gender Equality Plan thus goes a long way towards enabling staff to reconcile professional and family commitments.

Against the background of the Cologne Diversity Strategy 2020: Cologne lives and loves diversity, a number of **measures to promote diversity** are being implemented within Cologne's municipal administration. This affects, for instance, HR marketing activities, where diversity is to be seen as added value and the real-life standard for the administration, and the drafting of standards for non-discriminatory language inside and outside the administration. To further foster diversity skills, relevant training courses for staff have been offered twice a year since 2015. Four times a year, training courses are also held for managers, illustrating the value offered by diversity as a resource and how this can be best used in the working context. Priority issues include diversity as a managerial responsibility and unconscious prejudice. Between 2018 and 2021 a total of 68 managers working for the City of Cologne attended these courses.

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3.10.5   Indicators

10 REDUCED INEQUALITIES
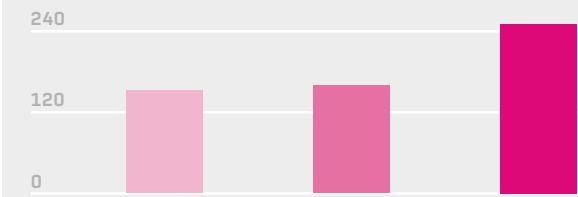
School leavers without qualifications - non-Germans

The school dropout rate of non-Germans as a percentage of the school-dropout rate for the population as a whole (Source: SDG Portal)

Education is of pivotal importance for young people with an immigrant background. Basic schooling is the key to the working world and thus a precondition for economic integration. Young people with an immigrant background often face problems in the education system (resulting, for instance, from uncertain residence status). In 2020, in Cologne, about two and a half times as many non-Germans left school without any qualifications than the figure for the population as a whole (250.6%). In 2020 the average for the state of NRW stood at 375.3%, making it significantly higher. More efforts are needed to achieve Objective 10.1 of the German Sustainable Development Strategy (Increase the proportion of foreign school leavers with at least a general secondary school certificate

School leavers without qualifications - non-Germans

151.9 %	159.9 %	250.6 %
2010	2015	2020

and bring into line with that of German school leavers by 2030).

10 REDUCED INEQUALITIES
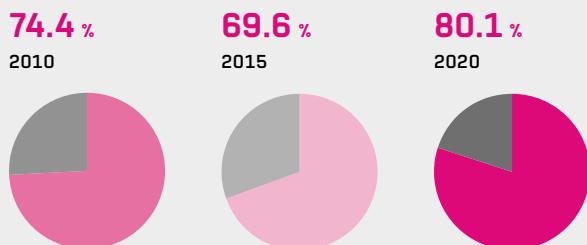
Employment rate - non-Germans

Employment rates of non-Germans as a percentage of the employment rate of the population as a whole (Source: SDG Portal)
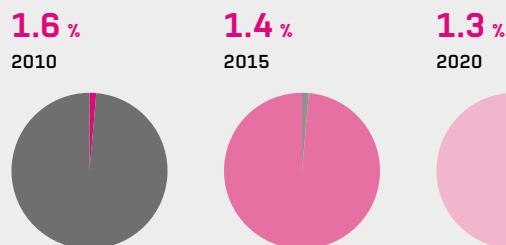
The employment rate of people with an immigrant background provides information about labour market integration. A high employment rate among people with an immigrant background points both to economic and social integration and to participation in society, and gives these people financial independence. It cannot, however, provide any information on freedom from discrimination, while factors such as legal restrictions on working may impact on the employment rate. In the City of Cologne the employment rate for people with an immigrant background was most recently 80.1% of the rate for the population as a whole, and thus well about the rate for NRW as a whole, which stood at 74.0% (2020). The German Sustainable Development Strategy does not set out any specific objectives for this indicator. The NRW Sustainable Development Strategy aims to reduce the rate of poverty risk for people with an immigrant background (Objective 10.4).

Employment rate - non-Germans

74.4 %	69.6 %	80.1 %
2010	2015	2020

Naturalisations

1.6 %	1.4 %	1.3 %
2010	2015	2020

10 REDUCED INEQUALITIES

Naturalisations

Number of naturalised German citizens in the year as a percentage of all non-German nationals resident in Germany (Source: SDG Portal)

The number of annual naturalisations is considered an important indicator, providing information about integration, because naturalisation generally helps foster stronger identification with the society of the country whose citizenship is acquired. In 2020 1.3% of non-German citizens living in the City of Cologne acquired German citizenship. This figure was higher than the average for NRW, which was 1.0% in 2020. There is no specific link to naturalisation in the Sustainable Development Strategies at national level and state level in NRW.

11 SUSTAINABLE CITIES AND COMMUNITIES

3.11   SDG 11 - Sustainable Cities and Communities

3.11.1   SDG 11 - Introduction and relevance for German municipalities

SDG 11 aims to make cities and human settlements inclusive, safe, resilient and sustainable. Municipalities must rise to face current challenges such as climate change, resource scarcity, demographic change and migration. Against this background, a sustainable, integrated urban development policy will combine social, economic and ecological goals and takes all relevant interests into account. Among other things, this involves promoting compact and green urban structures, socially balanced and mixed urban neighbourhoods, and affordable housing. Neighbourhoods are places where people reside and interact socially. They also form the space where people lead their everyday lives. This makes them especially important for sustainable development. The reduction of environmental pollution by municipalities (e.g. air quality and noise abatement), and the promotion of sustainable mobility (e.g. by strengthening modes of eco-transport), are also key components of SDG 11.[21] In summary, for German municipalities the following themes play a particularly important role in implementing this SDG (please also compare these with the targets for SDG 11 in the annex):

❚ Implementing integrated urban development, promoting sustainable neighbourhoods and affordable housing, and reducing land take
❚ Promoting sustainable mobility
❚ Implementing comprehensive disaster risk management
❚ Promoting air quality and noise abatement.

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21   See Germany´s Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.11.2   Links to Cologne's objectives

**Cologne will make careful use of land, which is a scarce resource.
(Objective 1.2, Cologne Perspectives 2030+)**
Land is a limited resource that cannot be multiplied, forcing cities to manage the resource carefully and find efficient solutions, in the face of worsening competition for land. Managing settlement areas is thus increasingly becoming key to sustainable urban development.

The planned projects *Deutzer Hafen* and *Parkstadt Süd* are good examples of appropriate action. In both cases land that was poorly used or unused for many years is being reactivated and transformed into urban districts with housing, office space and commercial premises. As well as harnessing hitherto unused land and vacant lots between buildings, the concept of multicoding land and spaces offers an approach to coordinating competing land use demands and interests efficiently and healthily, thus saving land. Multicoding means that areas and spaces can be used for different purposes or by different use groups at different times of the day and night, or simultaneously.

To address the problem of rising demand for land, Cologne will in future have to develop its land management and develop the active management of land use with a sustainable real estate and land management policy. At the same time, reviewing land use leads to more compact spatial structures and a more effective use of urban density. The criteria for appropriate density must be identified in dialogue and brought into line with local conditions on the ground.

Cologne will maintain and develop its neighbourhoods as centres of social life in the community. (Objective 1.3, Cologne Perspectives 2030+)

The life of the community plays out mainly in the immediate vicinity of people's homes and workplaces. These spaces shape the quality of people's daily lives to a great extent. To support these areas in the long term, Cologne must create space for encounters, recreation and communal activities, by stepping up neighbourhood development and working with all stakeholder groups to shape neighbourhoods.

Cologne is already a city with very mixed neighbourhoods and great cultural diversity. To uphold this diversity and guarantee a high quality of urban living in the neighbourhoods, spaces for encounters must be guaranteed and must be able to operate as places for communication and integration.

At the same time, the different structural and social potentials and challenges facing the neighbourhoods as they develop must be taken into account. Appropriate interplay in the sizes and density of buildings and infrastructure can then ensure social and cultural offerings that are viable in the long term. This is particularly true in disadvantaged parts of town.

Cologne will ensure attractive parks, squares and streets and safe public spaces. (Objective 1.4, Cologne Perspectives 2030+)

Life in the city is again shifting more outside, into the streets and paths, parks and squares. The quality of public space reflects the quality of life in the city as well as a healthy living environment, which is increasingly becoming an important selling point for metropolises. This trend is expressed in a greater wish for a higher quality of public spaces in terms of atmosphere and higher demands of the green areas in the city.

The City of Cologne thus sees a clear need to further upgrade public spaces as a pillar of quality urban life. The first step is to keep and develop public squares attractive places for people to meet within the neighbourhood. They are places where people want to spend time, meet others and communicate, as well as being a stage for public life, an important resource for the city, and often the source of conflict among different user groups. The development and upgrading of these spaces always needs to take account of a large number of different factors, including the need to adapt to climate change.

Improving the overarching quality of all public spaces will also in future increasingly demand guaranteeing safety, security, maintenance and cleanliness. This is the only way that public spaces in Cologne can perform their orig-

inal function satisfactorily and give residents a place they can enjoy. Spaces that have grown organically with the city, offering unique atmosphere, like Cologne's green belt and the promenade along the Rhine must also be protected. Alongside parks and squares, in future urban development is to focus more on streets, many of which are still dominated by private motorised traffic and offer no real incentive to spend time there. Above all this will mean organising stationary traffic in a way that is good for the city, and reducing it in the long term.

Cologne will optimise land use in industrial and commercial zones and make them more accessible. (Objective 2.5, Cologne Perspectives 2030+)
Industrial and commercial zones have to date generally involved very intensive use of land. To reduce the area of land used and prevent soil sealing, Cologne has set itself the goal of stacking production, commercial and industrial facilities in future, thus making more efficient use of land. The new stacking will offer the opportunity to test new types of city, that are able to respond innovatively to the changing working world of the 21st century.
Local public transport links to workplaces and manufacturing facilities are also to be improved along with links to cycle and pedestrian networks. This will not only ensure less private motor traffic but will make the company location more attractive. More densely used commercial and industrial sites and promotion of urban production will help make local public transport connections more profitable.
Goods transport too must become more multimodel. Cologne is well positioned with its four-pronged system (road, rail, water and air). In view of climate change, this should be further optimised. It is important to network logistics traffic in a logical manner, to manage it in a climate-appropriate way and to organise it such that it is compatible with a healthy city.

Cologne will ensure affordable housing and a variety of types of housing. (Objective 3.2, Cologne Perspectives 2030+)

Cologne is growing. An appropriate housing supply is needed if this trend is to be managed positively. This means developing and maintaining in the long term a sufficient number of housing units in various and affordable forms and a range of different sizes for different sections of the population, including specific offerings for people with special needs and people with no close links to the housing market. This diverse supply must also be reflected in the availability of a mix of different housing options within individual neighbourhoods - affordable housing must not be focused on segregated, less popular areas or along main traffic routes.

To this end more land must be identified for housing and work initiated and driven forward to achieve more diverse housing offerings in cooperation with all stakeholders on the housing market. At the same time, challenges in existing housing stocks should be addressed. As well as ensuring a decent state of repair and maintenance, buildings should be gradually adapted to the imperatives of demographic change and climate change. More rigorous action should be taken against moves to use living space for any other purpose.

Cologne will develop its mobility services with the region in a way that is innovative and environmentally sound, and will strengthen local public transport. (Objective 4.1, Cologne Perspectives 2030+)

The mobility of the future will be multimodal and networked. Very few Cologne residents use only a private car, local public transport or a bike, or walk everywhere. This makes the transfer points between different mobility services very important in the city and in the region, if multimobility is to be further encouraged. Developing these hubs will be a key task over the next few years. As well as transfer points within the local public transport services, electric car sharing and bike sharing services will need to be offered. In this way the number of privately owned vehicles in the city can be reduced, along with the space taken up in the city by stationary vehicles. The Rhine too could become a link, if new water-borne mobility services are put in place.

**Cologne will create more space for cyclists and pedestrians.
(Objective 4.2, Cologne Perspectives 2030+)**
International examples demonstrate that the forward-looking expansion of bicycle traffic has extremely positive impacts on the quality of life and mobility of city residents. The redistribution and restructuring of street space in favour of cyclists is the logical response to the rise already seen in the percentage of bicycle traffic in the modal split, while also being a precondition for encouraging still more people to shift to cycling or to use their bikes more often in future. A good, safe network of cycle paths also takes account of various levels of use. As well as good cycle options at neighbourhood level, fast regional cycle paths are needed. To this end gaps in networks must be closed and links created to multimodal transfer points (or hubs).

3.11.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
- Affordable housing
- Sustainable urban development
- Spaces for local recreation and social contacts
- Sustainable local mobility
- Sustainable mobility in the administration and companies (partly) owned by the municipality

Indikatoren:
- Rent levels
- Living space
- Spaces for local recreation
- Support for fixed-price rented accommodation (number of housing units)
- Housing stock (rent-supported homes)
- Land used
- New land used
- Intensity of land use
- Private car density
- Persons injured in road traffic accidents
- Modal split
- Percentage of total private cars registered accounted for by electric vehicles
- Kilometres driven per annum by local public transport services
- Year-on-year change in bicycle traffic

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3.11.4   Contributions of the City of Cologne to the SDG

Affordable housing

Cologne is one of Germany's growing cities and is facing the challenge of increasing its housing supply across all segments, but most specifically in the affordable housing category. The framework is provided by the **Stadtentwicklungskonzept Wohnen** (Urban Development Strategy for Housing), which was adopted in 2014. It pursues an integrated approach involving all important areas of action in housing policy and was elaborated jointly with stakeholders from the fields of housing policy and the housing sector. It sets out the following guidelines:

1. Harness opportunities for growth - make Cologne more attractive,
2. Internal development takes precedence over external development,
3. Support social redistribution - redress social imbalances,
4. Foster neighbourhood development based on partnership,
5. Support and ensure the development of existing housing stock,
6. Enhance flexibility and adjustability, and
7. Step up dialogue and cooperation with all stakeholders.

The strategy has been designed as an open process with regular review and modification of objectives and measures.

The **cooperative building land model** is an important tool to implement the objectives. It obliges builders to include in their project a certain percentage of publicly-subsidised housing. In projects that trigger zoning (*Bebauungsplanung*), builders, investors and project managers are required to ensure that 30 per cent of the housing units are publicly-subsidised housing, provided the project involves more than 20

Photo 35:   Traffic calming Severinstraße

housing units with 1,800 m² per floor earmarked for residential purposes (current total number of cases: 56 / 18,213 housing units / 5,599 publicly-subsidised housing units). At the same time they are required to share more of the follow-on costs caused by their projects. These might, for instance, be costs for children's daycare, green areas and playgrounds. When the model was updated in 2017 the priority goal of supporting affordable housing was stressed even more strongly than before. Changes in the implementation directives for the cooperative building land model entitled "2017 Plus" are also geared more to the need for green areas and playgrounds.

Another measure in the Urban Development Concept for Housing is the idea of awarding municipally owned land on the basis of concept quality. This has been tested since 2016. In this way the city ensures that municipally owned land that is sold generates quality benefits for the neighbourhood. At the same time, certain target groups can be given privileged access to suitable land.

In 2022 the City Council confirmed the fundamental decision regarding the award of municipally owned land and also decided to use primarily leasehold models where land is to be used for apartment buildings. This is linked to the creation of at least 30% publicly subsidised and 20% lower-price housing, that must be used as such for a period of 60 years.

Since 2014 there has been a ban in place in Cologne for changes in the use of premises designated as housing. This also applies to freely-financed housing construction. In 2019 the term of validity of the ***Satzung zum Schutz und Erhalt von Wohnraum in Köln*** (Statute to protect and maintain housing in Cologne) was extended and expanded to cover privately owned houses and apartments. The *Gesetz zur Stärkung des Wohnungswesens in NRW* (Act to Strengthen Housing in NRW) expands the options for taking action to address increasingly frequent forms of changes in use of housing (short-term rentals). The City of Cologne has passed a statute based on this act, which also came into effect in 2021 and replaces the 2019 statute.

Photo 36: Swinestraße Chorweilers

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Sustainable urban development

Cologne has asked "How do we want to live in 2030?", addressing the challenges in hand, while its Cologne Perspectives 2030+ urban development strategy provides a compass for future-oriented, strategic, sustainable urban development. The **Köln-Katalog** is a key urban strategy project that proposes land-saving typology for new quarters of Cologne. As a strategy for sustainable urban development it sets out options for compact, land-saving quarters offering a social and functional mix, ensuring that residents have no need to travel longer distances, and offering enough green areas. Sustainability and high quality high density are thus guaranteed. The *Köln-Katalog* takes the contentual and spatial objectives set out in the urban development strategy Cologne Perspectives 2030+ as a starting point. It focuses on circumspect management of land, which is a scarce resource, and the three spatial targets regarding density for the city centre, the inner city, and the outer city. The City Council has decided that the *Köln-Katalog* is to be taken into account in projects involving zoning, as an urban development concept (Section 1 (6) 11 Federal Construction Code).

A close-knit, diverse, effective network of commercial centres ensures that Cologne's residents are supplied with goods and services to meet all levels of demand, making a major contribution to the quality of Cologne's neighbourhoods, and indeed to the city as a whole, as somewhere to live and work. The Retail and Centre Concept delivers the basis for the spatial management of retailing.

Municipal support for citizens' greening activities under the **GRÜN hoch 3** scheme is helping improve the urban climate and thus the residential quality and the quality of life in the districts of Cologne. To promote climate action by ensuring the energy-efficient upgrading of buildings and the use of renewables in Cologne, the City Council adopted the **Gebäudesanierung und Erneuerbare Energien - klimafreundliches Wohnen** (Building Upgrading and Renewable Energy - Climate Friendly Housing) programme in 2022 (replacing the *Altbausanierung und Energieeffizienz - klimafreundliches Wohnen* programme). The programme is helping reduce CO_2 emissions and uphold the city's climate action commitments, as well as being a building block in the strategy *Klimaneutrales Köln 2035* (Strategy to make Cologne Climate Neutral by 2035). The numbers of applications are rising. In 2018/2019 489 applications for support under this programme were received. In 2020 this had risen to 890 and by mid-November 2021 a total of 969 applications had been received. Financial support totalling over one million euros has already been paid out.

In 2021 the *Integrierte Quartierskonzept Wohnen - Quartier Bilderstöckchen* (Integrated Nieghbourhood Housing Concept for Bilderstöckchen) was certified as offering **Generationengerechtes Wohnen im Quartier** (inter-generational living in the neighbourhood). This certificate confirms quality standards in the concept developed for Bilderstöckchen by *GAG Immobilien AG* and the City of Cologne with the involvement of numerous local stakeholders. It was preceded by an auditing process developed by the *Verein Familiengerechte Kommune*. In this process the neighbourhood was analysed and need for action identified. The four areas of action identified in the process, for which measures were set out in the concept, include steering, networking and sustainability, housing quality, residential environment and shaping the way we live together. These fields of action will be addressed over the next few years with a series of activities and projects. They include modernising existing housing stock, upgrading housing developments for senior citizens to ensure they are barrier-free, and launching a new building project offering additional contemporary living space. Other measures involve improving traffic infrastructure, upgrading essential services and projects to network stakeholders on the ground.

The *Deutsche Gesellschaft für Nachhaltiges Bauen e.V.* (German Sustainable Building Council, DGNB) has awarded its most rigorous platinum pre-certification to the future quarter **Deutzer Hafen Köln.** The

new quarter is being realised by the *Stadtentwick-lungsgesellschaft* moderne stadt GmbH and the City of Cologne. The quarter has already met 83.3 per cent of the requirements of the platinum certification, before it is realised, which is a higher score than required for certification. Of the five main criteria, the Deutzer Hafen did particularly well in sociocultural and functional quality, environmental quality and process quality. The harbour area is to become a quarter with a large percentage of residential buildings, where flood protection, ecology and use of free areas are to play a central role.

Spaces for local recreation and social contacts

The provision of spaces for local recreation and social contacts within the city is important to keep the people healthy. The ***Sports Development Plan*** is an important element in this. The report on sport and exercise adopted by Cologne City Council in 2019 calls for the city-wide creation of spaces for sporting activities for all, not only for members of sports clubs. In close cooperation with the various Offices and Co-

Photo 37:   Strong Veedel strong Cologne Ecological revitalization Westerwaldstraße

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logne's City Sports Federation several projects have been realised, including the implementation of the *Bewegungs-Parcours im Kölner Grün* (exercise trails in Cologne's green spaces), opening at least one school playground in each city district for all residents to play, exercise and engage in sport, the *Kölle Aktiv* programme that aims to get people involved in sport and exercise, the construction of training facilities (calisthenics) in green areas, the redesign and opening up of some district sports facilities, and the planning of designated sports areas in the new Deutzer Hafen project. Large-scale projects too like the conversion of Cologne's velodrome and the establishment of a sports management system are being implemented. The **playground demand plan,** which ensures the needs-driven provision of spaces where children and young people can play, exercise and engage in other activities, raises the quality of living of residents.

The attractiveness of a city is influenced significantly by the way public spaces are used and the atmosphere they offer. The design manual for the entire city lays down requirements for public spaces. Urban spaces should be orderly and calm, while retaining their strengths. In recent years numerous street sections and squares have been redesigned. In September 2021, for instance, the City of Cologne realised **traffic-calming measures** in Eigelstein. Between the rail underpass and Eigelsteintorburg vehicular traffic was banned from sections of the road, which were then upgraded with trees and flower tubs.

Additionally, within the scope of the programme *Starke Veedel - Starkes Köln* (Strong Neighbourhoods - Strong Cologne) various measures are being taken to upgrade public spaces and foster local recreation. They include the **ecological revitalisation project in Westerwaldstraße,** which has created more than five hectares of land where residents can enjoy a range of different uses. To reduce pollution and promote biodiversity, over 200 trees have been planted and meadows sown with seeds from species indigenous to the region. This measure, which has received significant funding from the European Regional Devel-

Photo 38:   Strong Veedel strong Cologne. New places Chorweiler

opment Fund received the 2022 NRW prize for landscape architecture.

The activities of community houses and centres also aim to create spaces where people can come together, enabling residents low-threshold social contacts, the chance to meet people from the neighbourhood, undertake leisure activities together, and enjoy a wide and varied programme of cultural and educational events.

Sustainable local mobility

The central goal of Cologne's urban development strategy Cologne Perspectives 2030+ is to achieve the transition to more sustainable forms of mobility. The strategy paper *Köln mobil 2025* sets out how this is to be achieved, with the framework that will need to be put in place and the main objectives to be achieved in future traffic and transport development. The objectives embrace every aspect of urban mobility (e.g. promoting environmentally sound traffic and transport, making public spaces more attractive so that people want to spend time there, developing infrastructure, devising regional solutions and approaches and strengthening Cologne's position as a logistics hub). Suitable measures are to reduce the percentage of total traffic volume accounted for by motorised private vehicles to one third by 2025/2030, while the proportion of "green traffic" (pedestrians, cyclists and local public transport) is to be raised to two thirds.

In 2020 the City Council commissioned the administration to produce a *Sustainable Urban Mobility Plan (SUMP)* over the next few years based on the EU's SUMP guidelines. This is a holistic, long-term, strategic approach to mobility planning. It takes account of current and future mobility needs and aims to enhance the quality of life in the city and the surrounding area. The following principles are typical of SUMP strategies: a focus on people's mobility needs, an integrated approach embracing all forms of transport with a spotlight on sustainable options, inter-institu-

tional cooperation, public participation, involvement of relevant stakeholders, definition of a long-term vision and an implementation plan, evaluation and quality assurance. Work began on a SUMP for Cologne in autumn 2022 and is expected to take three years. The first step is to identify a vision and underlying objectives under the banner *Besser durch Köln. Der nachhaltige Mobilitätsplan* (Getting through Cologne better. The sustainable mobility plan). The actual situation is to be analysed and various strategic development scenarios presented, before one target scenario is selected.

The *Local Public Transport Plan* adopted in 2017 provides a framework for local public transport development and all related planning. The analysis of the quality of services on offer and the connections available, as well as the capacity utilisation of buses and light urban rail services in different demand scenarios have produced findings that will be used to plan the short, medium- and long-term expansion of the light urban rail network and the further development of the bus network. For the strategic development of the light urban rail network, a paper entitled *ÖPNV-Netzentwicklung* (Developing the local public transport network) was jointly produced by the City of Cologne and the local public transport operator *Kölner Verkehrs-Betriebe AG*. The strategy paper sets out the major medium-term construction and expansion measures for the light urban railway system. *Cycle strategies* for all city districts, along with packages of measures, also serve to make the traffic infrastructure more attractive for cyclists. This includes developing premium cycle routes, upgrading cycle paths, taking account of cyclists' needs in road conversion measures and providing more bicycle stands. The city's programme to promote the use of cargo bikes is exemplary within Germany. Many other municipalities and even the federal government have now followed Cologne's example.

In recent years main road axes in Cologne's inner city have been upgraded, e.g. Severinstraße, Eigelstein and Ehrenstraße. Provisional changes have initially been made in some cases to test acceptance

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and tweak the solutions. The measures aim to make street space a more pleasant place for residents to spend time, as well as making conditions more attractive for pedestrians and cyclists, stepping up green mobility as a whole. To achieve this goal, routes for private cars are organised to prevent or actually ban through traffic. A large number of parking spaces for cars have also been rededicated for other purposes. Delivery vehicles are still permitted. Additional greening and the provision of seating has made the space more attractive for pedestrians. Other such measures are in planning, e.g. along the Venloer Straße (in Ehrenfeld) along the Kalker Hauptstraße (in Kalk) and the Neusser Straße (in Nippes and the city centre).

In terms of **renewing and adapting traffic light systems** the focus is very clearly on promoting local mobility (optimising the prioritisation of local public transport, minimising waits, promoting pedestrians and cyclists, promoting barrier-free use as well as reducing energy consumption and emissions). In terms of **stationary traffic** too, much is being done. To reduce the numbers of vehicles searching for somewhere to park in Cologne's city centre, for instance, a parking guidance system has been installed along with rigorous parking space management. In residential and mixed-use areas residents' parking zones are also being introduced.

With a view to promoting alternative engine technologies, the City of Cologne has completed the first stage of charging infrastructure development on public streets, with 200 charging stations offering facilities to charge 400 vehicles. To increase the **charging options in public spaces,** the City Council has decided to further extend this infrastructure, with another 500 charging points to be installed by 2026, offering charging facilities for 1,000 vehicles.

Sustainable mobility in the administration and companies (partly) owned by the municipality

In line with the objectives set out for the City of Cologne, the administration, municipally-owned companies and companies in which the city holds a stake are also aiming to reduce mobility-related emissions. The measures include promoting the philosophy of the **Stadt der kurzen Wege** (compact cities - literally city of short distances) with a diverse range of housing options so that employees can find a home close to their workplace and **Jobtickets** for employees, which they can use on all forms of local public transport. The successive **conversion of vehicle fleets** to alternative engine technologies is another important measure, with refuse vehicles and municipal water authority vehicles converting to electric mobility and promoting electric mobility further by expanding the charging infrastructure. The bus fleet of the *Kölner Verkehrs-Betriebe AG* is to be fully electric by 2030. Electric buses are already serving several bus lines in the city.

The municipal waste utility AVG provides employees with electricity from its waste incineration plant to foster electric mobility. AVG and StEB, the utility responsible for wastewater and flood protection, have provided staff with a bicycle leasing service since 2021. To promote electric mobility, the *Kölner Verkehrs-Betriebe AG,* the power utility RheinEnergie and Ford Motors are putting in place technical systems with which electricity from the light urban rail network can be stored in high-voltage car batteries and used in street-based electric mobility. The project is called **Multimodale Lademodul-Integration** (Multi-Modal Charging Module integration or MuLI). Second life car batteries are to store the electricity generated by the braking of the light urban rail trains. This can then be used to charge electric buses. Since 2020 the ports and goods transport operator *Häfen und Güterverkehr Köln AG* has been implementing its **hydrogen strategy** with three pillars: the large-volume transport of hydrogen, the use of hydrogen for

their own mobility applications, and the provision of hydrogen pumps at service stations. AVG Köln is working consistently to **shift goods transport from road to rail** (eliminating the need for about 7,000 truck trips every year). With partners in the energy and waste sectors, AVG has also put in place a **biogas cycle.** The AVG's compost plant uses bio-waste to generate methane which is then used to fuel refuse collection vehicles that bring bio-waste to the compost plant..

Photo 39:   Strong Veedel strong Cologne. New places Chorweiler

3.11.5   Indicators

11 SUSTAINABLE CITIES AND COMMUNITIES

Support for fixed-price rented accommodation (number of housing units)
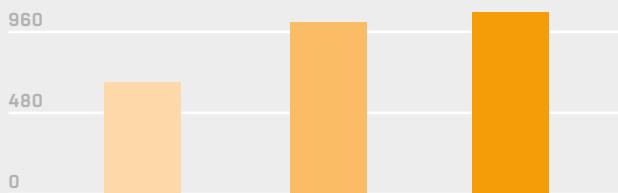
Number of subsidised housing units (income groups A and B) that have been built or modernised with the help of subsidies from state budgets or development banks (not including KfW), and where occupancy and rent are regulated for a certain time period) (binding social conditions)
(Source: City of Cologne, Office for Housing)

The number of housing units built or modernised for the fixed-price rent sector has risen steadily since 2018. A number of different factors come into play here. Two of the main factors are the impacts of the cooperative building land model and the newly introduced rent control and occupancy controls in the wake of modernisation measures as of 2018 (objective of the City of Cologne: City Council resolution on action strategy for affordable housing construction in 2010: Creation of 1,000 apartments per annum with rent and occupancy controls).
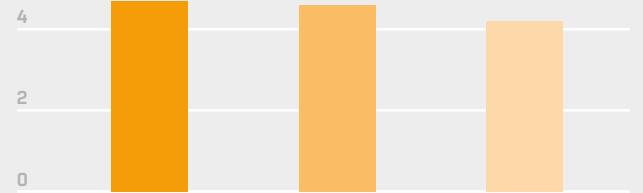
Support for fixed-price rented accommodation (number of housing units)

| **663** Number 2011 | **1016** Number 2015 | **1073** Number 2020 |

Spaces for local recreation

| **4,7** ha 2010 | **4,6** ha 2015 | **4,2** ha 2020 |

Spaces for local recreation

Spaces for local recreation per 1,000 inhabitants (Source: City of Cologne - Office for Urban Development and Statistics - Statistics Information System)

11 SUSTAINABLE CITIES AND COMMUNITIES

The main spaces for local recreation in a municipality are largely free of buildings (including green spaces, parks, allotments, sports facilities and camp sites). They are used for sports, leisure and recreation, provide a habitat for flora and fauna, and thus have both a social and an ecological value. In the City of Cologne the most recent figures indicate a slight decline in the area used for recreational purposes, to 4.2 hectares per 1,000 inhabitants in 2020. The reduction in area should be seen in the context of the reclassification of some recreational areas. A comparison with the average for NRW as a whole is not possible because of the differences in the calculation methods used. Objectives regarding the development of local recreation spaces are not specifically addressed in the Sustainable Development Strategies at national level or state level in NRW.

11 SUSTAINABLE CITIES AND COMMUNITIES

Land used

Land used for settlement and traffic as a percentage of total land (Source: City of Cologne - Office for Urban Development and Statistics - Statistics Information System)
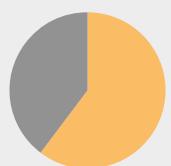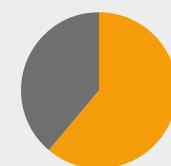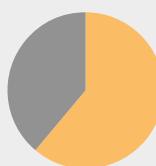
The land used for settlement and traffic purposes comprises buildings and free areas, operational areas, traffic areas, recreational areas and cemeteries. It includes both sealed and non-sealed areas. This indicator measures the percentage of total land accounted for by settlement and traffic areas, and should be seen in conjunction with the goal of less expansion and more efficiency and internal development as a response to continuing urbanisation. Between 2010 and 2020 the City of Cologne used about 61% of land for settlement and traffic purposes, with a slight downwards trend in recent years. This should be seen in the context of the reclassification of some areas in 2020. The figures are above the national average for Germany and must be seen in the context of Cologne's high-density settlement and the steady rise in the population of the City of Cologne. Trends

Land used

| 61.2 %	61.3 %	60.5 %
2010	2015	2020

in other cities in NRW with a comparable population are similar to those in Cologne. Nevertheless, thanks to its stable development, Cologne is helping achieve Objective 11.a as set out in the German Sustainable Development Strategy (Reduce the expansion of settlement and transport area to under 30 ha on average per day by 2030).

11

11 SUSTAINABLE CITIES AND COMMUNITIES
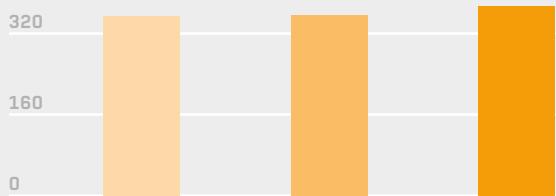
Private car density

Number of private vehicles registered per 1,000 inhabitants (Source: City of Cologne- Citizen Services / Office for Urban Development and Statistics)

The number of private vehicles per 1,000 inhabitants has been rising for years across Germany, with far-reaching social, economic and environmental consequences. The ongoing development of the mobility infrastructure is also resulting in a higher density of private cars, and a negative spiral. The noise nuisance and pollution resulting from private motorised transport poses a health risk for people in densely populated areas in particular. The resource and energy-intensive production, maintenance and disposal of these vehicles results in major environmental damage. In the City of Cologne the number of private vehicles per 1,000 inhabitants has risen slightly but steadily from 355 in 2010 to 374 in 2020. It should be noted that only vehicles registered to private individuals are counted and compared to the latest population figures. If all cars on the roads, including those registered as company cars, were included, the car density would be significantly higher, although still below the average for NRW as a whole. It nevertheless makes sense to consider only private

Private car density

355 Number	**356** Number	**374** Number
2010	2015	2020

320
160
0

motor vehicles since there is no direct relationship between the number of company vehicles and the population figures. The general trend runs counter to the following objectives set out in the German Sustainable Development Strategy: Objective 3.2.a. Reduce emissions of air pollutants, Objective 3.2.b Reduce the percentage of the population with excessive exposure to PM_{10} particulate matter, and Objective 11.2.b Reduce final energy consumption in passenger transport.

11 SUSTAINABLE CITIES AND COMMUNITIES

Modal Split

Percentages of total travel undertaken with certain means of transport (Source: City of Cologne - Mobilität in Deutschland database 2017)

The modal split records the percentages of total travel undertaken with certain means of transport. The travel is undertaken here only by individuals registered as residents of Cologne. The modal split does not include commuter or transit traffic. The results of the 2017 nationwide survey Mobilität in Deutschland (Mobility in Germany) for the City of Cologne indicate that mobility practices have changed over the last decade. Only 35 per cent of distances are travelled using a private car compared to 43 per cent in 2006 and 48 per cent in 1982. Green transport (walking, cycling, local public transport) has become more important over the same period. Cycling in par-

ticular doubled its share from 9% in 1982 to 18% in 2017. It should, however, be noted that over the period observed the volume of traffic as a whole, i.e. the distances travelled, has increased. It is thus possible that the volume of private car traffic has actually increased although it now accounts for a smaller percentage of the total. In 2014, the Köln mobil 2025 strategy paper was published, setting the goal of raising the percentage of total traffic accounted for by green transport (pedestrians, cyclists, local public transport) to 2/3 of the whole by 2025/2030. This figure had almost been achieved by 2017.

Modal Split - Private cars
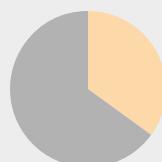
48 %
1982

43 %
2006
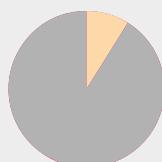
35 %
2017

Modal Split - Bicycles
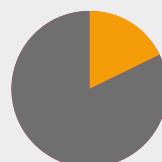
9 %
1982

12 %
2006

18 %
2017
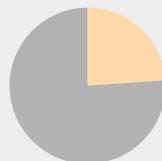
Modal Split - Pedestrians
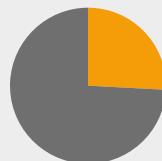
25 %
1982

24 %
2006

26 %
2017
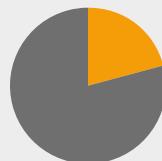
Modal Split - Local public transport

18 %
1982

21 %
2006

21 %
2017

11 SUSTAINABLE CITIES AND COMMUNITIES
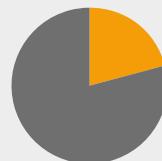
Rent levels

2010	2015	2020
8.40 €	10.00 €	12.50 €

Average net basic rent per square metre (Source: City of Cologne- Office for Urban Development and Statistics - F+B Forschung und Beratung)

Housing is key in everybody's lives and impacts massively on the quality of their lives. This makes the trends in many German cities all the more concerning: shortages of affordable housing as a result of privatisation and the capitalisation of the housing market, as well as trends to move out of cities into the surrounding areas and the loss of living quality this has brought with it. In the City of Cologne a rise in net basic rent per square metre can be noted from EUR 8.40 (2010) to EUR 12.50 (2020), which can go

hand in hand with challenges in supplying affordable housing. Similar trends can be seen in most larger municipalities in Germany. Objective 11.3 of the German Sustainable Development Strategy sets the following goal: Reduce the proportion of people who are overburdened (i.e. live in households where more than 40% of disposable household income is spent on housing) to 13% by 2030. This sends a signal to German cities and municipalities with a university.

11 SUSTAINABLE CITIES AND COMMUNITIES

Housing stock (rent-supported homes)

2016	2018	2020
37,609	38,619	38,381

Subsidised rented properties (Social housing for lowest income groups) (Source: City of Cologne - Office for Housing) (Source: SDG Portal)

The housing stock (rent-supported homes) (i.e. social housing for lowest income groups) has remained stable over the period under review. At the end of 2020 there were a total of 38,381 apartments in this category (6.8%). The most affordable rented apartments

are spread unequally over the city of Cologne, both in terms of absolute numbers and in terms of the share of total housing in the area or district. There are disproportionately many rent-supported apartments in Chorweiler, Volkhoven / Weiler and Ossendorf.

11 SUSTAINABLE CITIES AND COMMUNITIES

Living space

2010	2015	2020
37.6 m²	38.4 m²	38.5 m²

Available living space per person (Source: SDG Portal)

The living space per capita has increased over the years in Germany with the rise in the number of smaller households. Since this is an average figure, no distinction is made as to how the living space is distributed. In the City of Cologne the total available living space has remained fairly constant over recent years, at 38.4 m² per capita in 2015 and 38.5

m² in 2020. The average figure for NRW as a whole was 44.3 m² per capita (2020). No specific objective is included in the German Sustainable Development Strategy, but Objective 11.1b looks at reducing the loss of land per inhabitant and thus the value of free spaces, which is also highly significant in conjunction with housing construction.

11 SUSTAINABLE CITIES AND COMMUNITIES

New land used

2010	2015	2020
0.04 %	**0.22 %**	**-1.15 %**

Change in the land used for settlement and traffic purposes as compared to the previous year, as a percentage of the total area (Source: City of Cologne- Office for Urban Development and Statistics - Statistics Information System)

The area of new land used often involves the irreparable loss of natural soils and free areas, although the indicator per se tells us little about inclusive or sustainable urban development. Additionally, the value of the data over time is impacted by a change in the methodology used in 2016. In 2020 a rate of change of -1.15 was recorded in comparison to the previous year, which means that less land was used than in the previous year. This should be seen in the context of the reclassification of some areas in 2020. The area of new land used on average in NRW is put at +0.06 (2020) by the NRW State Statistical Office. At an overarching level this trend can be seen in conjunction with Objective 11.1.a (Reduce the expansion of settlement and transport area to under 30 ha on average per day by 2030) as set out in the German Sustainable Development Strategy.

11 SUSTAINABLE CITIES AND COMMUNITIES

Intensity of land use

2010	2015	2020
0.02 ha	**0.02 ha**	**0.02 ha**

Settlement and traffic area per inhabitant (Source: SDG Portal)

The limited land resources available to the municipality is non-renewable and should also be available to the generations to come. Frequently different needs compete and it is important to balance demands and bring together conflicting visions. Efficient land use can have a positive impact on economic and social benefits, without using more land. This indicator, however, only compares the land used for settlement and traffic in terms of the number of inhabitants and says nothing about the qualitative use of the land. In the City of Cologne there have been slight fluctuations over time but these are so slight that they are not reflected in the rounded figures given here, which stay stable at 0.02 hectares. This intensity is also reflected in other cities in NRW with a similar population. Average land use in NRW is less intensive, most recently recorded as 0.05 hectares per inhabitant (2020). The City of Cologne is high-density in terms of both settlement and traffic, and thus helps indirectly achieve Objective 11.1.b of the German Sustainable Development Strategy (Reduce the loss of per capita open space area).

11 SUSTAINABLE CITIES AND COMMUNITIES

Persons injured in road traffic accidents

2010	2015	2020
5.6	**5.5**	**4.8**

Number of persons injured or killed in road traffic accidents per 1,000 inhabitants (Source: SDG Portal)

This indicator helps assess road traffic safety in general without making any distinction between the different forms of transport. Pedestrians and cyclists are more frequently involved in accidents and more severely injured when private cars are involved. The probability that those travelling in a private car are seriously injured in this context is extremely low by comparison. The indicator cannot reflect this imbalance. In the City of Cologne the number of people injured or killed in road traffic accidents per 1,000 inhabitants has remained relatively constant over time at an average of 5.6. In 2020 the figure dropped to 4.8. This figure is slightly above both the average for NRW (2020: 3.7) and trends in other cities in NRW with a comparable population. The Sustainable Development Strategies at national level and state level in NRW do not contain any specific objectives relating to this indicator.

11 SUSTAINABLE CITIES AND COMMUNITIES

Percentages of total private cars registered accounted for by electric vehicles

2016	2018	2020
0.11 %	**0.17** %	**0.66** %

Electric cars as a percentage of total private cars (Source: City of Cologne- Office for Urban Development and Statistics - Statistics Information System)

To achieve the political goal of reducing gaseous emissions from road traffic, the percentage of all vehicles accounted for by electrical vehicles will have to rise substantially. Between 2016 and 2020 the number of battery electric vehicles registered in Cologne rose strongly, from almost 500 in 2016 to 3,200 in 2020 - a six-fold increase. If, however, we look at the percentage of total cars accounted for by battery electric vehicles, we can see that the percentage is still fairly low. In 2020 only 0.66% of cars registered in Cologne were classed as BEVs. This can be expected to rise strongly over the next few years though.

11 SUSTAINABLE CITIES AND COMMUNITIES

Kilometres driven per annum by local public transport services

2014	2017	2020
53.7 Mio. km	**54.2** Mio. km	**56.0** Mio. km

Million kilometres travelled by buses and light urban railways (Source: KVB performance statistics. Overall report of the City of Cologne pursuant to Regulation (EC) No 1370/2007)

Local public transport is the backbone of green transport. A viable transport plan for the future thus aims to strengthen local public transport and raise its share of total traffic. As an indicator for the development of the local public transport network, the data contained in the report published by the City of Cologne on local public transport regarding the number of kilometres travelled by the *Kölner Verkehrs-Betriebe AG (KVB)* were selected. The total includes distances travelled by both the light urban railway *(S-Bahn)* and buses. Between 2014 and 2020 the services offered by KVB increased by 4.3% from 53.7 million km to 56.0 million km. These changes reflect primarily the optimisation of services on individual lines. It should be noted that local public services were restricted in 2020 as a result of the COVID-19 pandemic.

11 SUSTAINABLE CITIES AND COMMUNITIES

Year-on-year change in bicycle traffic

2018	2019	2020
12.9 %	**-0.2** %	**9.7** %

Change in volume of bicycle traffic at selected measuring points in comparison to previous year (Source: City of Cologne - Office for Sustainable Mobility Development)

Promoting cycling is a major strategic element in ensuring a viable transport system for the future and reducing traffic-related emissions of pollutants. Targeted promotion of cycling can make it possible to boost the share of total traffic volumes accounted for by green transport in the short term. Efforts to promote cycling have thus been stepped up in recent years. The City of Cologne has taken steps to promote cycling along over 72 km of roads within the city. If we look at trends in the volume of bicycle traffic, it can be seen that 2018 saw a 13% rise as compared to the previous year. In 2020, at 10% the rise was comparable. The figure only stagnated in 2019. This was almost certainly the result of the weather in that year, which was not conducive to cycling.

3.12   SDG 12 - Responsible Production and Consumption

3.12.1   SDG 12 - Introduction and relevance for German municipalities

SDG 12 aims to ensure sustainable consumption and production patterns. It thus addresses change in both social lifestyles and economic practices. In this regard, it is important to further decouple growth and prosperity from the use of natural resources, and thus take into account the ecological limits. Sustainable production aims to manage natural resources more efficiently, avoid or reduce pollutant inputs and emissions, and protect ecosystems across the entire value chain. In this way, resources can be kept in use for as long as possible and a rigorous circular economy can be promoted. Sustainable consumption is an integral part of this. This involves consumer behaviour that takes environmental and social aspects into account when purchasing, using and disposing of products and services. Public procurement offers an important opportunity to boost sustainable consumption and production patterns.[22] For German municipalities, the following themes are therefore especially important for localising this SDG (please also compare these with the targets for SDG 12 in the annex):

❚ Promoting sustainable consumption and use of resources
❚ Supporting sustainable disposal
❚ Implementing sustainable procurement and contracting.

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22   See Germany´s Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.12.2   Links to Cologne's objectives

**Cologne will develop regional value chains and sustainable material cycles.
(Objective 5.5, Cologne Perspectives 2030+)**
Value chains show the path of a product of service, from its production to processing and marketing, to the final customer. If the lion's share of these activities take place within the region, the majority of the value generated will also remain in the region, which will become more competitive. Sustainable material cycles bring together production and value creation, processing, consumption and recycling at local level. Technological progress fosters closed regional material cycles. Networking based on modern digital technologies makes it possible to reconcile environmental aspects of the circular economy with economic efficiency. Since many resource-relevant material flows are organised at regional level, municipalities have a huge potential for taking resource-efficient action.

3.12.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
▎ Sustainable consumption and delivery of essential public services
▎ Sustainable infrastructure services and waste disposal
▎ Reduction in resource consumption in the administration and companies (partly) owned by the municipality
▎ Sustainability in procurement and contracting

Indicators:
▎ Volume of waste in tonnes
▎ Fair procurement

3.12.4   Contributions of the City of Cologne to the SDG

Sustainable consumption and delivery of essential public services

In the City of Cologne a wide spectrum of activities support the development of sustainable consumption and sustainable lifestyles. Since 2020 Cologne has been a member of the Germany-wide **Bio-Städte-Netzwerk,** a network of cities committed to organic principles. The steadily growing network now counts 20 members (cities, administrative districts and municipalities) and aims to promote organic farming and the supply of organic foods at local level. The focus of inter-municipal cooperation is on sharing knowledge and experience, undertaking joint projects, attracting funding, and conducting effective PR work. The network is supported by the German Federal Ministry of Food and Agriculture through the federal programme *Ökologischer Landbau und andere Formen nachhaltiger Landwirtschaft* (Organic Farming and other Forms of Sustainable Agriculture). Within the framework of a scientific study of the **regional production and distribution of agricultural produce** in Cologne and the surrounding area, additional cropping structures, value chains and potential for the consumption of organic products are currently being analysed.

Cologne adopted a **Food Strategy** in 2020. These guidelines for local food policy were produced in conjunction with civil society. After a familiarisation phase of about eighteen months, the civil society **Ernährungsrat für Köln und Umgebung e.V.** submitted the strategy, which covers the entire production chain from the field to the plate, to the City of Cologne. Against this background, the City Council commissioned the administration to devise a programme of food-related measures in 2020. At local level the goals are to put in place a more sustainable procurement system for out-of-house catering (which covers hotels and restaurants, but especial-

12

ly staff restaurants, hospitals, military bodies and canteens), preserve farmland and ensure it is more sustainably managed, and deliver food education to raise the appreciation of the value of food. The ongoing tendering process, for instance, for the provision of lunch in nurseries, stipulates that 20 per cent of the quantity of all food must have been produced organically. Meat (pork, beef, poultry), meat products and eggs must be one hundred per cent organic as of nursery year 2022/2023. Within the framework of the nationwide **Cities against Food Waste** initiative Cologne has joined forces with other actively engaged municipalities to tackle the problem of food waste, with a focus on practical knowledge and experience sharing in order to reduce and prevent waste.

Since 2020 the **Projektgruppe Ernährung und Konsum des Klimarates,** (Climate Council project group on food and consumption), which brings together external experts and specialists working for the City of Cologne, has been working towards the goal of reducing sector-specific greenhouse gas emissions

and helping make Cologne a climate neutral city. The project group has put together a portfolio of measures for the administration and its subsidiaries to translate into practice as of 2023, with fact sheets for each activity. In line with the resolution of the City Council on climate neutrality (adopted on 8 December 2022: *Strategie Klimaneutrales Köln* - Strategy to make Cologne Climate Neutral), the project group recommends gradually increasing the percentage of (ideally local) organic produce and the percentage of regional, seasonal produce in meals cooked in municipal nurseries, schools and canteens as well as at municipal events and receptions up to 2030. Alongside regulations for municipal facilities, a concomitant process is to be launched and implemented for the companies owned by the City of Cologne (including hospitals, for instance). In line with the City Council resolution, the project group also recommends that measures be taken in out-of-house catering (e.g. communal catering, restaurants) to ensure that food waste is significantly reduced. Left-

Photo 40: Streetcar advertising Fair Traded

overs on plates are to be reduced to no more than 10 per cent by 2030.

The City of Cologne has worked with the Food Council and *Agora Köln* to produce the concept **Essbare Stadt Köln** (Cologne - the edible city) on using urban spaces to grow food. A fully participatory process was used. The city-wide concept to encourage urban gardening aims to ensure that plants that are edible for humans and animals are planted when new green spaces are created and free areas designed, as well as raising the awareness of city residents. Not only will this increase the quality of life. It will also have a positive impact on biodiversity and the climate. To manage urban orchards an orchard commission was founded, bringing together representatives of nature conservation associations, the administration and other associations.

With a view to ensuring **sustainable delivery of essential public services in the energy sector** *Stadtwerke Köln* and the regional energy utility *RheinEnergie AG* have made a voluntary commitment to fully decarbonise electricity and heating supplies by 2035 at the latest. As of 2022 private and commercial customers are being supplied entirely with green power. The transition was automatic and there has been no price rise. Through a strategic partnership, the City of Cologne is also subsidising energy consultancy services delivered by the *Verbraucherzentrale* (citizens' advice body) to provide low-threshold free advice to citizens on issues such as photovoltaic technology and upgrading buildings.

Sustainable infrastructure services and waste disposal

To support sustainable infrastructure services and waste disposal, and promote a circular economy, various activities are currently being implemented in the City of Cologne. In 2021 the City Council decided that a **Zero Waste Strategy** for Cologne should be developed by the end of 2022. Waste volumes are to be re-

duced, valuable raw materials recovered better and recycling promoted. As the strategy was being developed, actors also looked at whether the requirements of the Zero Waste Europe programme could also be met, so that Cologne could be positioned as a zero waste city.

With the help of the **coffee-to-go.koeln platform,** a joint initiative of the City of Cologne and the municipal waste utility, targeted action is to be taken to reduce the number of disposable cups used. The platform advocates the use of reusable systems and offers a search service to locate companies that do so. The goal of the city-wide voluntary **refuse gathering activity** *Kölle Putzmunter,* by contrast, is to make the general public more aware of cleanliness in public spaces, as well as demonstrating that all citizens share the responsibility for keeping their common environment clean.

A key role in promoting sustainable waste disposal is played by the municipally owned **Abfallwirtschaftsbetriebe** (AWB) and **Abfallentsorgungs- und Verwertungsgesellschaft** (AVG Köln). Measures taken by AVG include the plastic sorting plant that began operations in 2023, for the use of plastics found in domestic waste in recycling and thermal recovery, the recycling of plasterboard to make efficient use of natural gypsum reserves, the local heat network operated by AVG *Ressourcen* (run on woodchips from pre-used timber) and the timber processing plant that recycles pre-used timber where possible and otherwise uses it to generate thermal power. With its ongoing information, education and advice on the recovery of valuable raw materials and ways of preventing waste, AWB is working tirelessly to promote awareness for the relevance of this issue. One result of this education and advice is the numbers of recycling bins, which are rising year on year.

Reduction in resource consumption in the administration and companies (partly) owned by the municipality

The City of Cologne group uses various processes and activities to reduce the consumption of resources. The implementation of a **circular economy** at the *Abfallentsorgungs- und Verwertungsgesellschaft* (AVG Köln and its subsidiary *AVG Kompostierung*) as well as the *Abfallwirtschaftsbetrieben* (AWB) is one example, with recycling and composting plants and its own biogas pumps. Bio-waste is processed in the AVG digestor to generate methane and in the composting plant to produce compost. The biogas methane is used to fuel the AWB's refuse collection vehicles, which then collect bio-waste and bring it to the digestion/composting plant. The circular system is thus complete. The greenhouse gas emissions of vehicles that run on biogas is up to 90 per cent lower than vehicles with conventional diesel engines. Particulate matter and nitric oxide emissions are well below the requirements of the Euro 6 vehicle emission standard.

Sustainability in procurement and contracting

In 2008 the Cologne City Council passed a resolution to **introduce a fair procurement system** in the City of Cologne. The aim of the introduction is to include various fair trade products in the city administration's electronic ordering platform, to accompany pilot procurement processes and to take human rights due diligence obligations into account in future tenders. In this way, fair procurement is to become established in Cologne, and employees are to internalise the process as a normal part of everyday business. A pilot project was implemented in 2017 and 2018 in the field of fair procurement of footwear and workwear in the Office for Green Spaces. The project com-

Photo 41:   Example image - Sustainable consumptiond

prised a number of steps (kick-off meeting, drawing up a questionnaire, bidder dialogue, publication of invitation to tender, workshop with unit requesting the procurement, testing goods, completing the project) and ended with the award of a contract for protective gear and workwear for the Office for Landscape Management and Green Spaces (worth EUR 340,000 over three years). Further framework agreements for other departments followed in 2022, for example for toys, soccer balls and protective and work clothing. Ecological and social criteria were taken into account.

As of 2012 fairtrade criteria have also been taken into account in tendering for Cologne's main Christmas market, for the Heinzelmarkt in the traditional old town and for the Markt der Engel on the Neumarkt. In 2013 the same principles were followed for the Rudolfplatz Christmas market and in 2014 for Roncalliplatz. Thus fairtrade requirements are taken into account in all markets involving tendering.

3.12.5   Indicators

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
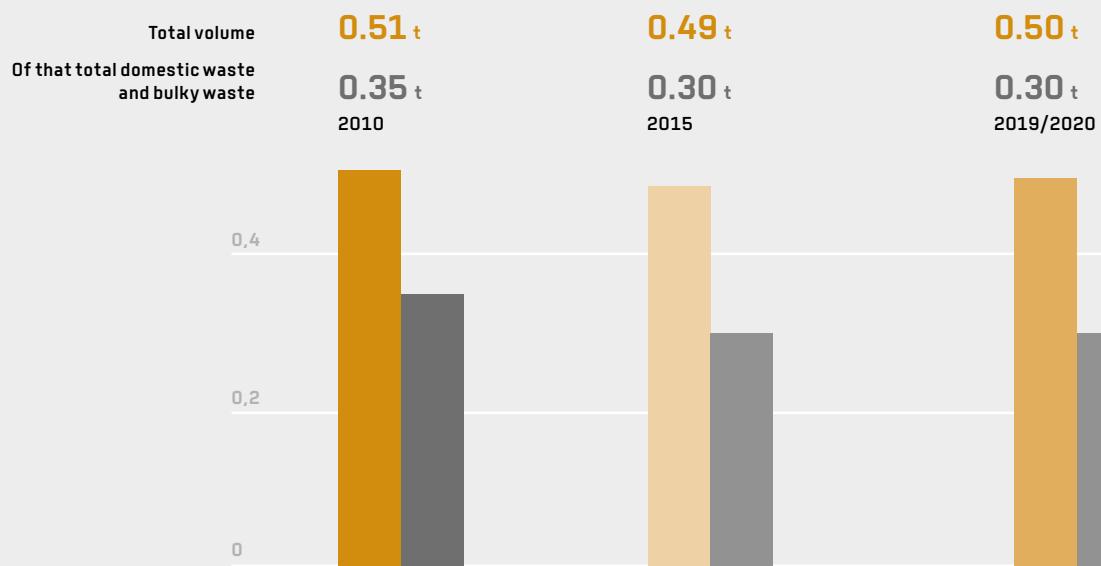
Volume of waste in tonnes

Volume of waste gathered/domestic waste generated (not including electric appliances) per inhabitant in tonnes (Source: City of Cologne/ SDG Portal)

Sustainable waste management policy aims to conserve natural resources and reduce emissions. Since reducing the volume of waste can cut demand for raw materials for the entire national economy, preventing waste is part of the global responsibility of the national and local political levels. Waste prevention is a central concern of waste policy and is a top priority in the five-level waste hierarchy under the provisions of the *Kreislaufwirtschaftsgesetz* (Circular Economy Act, KrGW). Over the period under review the volume of waste produced in the City of Cologne remained relatively constant at 0.5 tonnes per inhabitant. Although the total remained relatively constant there were significant shifts in terms of valuable raw materials collected for recycling as compared to residu-

al waste. The total raw materials collected has risen steadily while the volume of residual waste has fallen since 2010. In May 2021 the City Council decided that a Zero Waste Strategy for Cologne should be developed by the end of 2022. Zero Waste will signal the way forward and ensure joint action to increasingly prevent waste, better separate valuable raw materials and foster recycling. By 2030 the volume of waste produced in the City of Cologne is to be significantly reduced by prevention, reduction, re-use, and recycling (SDG 12.5). Objective 12.1 of the German Sustainable Development Strategy also aims to steadily reduce the global environmental impact by private household consumption.

Volume of waste in tonnes

Total volume	**0.51** t	**0.49** t	**0.50** t
Of that total domestic waste and bulky waste	0.35 t	0.30 t	0.30 t
	2010	2015	2019/2020

## 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Fair procurement

Number of ongoing procurement projects/contracts awarded per annum taking account of fairtrade criteria (Source: City of Cologne - Office of the Mayor)

Thanks to the purchasing volume involved, municipal procurement is extremely important in the promotion of markets that can foster sustainable consumption and production. Between 2012 and 2022 various projects were realised in the field of socially sustainable procurement. As of 2012 fairtrade criteria were permanently integrated into tendering for two Cologne Christmas markets, and they were joined by two more in 2016. Subsequently, further selected pilot projects in the area of fair procurement were carried out. Fairtrade criteria were integrated in each case in the multi-year framework agreements. Fair procurement is, however, only one aspect of sustainable procurement. Environmental sustainability too must be systematically integrated in the system. And the goal must also be to move from stand-alone projects to systematically integrating sustainability in municipal procurement.

Fair procurement

2	**4**	**10**
2012	2016	2020

3.13   SDG 13 - Climate Protection Measures

3.13.1   SDG 13 - Introduction and relevance for German municipalities

SDG 13 calls on the world to take urgent action to combat climate change and its impacts. Climate change is one of the greatest global challenges of the 21st century. The impacts of climate change can already be felt in Germany today. Extreme events, which are occurring with increasing frequency and intensity, not only have a negative impact on human health and infrastructure, but also on water, agriculture and forestry. Heavy rainfall and flooding endanger citizens, and cause damage to buildings that entails high costs for repairing the damage. Heat waves impair citizens' quality of life, especially in densely built-up areas. Prolonged drought leads to a shortage of water resources, and to drought stress and damage to vegetation. Severe storms are also increasingly becoming a threat.[23] For German municipalities, the following themes are therefore especially important for implementing SDG 13 (please also compare these with the targets for SDG 13 in the annex):

▌ Reducing greenhouse gas emissions through climate action
▌ Implementing activities for adaptation to the impacts of climate change.

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23 See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.13.2   Links to Cologne's objectives

**Cologne will consistently adapt to climate change.
(Objective 5.3, Cologne Perspectives 2030+)**
The impacts of climate change are becoming ever more obvious in Cologne as elsewhere. Temperatures are rising and both the frequency and the intensity of extreme weather events are increasing. The city is thus stepping up its efforts to adjust to climate change everywhere across the city.

High-density areas in particular, where much of the soil is sealed and there is little vegetation are suffering from a build-up of heat in summer, and the lack of any cooling. Extreme rainfall is also posing an increasing threat in these areas. Vulnerability to the impacts of climate change is rising and appropriate steps will need to be taken, such as creating rainwater retention areas, putting in place air cooling surfaces, urban greenery for local cooling and natural shade and using climate neutral and appropriate construction methods. Vulnerable sections of the population, including elderly people, young children and pregnant women are most at risk from the impacts of climate change and are in particular need of protection. This is where Cologne's Heat Action Plan comes in, to mitigate the health consequences of climate change and boost resilience.

Adaptation to climate change must be factored into all projects of the city at an early stage and plays an important part in particular in urban technologies, land use, architecture and urban development. Open space planning that takes account of urban ecology and urban climate targets and ensures green infrastructure is of elemental importance. This is the only way that Cologne can develop its resilience and remain a metropolis that offers a high quality of living in spite of climate change.

Cologne is actively protecting the climate and will be climate-neutral by 2035. (Objective 5.4, Cologne Perspectives 2030+)

Climate protection and climate change adaptation are the greatest global challenges of the present and future, which must be solved primarily at municipal level. The City of Cologne is committed to the goals of the 2015 Paris Climate Agreement and the associated responsibility to drastically and rapidly reduce municipal greenhouse gas emissions. The declared goal is to achieve climate neutrality for the entire city by 2035. The City of Cologne will drive forward the necessary transformation in all sectors (energy, buildings, economy and mobility), act as a role model and make full use of its scope for action. As the city administration itself has a limited sphere of influence on greenhouse gas emissions, the entire urban society, including business and politics, must be activated alongside the administration in order to reduce emissions in Cologne as a whole.

3.13.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
- Local climate action
- Integration of climate action in spatial planning and development
- Adjusting to climate change at local level
- Making cities resilient to extreme rainfall
- Flood protection
- Adjusting to climate change in the administration and companies (partly) owned by the municipality

Indicators:
- Greenhouse gas emissions

3.13.4   Contributions of the City of Cologne to the SDG

Local climate action

The City of Cologne has affirmed its commitment to the climate targets adopted at the UN Climate Change Conference in Paris in 2015. In a 2021 resolution, the City Council declared achieving **climate neutrality by 2035** to be a central goal of the city as a whole. To drive forward the development and implementation of an overall strategy a **Climate Council** was set up in 2020. Staffed by experts, its role is advisory. The Climate Council aims to steer and support the elaboration and implementation of a strategy to achieve climate neutrality in Cologne. It sees itself as pace-setter and organiser of actions for a climate neutral Cologne, adding its clout to climate action. Council members, who come from the realms of science and research, the private sector, the housing construction sector, civil society and the administra-

Photo 42:   Climate Street Nippes

tion together cover the areas responsible for the lion's share of emissions. They act as multipliers, operate within their own networks and advocate collaboration. Six project groups (on energy, buildings, labour-business-production, mobility and logistics, food and consumption, and communication and participation) support the work of the Climate Council. Each of the project groups is staffed by personalities from the administration, NGOs, scientific and research organisations, associations and prominent actors in Cologne. The Council as a whole works to have the organisations and networks of Council members take the necessary decisions so that measures can be implemented, and to have the necessary resources provided. It also provides impetus on the necessary incentives and tools (including funding). The Council management is responsible for communicating with the political level and civil society.

The Climate Council has committed itself to the goal for the city as a whole of achieving climate neutrality by 2035, and has undertaken to actively promote the implementation process. Within the framework of the overall strategy to achieve climate neutrality, various implementation structures will be put in place and measures realised over the next few years, to complement *climate change mitigation actions taken to date* (such as the resolution on the state of climate emergency, the Integrated Climate Change Mitigation Strategy, the climate action sub-strategies for the energy and transport sectors, membership of the Climate Alliance and the Covenant of Mayors, and the *KölnKlimaAktiv* 2022 programme).

The climate action assessment for the city as a whole, *Klimaneutrales Köln 2035* (Strategy to make Cologne Climate Neutral by 2035) has been submitted to the relevant committees and the City Council, which took a decision on 8 December 2022. Important areas of action include reducing demand for energy and heating, expanding the use of renewables, the local masterplan for heating and pushing ahead with the transition to more sustainable transport solutions. More than two years of participatory processes involving the members of the Cologne Climate Council and its

project groups with scientific scrutiny provided by a consortium of experts went into producing the report. A communication and participation strategy has been devised and implemented for the *Klimaneutrales* Köln 2035 strategy.

Innovative technologies and digitalisation offer a huge potential for reducing emissions. This is given specific support as a strategic cross-cutting goal within the framework of **SmartCity Cologne** - an initiative of the City of Cologne and *RheinEnergie AG* for Cologne businesses, private individuals, associations, public authorities and tertiary education facilities. The initiative offers a platform for various projects in the field of climate action and the transition to more sustainable energy sources. Urban innovations can be tested and rendered visible (one example being the pilot project for a climate-friendly street *"Klimastraße Neusser Straße"*). A platform for coordination and communication, the initiative also helps network stakeholders in the fields of climate change mitigation and innovation in Cologne. As a member of European city alliances including Eurocities, the Climate Alliance and the Covenant of Mayors for Climate and Energy, Cologne is actively involved in climate action at European level and brings ideas from this to the local implementation of climate change mitigation activities.

Integration of climate action in spatial planning and development

Planning and construction are areas in which Cologne, as a growing city, has important leverage in terms of climate change mitigation. In Germany, buildings are held to be responsible for about 35 per cent of total energy consumption and generate around 30 per cent of CO_2 emissions. To ensure that climate action imperatives are incorporated at an early stage in the various procedures for non-municipal construction projects in Cologne, the city adopted new climate action guidelines at the start of 2022 *(Leitlinien zum Klimaschutz in der Umsetzung nicht-städtischer Neu-*

bauvorhaben, Guidelines on Climate Change Mitigation in the Realisation of Non-Municipal Construction Projects). The key requirement is a high construction standard in residential and non-residential buildings (KFW 40EE standard) in conjunction with the use of locally available renewable energy and the consistent use of photovoltaic technology ideally to meet 100 per cent of needs, with a minimum of 55 per cent required. Aspects of climate change mitigation are taken into account in qualification procedures, mandatory land use planning in the case of reconfiguration, and in the sale and lease of municipally owned land. Climate action guidelines are regularly adapted and brought into line with the framework conditions in place. They are a building block within the *KölnKlimaAktiv* 2022 programme and part of the emergency measures to emerge from the Climate Council's project group on buildings. At an overarching level, the climate change mitigation guidelines are to ensure that all new buildings meet construction standards that will make it possible for Cologne to become climate neutral by 2035.

Adjusting to climate change at local level

Since the study *Klimawandelgerechte Metropole Köln* (Cologne - equipped for climate change) was published in 2013, adaptation to climate change has become increasingly important. This is also reflected in the large number of support programmes launched at national level under the German Strategy for Adaptation to Climate Change and at state level under the NRW Act on Adaptation to Climate Change *(Klimawandelanpassungsgesetz NRW)* and the 15-Point Plan adopted on 1 July 2021. The NRW Act steps up measures designed to foster adaptation to climate change and sees these as a cross-cutting concern in the planning activities, and the health and social welfare measures of municipalities. The federal government is currently drafting a legal basis at national level.

To gather findings on the future impacts of climate change in the City of Cologne, and devise appropriate adaptation strategies, the City of Cologne has been implementing the project *Klimawandelgerechte Metropole Köln* (Cologne - equipped for climate change) since 2013, in collaboration with the NRW State Ministry for Climate Action, the Environment, Agriculture, Nature Conservation and Consumer Protection, StEB and the *Deutscher Wetterdienst* (German Weather Service). In Cologne there is a special focus on excessive heat in summer and increases in extreme rainfall in future. Among other things the project has produced a *heat planning map.* This is a synthetic climate analysis which presents expected climatic features at local level in the City of Cologne as a cartographic overview (e.g. expected excessive heat for the period 2021-2050, distribution of green corridors, cool air flows and wind roses). The climate simulation was updated in 2020.
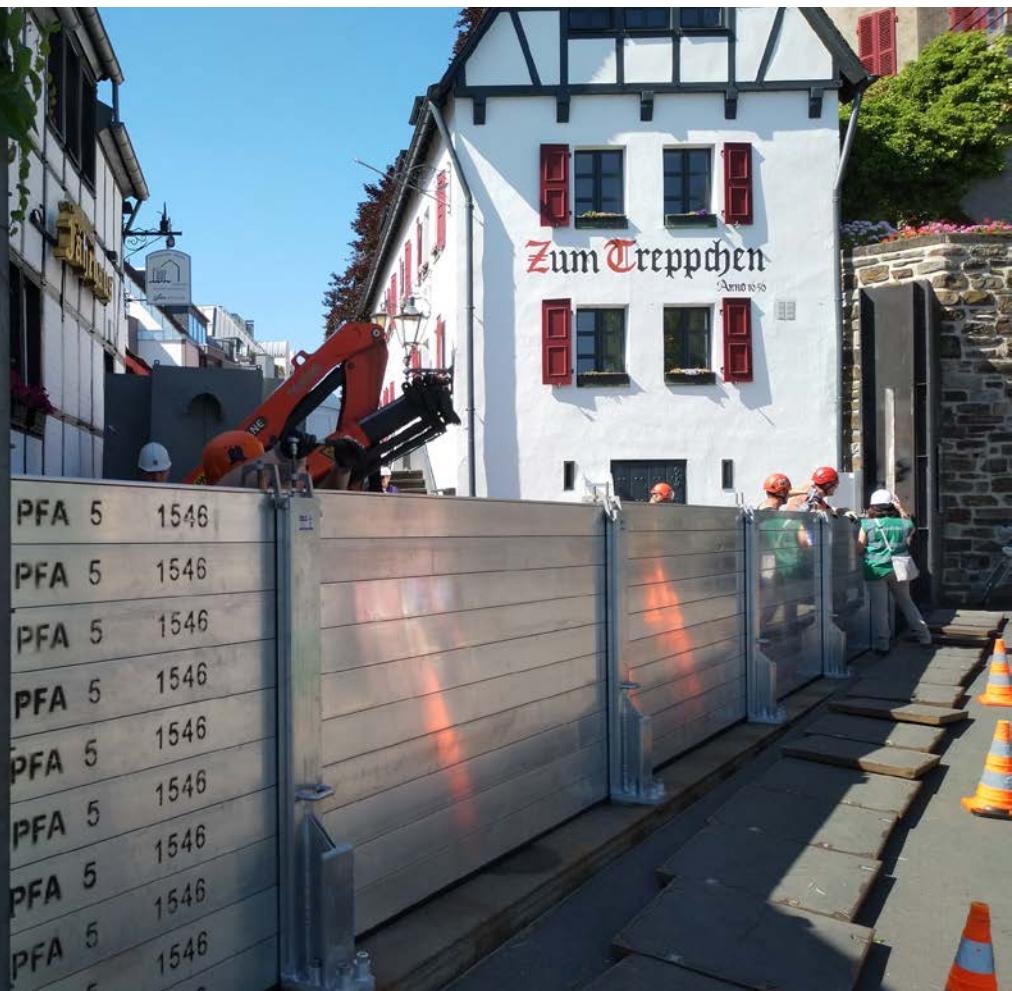
With regard to demographic change the joint project *Hitzeaktionsplan für Menschen im Alter für die Stadt Köln* (2019 bis 2022) (Heat action plan for elderly people in the City of Cologne, 2019 - 2022) focused on the over-65 age group. Worsening heat in neighbourhoods of the city during summer heatwaves hits vulnerable sections of the population, such as elderly or sick people, particularly hard. The warmer climate caused by climate change results in increased health risks and more adverse impacts on health. The aim was to identify the impacts of heat on elderly people and to explore their own perceptions. This has helped raise awareness within the target group, as well as minimising health risks posed by heatwaves and developing health competence especially among people over the age of 65 who are living alone. The project has developed an action plan and an information system. The three-year project was funded as a lighthouse project by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. Outputs are to be put on a more permanent basis within the framework of adaptation to climate change for the City of Cologne. The plan is to continue measures for people over the age of 65, to extend the

heat action plan to cover other vulnerable groups and ultimately to devise measures for all inhabitants.

To improve the urban climate, the City of Cologne has helped fund citizens' greening activities under the **GRÜN hoch 3** programme since 2019. Funds are available for greening roofs and facades as well as re-greening areas that had previously been sealed.

The way the city deals with water is crucially important if it is to become resilient to climate change. The high percentage of sealed soil in urban areas brings the city to its limits when it faces extreme rainfall, since today most water has to be channelled into the city's wastewater system rather than simply draining away into the soil. One important building block in the City of Cologne's efforts to adapt to climate change is the 2021 **Schwammstadtkonzept** (Concept of the city as a sponge). StEB, the utility responsible for wastewater and flood protection, has implemented a whole series of measures and projects to help

Photo 43:   Construction of mobile flood protection elements in Cologne-Rodenkirchen

realise this strategy. This includes harnessing multi-use areas, driving forward the unsealing of urban areas and promoting greening activities. The **Leitfaden für eine wassersensible Stadt- und Freiraumgestaltung in Köln,** (Guidelines for water-sensitive design of open spaces and the city of Cologne), which were produced by specialist planning officers of the City of Cologne and StEB, for instance, set out extreme rainfall protection standards that must be taken into account when new building areas are planned. The guidelines provide practical pointers, raising awareness of the need to take account of flood protection considerations.

Under the banner **Social Innovations and Smart City Infrastructures for the Resilient City of the Future (iRes),** the German Federal Ministry of Education and Research has funded an interdisciplinary team to investigate the consequences of climate change, such as extreme rainfall, prolonged heatwaves and storms, and the challenges they pose for cities and the people who live there.

Other activities in the field of adaptation to climate change include introducing a cross-unit working group on adaptation to the consequences of climate change and the publication of maps showing vulnerability to extreme rainfall by StEB. To guarantee the protection and survival of roadside trees Cologne has for many years agreed to take part in the GALK stress tests for roadside trees, and a series of tests entitled Getting Water to the trees is soon to be conducted.

Making cities resilient to extreme rainfall

In recent years extreme rainfall has become both more frequent and more intense, often leading to dramatic damage. Many municipalities and their residents got a painful first-hand experience of the impacts of these extreme weather events in 2021. In urban areas like Cologne, in particular, extreme rain-

Photo 44: Example image - solar collectors

fall can cause massive damage. The extent of soil sealing means that the wastewater system cannot cope with the enormous run-off resulting from extreme rainfall. Every additional degree rise in global temperatures increases the risk that extreme rainfall events will occur more frequently in future.

The plan is thus to make Cologne more resilient. StEB and the City of Cologne are ensuring that strategic retention areas and emergency flood channels are kept free when new quarters are established in areas at risk from flooding. **Multifunctional urban retention areas** can help protect against flooding in the wake of cloudbursts. These are open spaces and squares that are designed to act as (temporary) rainwater collection areas during extreme rainfall, alongside their primary function. Two such multifunctional areas have been realised as pilot projects in Porz-Eil. The Eiler Schützenplatz has been upgraded in collaboration with local residents to make a public park and fairground. The differences in height in the different parts of this area mean that in future it can also be used to retain rainwater in the case of extreme precipitation. The public area along the Leidenhausener Straße has been modelled in the same way. The conversion work on these two areas has created retention facilities for an additional 700 cubic metres of water, significantly reducing the risk of flooding in that part of the city.

So that risks can be assessed as effectively as possible, **maps showing vulnerability to extreme rainfall, flooding and groundwater flooding** have been produced and are updated regularly. Important tools are thus available to better assess individual risk situations. The vulnerability maps are available free of charge and indicate areas at particular risk. The online *Wasser-Risiko-Check* (Water Risk Check) combines the vulnerability maps with the contents of various information pamphlets and the expertise of the City of Cologne. Interested individuals in Cologne can consult the relevant website to find out more about the specific risks they face and pertinent risk prevention measures.

Flood protection

Since 2004 StEB has been responsible for **protect-ing Cologne from flooding caused by the Rhine.** On the basis of a detailed food protection strategy, dykes, flood walls and mobile flood protection walls have been built or expanded along the Rhine, and have since been regularly inspected and maintained. To this end the external audit of flood and extreme rainfall protection in Cologne was again updated in December 2019 on a voluntary basis.

In the course of 2021 a total of 15 passages and sets of steps along Cologne's flood protection walls were refitted to make them barrier-free, allowing everyone access to the Rhine most of the time (when there is no risk of flooding).

To ensure that flood protection systems work and that processes run smoothly in the worst case scenario, the central flood protection office organises flood drills with the relevant city offices, aid organisations and partner companies. It also manages all flood protection operations.

In 2021 the worst case scenario was again simulated. The drill involved installing mobile flood walls in Merkenich, Langel and Poll. Along the Siegburger Straße, which runs parallel to the Rhine, the drill included building a double protective line of bigbags (sandbags holding one cubic metre) to protect the light urban railway (S-Bahn) line. It is always a spectacular sight when the transverse bulkhead is inspected and the huge floodgates closed, sealing off the Rhine tunnel. This is regularly integrated into flood drills.

New vulnerability maps have been commissioned for tributaries of the Rhine deemed critical. The maps are an important tool for local risk analysis and are intended to provide a basis for decision-making on additional flood protection measures.

Adjusting to climate change in the administration and companies (partly) owned by the municipality

Against the background of the adaptation to climate change objectives and measures in the City of Cologne described here, the administration, municipally-owned companies and companies in which the city holds a stake are also implementing relevant activities. Environmentally-friendly operations were, for instance, factored into the building of a new parking lot for the municipal transport company **Kölner Verkehrs-Betriebe** (KVB) in Weidenpesch. When it rains, the water can drain away from the sealed areas via underground trenches and does not flow into the public wastewater system. The vehicle wash plant uses rainwater that collects in an underground tank so that it should not have to use tap water. Photovoltaic modules have also been mounted on part of the roof of the covered parking area. The sections of the roof that have not been fitted out with PV modules have been greened to act as a buffer for rainwater. Around the new parking facilities, KVB has planted traditional varieties of fruit trees, deciduous trees and a variety of shrubs, upgrading the natural environment. The new plants not only replace the thicket and coppice that was cut down for the construction work, but also expand the green area and upgrade the landscape conservation area adjacent to the new parking facility.

3.13.5   Indicators

13 CLIMATE ACTION

Greenhouse gas emissions

Greenhouse gas emissions per annum in tonnes (calculated using the BISKO municipal balance system)
(Source: CO_2 balance by IFEU)
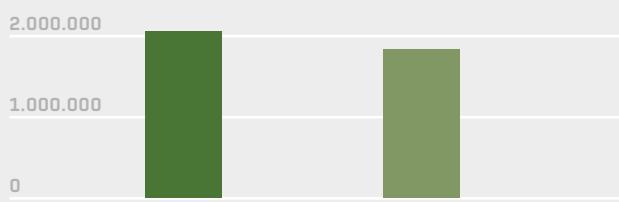
The greenhouse gas balance is considered to be an important indicator for monitoring greenhouse gas emissions. Balances are produced regularly, every three to five years, using the BISKO system for municipalities. Time series going back to 1990 exist for Cologne, with a benchmark of 12 million tonnes GHG emissions per annum. The provisional GHG emissions balance for 2019, produced in 2021 but not yet adjusted for weather, stands at 9.5 million tonnes. To achieve climate neutrality by 2035, the goal is to push this figure below 1 million tonnes. About 300 data sets are used to compile the GHG balance. They comprise extrapolations of nationwide energy consumption indicators, extrapolations with local statistics and regional indicators, extrapolations with local primary data from the energy sector and calculations using local primary consumption data.

Private households

2,060,205 t
2015
Adjusted for weather
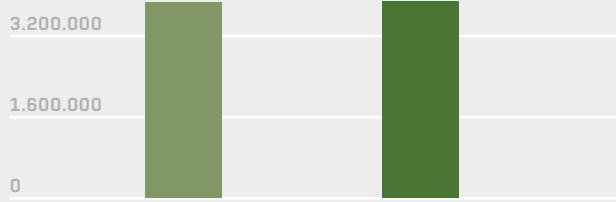
1,834,000 t
2019
Not adjusted for weather

Industry and manufacturing

3,863,037 t
2015
Adjusted for weather
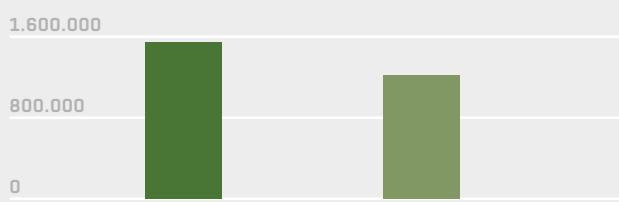
3,879,000 t
2019
Not adjusted for weather

Commerce, trade and services; other

1,543,224 t
2015
Adjusted for weather
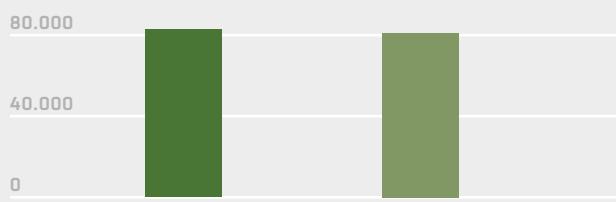
1,218,000 t
2019
Not adjusted for weather

Municipal institutions

82,618 t
2015
Adjusted for weather

81,000 t
2019
Not adjusted for weather

3.14   SDG 14 - Life below Water

3.14.1   SDG 14 - Introduction and relevance for German municipalities

SDG 14 calls on the world to conserve and sustainably use the oceans, seas and marine resources for sustainable development. The oceans are a key foundation of all life. Ecologically intact marine and coastal ecosystems are crucial for the preservation of biological diversity, and for food security, economic development and the climate system. However, pollution (e.g. by plastic waste), contamination (e.g. from agriculture and the industrial and transport sectors), overfishing and global climate change are increasingly putting pressure on the marine ecosystem (pressures often originate on land - and seas are connected to inland areas via rivers). Given the social, economic and ecological functions of the oceans, they need to be managed as a global public good. This means giving greater consideration to limits on pollution, such as seawater acidity.[24] For German municipalities, this makes the following themes especially relevant at the local level (please also compare these with the targets for SDG 14 in the annex):

❙ Promoting water quality in rivers and streams
❙ Supporting the protection of marine and coastal ecosystems
❙ Supporting the sustainable management of marine resources.

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24   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.14.2   Overview: Qualitative aspects and indicators

Qualitative aspects:

▮   Wastewater treatment: Reducing nutrient levels in oceans

3.14.3 Contributions of the City of Cologne to the SDG

Wastewater treatment: Reducing nutrient levels in oceans

Wastewater treatment plays an important part in reducing nutrient levels in oceans. In Cologne the treated wastewater from all treatment plants is returned to the Rhine, thus eventually flowing into the North Sea.

Ongoing extension and modernisation of the plants and the technology used mean that Cologne's wastewater is treated even more thoroughly than required by law. For instance about 90 per cent of microplastic is removed by the standard wastewater treatment systems. In addition a special plant is planned that

Photo 45:   Example image - water sample and purity analysis test

is to remove microplastic co-substates originating from the food industry from the process water used to treat sewage sludge, to ensure that all plastic particles larger than 25 micrometres can be reliably removed from the water cycle. Planning for the plant was finalised in 2021 and the ground-breaking ceremony was held in September 2022.

Work is also ongoing on processes and solutions to remove other micro-pollutants entering the water cycle (resulting from cosmetics, medical drugs and household chemicals) even more reliably in future, and to further improve water treatment. In the long term, however, ***micro-pollutants can only be reduced*** if they are prevented at source. To this end, an information campaign was conducted to provide information about medicine residues and their impact on water bodies. The campaign *Ganz klar Köln* provided information about how to dispose of medicines safety to reduce levels of harmful substances in water. Cologne participated in the dialogue on trace elements staged by the Federal Ministry of the Environment, which looked at how to reduce micropollutants entering water.

3.15   SDG 15 - Life on Land

3.15.1   SDG 15 - Introduction and relevance for German municipalities

SDG 15 calls on the world to protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Intact ecosystems are key to the Earth's ecological balance and human well-being. However, in many places the use of natural resources such as soil, water and air is exceeding their regenerative capacity. The loss of biological diversity (i.e. the diversity of species, their genetic variations and their habitats) has also accelerated greatly in recent decades, for instance due to land use changes, environmental pollution and climate change. Protecting biodiversity is key to the regulation and performance of ecosystems. Forests play an important role in a wide range of ecosystem services and the conservation of biodiversity. Especially in view of the large-scale damage to forests in Germany, it is important to promote sustainable forest management that is adapted to climate change.[25] For German municipalities, the following themes therefore play a particular role in implementing this SDG (please also compare these with the targets for SDG 15 in the annex):

▎ Promoting biological diversity
▎ Nature and soil conservation
▎ Providing and sustainably managing green spaces
▎ Supporting sustainable forest management.

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25   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.15.2   Links to Cologne's objectives

Cologne will strengthen its network of green spaces for leisure purposes and develop this network within the region.
(Objective 4.3, Cologne Perspectives 2030+)
Green spaces are vitally important for both the urban climate and the quality of life of residents. At the same time cities are increasingly becoming ecological niches and urban green areas are hotly contested resources. The aim then is to preserve both larger open spaces around the city and smaller oases of greenery within the compact heart of Cologne and to upgrade these. Investment in green and open spaces and landscape areas is important in ensuring a high quality of life.

With its upgraded inner and outer green belts, the promenade along the Rhine and the Rheinboulevard on the right bank of the Rhine, Cologne already has important open spaces in the heart of the city, that convey a sense of identity. Nevertheless, weaknesses in Cologne's green network must be identified, so that specific upgrading action can be taken.

In view of the industrialisation of agriculture, insect decline and other ecological problems, cities have become important habitats for more biodiversity. After all cities are also a natural environment in their own right. Species protection and biodiversity are then important preconditions in designing Cologne's urban landscape both in terms of building and in the way the city manages publicly and privately owned open spaces.

3.15.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
❚ Protecting biodiversity
❚ Green areas, sustainable forestry and soil protection

Indicators:
❚ Conservation areas
❚ Contiguous open spaces
❚ Landscape quality

3.15.4 Contributions of the City of Cologne to the SDG

Protecting biodiversity

Because of their responsibility for planning, municipalities have a very special responsibility when it comes to protecting biodiversity. The City of Cologne is a signatory to the 2010 *Deklaration "Biodiversität in Kommunen"* (Declaration on Biodiversity in Municipalities) in which it affirms the need for rigorous action. This concern was further underlined by joining the *Bündnis "Kommunen für biologische Vielfalt e. V."* (Alliance of Municipalities for Biological Diversity) in 2017. The alliance offers member municipalities the chance to share experience and cooperate in order to help preserve species diversity.

A *biodiversity strategy* is currently being produced (working title: Biodiversity Strategy for Cologne - diverse, respectful and tolerant - for people and the natural environment: a strategy to preserve and promote biodiversity in Cologne). It takes account of the many competing interests for land and indicates the various options open to a steadily growing city to protect biodiversity. It is to help create a biodiverse environment, preserve ecosystem services and raise awareness within the population. The objectives identified are to be realised with the help of a political resolution and subsequent roadmap for implementation. The strategy is an instrument that comprises many activities including those relating to the 2018 resolution to make Cologne a bee-friendly city. These are all to be put in the context of the city as a whole. The strategy is to indicate basic options and identify measures that will allow the city to more effectively comply with its legal mandate to protect and restore biodiversity and/or to ensure that measures can be implemented more rapidly. It is also to identify and devise specific measures for Cologne as a city that can improve biodiversity in Cologne even beyond the scope of and in addition to the city's legal mandate.

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In recent years various **projects have been implemented to preserve biodiversity.** From 2019 to 2021 the city conducted an inventory of insect biodiversity (insect monitoring - investigation of insect biodiversity in the City of Cologne - development of stocks, pollinators, beneficial insects, recommendations for action). On this basis, the first general recommendations for action to address the decline in insect biodiversity in the city were drawn up and initial field studies evaluated. Other ongoing activities include the Ecological Upgrading of the Residential Environment project to design ecologically valuable open spaces in residential areas, and the Colourful Gardens and Balconies project (subtitled: so that animals do not stop at the fence), which draws attention to the benefits of keeping gardens natural. To protect the habitats of wild bees, various approaches are being realised in conjunction with environmental education work (including a wild bee trail, the establishment of wild bee areas and the installation of nesting aids). Diverse projects also exist to preserve indicator species in the urban natural environment (including All of Cologne in Sparrow Fever - conservation project of the year, the UN Decade Garden Dormice and Hedge Project and The Sparrowhawk - Tiny Hunters in the Big City).

Photo 46:   Ecological revitalization Westerwaldstraße

Green areas, sustainable forestry and soil protection

In 2019 Cologne was granted the *StadtGrün naturnah* label in recognition of its engagement in keeping green areas as close to nature as possible. Within the framework of the certification procedure an ***overall concept was produced for near-natural maintenance of green areas.*** It includes a large number of ecological upgrading measures, involving citizens. One integral part of the concept is the creation and monitoring of biodiverse meadows on public green areas. Additionally, in every district a *StadtnaturPark* (city nature park) has been designated, which provides local recreation opportunities for the urban population as well as sufficient habitats for flora and fauna. The integrative concept *Essbare Stadt* (Edible City) complements this approach, and works for greater ecological value in the maintenance and design of green areas.

A wide range of other activities in recent years have targeted the design of green areas. In Cologne various plans and different concepts are in place to maintain and develop green areas and open spaces.

Photo 47:   Ecological revitalization Westerwaldstraße

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The **Masterplan Stadtgrün** (Master plan for urban greening) is to bring these strands together in future, but also identify shortcomings and remedy these. By systematically recording the green areas and open spaces in terms of their function, quality, and planning-law status, this concept is becoming an important urban development tool. The masterplan is to elevate green infrastructure as a strategic vision, thus ensuring the continued place of existing green belts and green corridors, completing green areas and open spaces in Cologne (and thus improving the urban climate), as well as developing the function of these areas as a place for the people of Cologne to spend time and enjoy recreational activities. For the masterplan, all relevant concepts (landscape plan, Cologne Perspectives 2030+, masterplan for Co-

Photo 48: Biodiversity in the city center

logne's city centre, impetus for green belts and the Metropolitan Region Concept) are being reviewed and involved in the development. The masterplan project is developing a strategic overall concept for the city's green infrastructure, to create, network and upgrade green areas and recreational areas, in structurally disadvantaged areas. People who live in socially disadvantaged and more environmentally polluted neighbourhoods are to obtain new access to the natural environment. Building on the regional Masterplan:grün, the **Projekt RegioGrün** was elaborated with neighbouring administrative districts in 2010, with a view to networking green areas and open spaces beyond the city limits. Under the working title **Grüngürtel: Impuls 2012** (Greenbelt - Impetus 2012) a development plan was drawn up back in 2012 for the entire external greenbelt. Current green area and open space concepts (Nippes green corridor, Parkstadt Süd inner green belt) are important and integral parts of the further development of Cologne's green infrastructure. To steer development and address the problem of competition for land, transparent land management systems are to be introduced in future.

Cologne's forest, the **Kölner Wald** has been managed for many years in line with FSC standards. Of the total 4,000 hectares of forest open for recreational purposes, 500 hectares has now been designated a natural forest development area.

As regards soil, the City of Cologne drew up a soil protection concept in 1986 that embraced matters such as contaminated sites and landscape use. Since 1998 the soil has also been protected by law from harmful interference by federal and state soil protection legislation. Currently, the local soil protection concept is being aligned with the latest legal rulings in terms of preventive soil protection. Since 2018 the natural functions of soil have been presented in a **soil function map,** which is currently being validated.

Photo 49: Nature reserve Dellbrücker Heide

3.15.5   Indicators

15 LIFE ON LAND
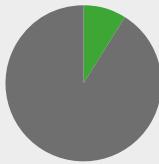
Conservation areas

Designated protected area for nature conservation and biodiversity as a percentage of the total area (Source: SDG Portal, IÖR Monitor)
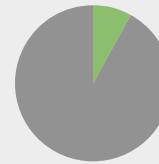
Within the framework of sustainable development, sufficiently large conservation areas are needed in municipalities in which the natural environment can develop without harmful human interventions. These help preserve biodiversity and are considered to be important areas for people to relax and rest. An integral factor is the networking of connected protected areas across state borders (such as the Europe-wide Natura 200 network), with a view to making individual areas more resilient. The latest figures for the City of Cologne indicate that 9% of the area was designated nature conservation areas (2019). This figure is lower than the national average (fairly constant at about 16% over the period under review), as a result of its high-density settlement structures, and is fairly comparable to figures in cities in NRW with a similar population. Currently preparations are underway to designate other suitable areas nature conser-

Conservation areas
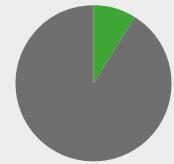
9.0 %   **8.3** %   **9.0** %
2010   2015   2019

vation areas in Cologne's landscape plan. The German Sustainable Development Strategy aims to increase species diversity and landscape quality - to reach the index value of 100 by 2030 (Objective 15.1). NRW's state sustainable development strategy aims specifically to increase state-wide contiguous biotopes to 15% by 2030 (Objective 15.1.c).

15 LIFE ON LAND

Contiguous open spaces

Contiguous open spaces > 50 km², that are not divided by rails for supra-local traffic networks as a percentage of the total area (Source: SDG Portal, IÖR Monitor)
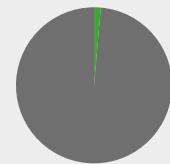
Dividing habitats is a major factor in biodiversity loss. Animal and plant species are separated and the remaining areas are often too small to sustain a species. Regions with less divided landscapes generally have the highest biodiversity. Data for this indicator is only available for two years. The figure for the City of Cologne (1.5% in 2020) is below the average for NRW (2020: 6.1%). The figure in other cities in NRW with a similar population shows the same trends as Cologne, as a result of high-density settlement and transport links. No specific objectives for continuous open spaces is set out in the sustainable development strategies at national and NRW state levels, but they do include objectives to reduce the area of land used and enhance the landscape quality and species diversity.
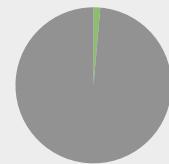
Contiguous open spaces

n/a	1.6 %	1.5 %
2010	2012	2020

15 LIFE ON LAND

Landscape quality

Total human interventions in the natural balance (Hemeroby index) (Source: SDG Portal, IÖR Monitor)

The quality of a landscape is determined with the help of parameters including the magnitude of the deviation from the potential natural vegetation caused by human activities, the degree of soil sealing and compression, the degree of alteration in humus form and microclimate, the use of fertilisers and plant protection products as well as the water quality and the engineering of watercourses and water bodies. The magnitude of human intervention in the natural balance of the City of Cologne over the review period is constant at 5.1 on the Hemeroby index (1= no deviation, 7 = strong deviation). In comparison with the national average (4.2) the magnitude of deviation is thus greater in Cologne, i.e. there are more harmful interventions in the natural balance. The quality of landscapes in other cities in NRW with a similar population is, however, comparable to Cologne. This can overall impact adversely on the achievement of Objective 15.1 of the German Sustainable Development Strategy (Increase species diversity and landscape quality).

Landscape quality
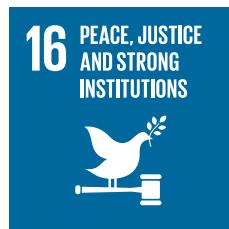
| **5.1** Level 2012 | **5.1** Level 2015 | **5.1** Level 2018 |

3.16   Peace, Justice and Strong Institutions

3.16.1   SDG 16 - Introduction and relevance for German municipalities

SDG 16 calls on the world to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels. This SDG thus references the interdependence of peace, security and sustainable development. This is the context in which good governance, including transparency, accountability and political participation, is to be promoted. Non-violent and inclusive coexistence as well as structures and procedures based on the rule of law are also key prerequisites for sustainability. Social engagement makes an essential contribution towards overcoming socio-political challenges, and is an expression of a living democracy.[26] For German municipalities, this makes the following themes especially relevant at the local level (please also compare these with the targets for SDG 16 in the annex):

❙ Promoting public participation and supporting social engagement
❙ Ensuring public safety
❙ Creating efficient and transparent governance, including sustainable finances.

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26   See Germany´s Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.16.2   Links to Cologne's objectives

**Cologne will support civic engagement and encourage the broad involvement of citizens in the development of the city.
(Objective 3.6, Cologne Perspectives 2030+)**

Civil society is increasingly specifying and demanding new, more intensive, higher quality forms of participation in urban development. A distinction must be made between participation, which stretches from consultation to enabling genuine participation, empowerment, which activates and enables people to act independently, and voluntary civic engagement. Objectives must be formulated accordingly. All three forms of civic engagement are to be encouraged and appreciated in future.

In terms of participation, over the last few years Cologne has developed a new integrated approach to ensure systematic public participation on the basis of experience gained by other municipalities. Since early 2019 a pilot phase has been testing the new guidelines for citizen participation. These guidelines aim to ensure respectful and fair cooperation, early and transparent information and communication, a suitable way of addressing all interested or affected inhabitants of Cologne, clear objectives and a delimited scope for action, reliable and mandatory processes to work through outcomes, ongoing learning and further development of the content matter. In future these yardsticks will be used to measure every procedure. There is to be a special focus on promoting and expanding options for children and young people to participate and make a difference. This can already be seen at many points in Cologne, but the high level of demand means that it must still be stepped up and networked.

In the field of civic engagement, Cologne can trust in the readiness of its citizens to make a voluntary contribution to the community. This engagement is indispensable for the further development of the community and calls for a new culture of appreciation and specific promotion, for leeway for action and networking if it is to develop further in future.

3.16.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
- Dialogue processes on sustainability and cooperation with civil society actors
- Support for and cooperation with civil society actors
- Involvement in neighbourhood development
- Promotion of social engagement
- Cologne municipal administration - administrative reform and digitalisation programme
- SDGs in budget planning
- Anti-debt measures
- Sustainability-oriented investment strategy for financial investment

Indicators:
- Financial balance
- Tax revenue
- Liquidity loans
- Crimes
- Turnout for local elections

3.16.4   Contributions of the City of Cologne to the SDG

Dialogue processes on sustainability and cooperation with civil society actors

It is impossible to implement the SDGs at local level without the support of civil society. Cologne is lucky to have a vibrant landscape of citizens engaged in voluntary activities. The promotion of the Cologne Agenda process by the city has done much for many years to foster communication between civil society and citizen action groups, the City Council and the administration. Since 2020, **a drive to systematically involve the general public** under the banner *Meinung für Köln. Beteiligung für alle* (Opinion for Cologne. Participation for All) has gradually put in place a

Photo 50:   Theme week on systematic public participation with the opinion mobile

wide-ranging, high-quality range of participation op-portunities. In 2020 the City Council adopted Popular Participation Guidelines for the City of Cologne, which include mandatory quality standards and give the people of Cologne the right to advocate citizen participation for every resolution to be addressed by the administration. The guidelines are being imple-mented gradually and are already in effect for three district representations and for the Committee on the Environment, Climate and Green Issues, as well as the Transport Committee. In 2022 additional partici-pation formats (including establishing a project-spe-cific citizens' council in the mobility sector) are to be tested and systematic popular participation rolled out to embrace all bodies involved in the mobility sec-tor and all draft resolutions. As of 2025 the guide-lines are to come into effect for all municipal bodies.

Cologne also attaches great importance to **partic-ipation in the elaboration of its strategies and con-cepts for the city.** Civil society was, for instance, in-tensively involved in the elaboration of the Cologne Perspectives 2030+ with meetings held at district level and three city-wide forums. The involvement of businesses and institutions also plays a key part in the development of the SmartCity Strategy, with dialogue processes and model projects. For the un:-box cologne project, platforms are being put in place where the private sector, civil society, and the sci-entific and research community can meet under the aegis of the City of Cologne to make digitalisation and innovation more tangible. Under the working title Köln - *Deine Stadt, Deine Ideen (1.000.000 Ein-wohner, 1.000 Impulsgeber, 100 Dialoge, 50 Projek-te, 100 % Verbindlichkeit)* (Cologne - your city, your ideas; 1,000,000 inhabitants; 1,000 innovators; 100 dialogues; 50 projects; 100% reliable), digitalisation is to be driven forward in every aspect of daily life. The zero waste concept is another example. Citizens, local businesses, commerce, education facilities, event organisers, associations and federations were involved with the help of a broad-based participatory procedure using the *meinungfuer.koeln* portal (your opinions for Cologne) and workshops, with a view to devising specific measures together.

Local initiatives and actors have in recent years helped advance the **sustainability discussion** in many places. In particular the *Bündnis kommunale Nach-haltigkeit Köln* (Alliance for local sustainability in Cologne) has done much to anchor sustainability is-sues within the City of Cologne. Another example is the mediation procedure involving the *Initiative Kli-mawende Köln* and *RheinEnergie AG.* In the course of this procedure, participants agreed to accelerate *RheinEnergie's* transition to renewable energies. The aim is to fully decarbonise electricity and heating supplies no later than 2035. The climate action road map drawn up by *RheinEnergie* had hitherto planned for this by 2040. The administration of the City of Co-logne organised the mediation process and support-ed it actively.

Support for and cooperation with civil society actors

The City of Cologne supports various civil society initiatives and networks and cooperates with a wide range of actors who are engaged in the city, where they actively promote sustainability. This includes coordinating the *Eine-Welt Stadt Köln* network, and active collaboration with the steering group of *Fair-trade Town Köln*. The City of Cologne has been pro-moting and funding the local Agenda process since 1999. Under current objectives, the promotion of municipal sustainability in Cologne was adjusted in 2023. For this purpose, two projects of *KölnAgenda e.V.* and *Allerweltshaus Köln e.V.* are currently fund-ed in the *Bündnis kommunale Nachhaltigkeit Köln.* Another example is the financial support accord-ed to the civil society **Ernährungsrats für Köln und Umgebung e.V.** (food council for Cologne and the sur-rounding area) to firmly establish the body and help it realise its many activities. This is helping put the strategic partnership between the city and the as-sociation on a more permanent footing. In 2016 it was the first food council to be founded in Germany. The implementation of food-policy projects based on a division of labour alongside food strategy projects,

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provide another key interface between the administration and civil society.

Since 2012 the city has also supported the **Kölner OK Lab.** Open knowledge labs are supported by the non-profit association Open Knowledge Foundation Deutschland. Across Germany the foundation networks people working on analogue and digital solutions to foster democratic participation and open knowledge based on open data. The labs are thus spaces for experimenting with a digital civil society. The City of Cologne is helping network actors at local level and identify ideas, and contributes its expertise to support activities.

Involvement in neighbourhood development

To foster participation in neighbourhood development, the City Council adopted the Guidelines for Public Participation in the City of Cologne, thus laying the foundation for systematic participation (see above). Since 2019 these have been successively applied to more and more projects in Cologne. Examples include the development of new parks and bicycle boulevards. All citizens are welcome to get involved in the planning and realisation of new projects, and thus play an active part in decisions.

Specific support is also accorded to popular participation in **individual neighbourhood development projects.** The *Bürger*innenbeteiligung und Aktivierung in Sozialraumgebieten der Stadt Köln* project (Citizen participation and active involvement in social spaces in the City of Cologne) is part of the *Lebenswerte Veedel - Bürger*innen- und Sozialraumorientierung in Köln* (Neighbourhoods you want to live in - Orientation for citizens and social spaces in Cologne) programme. This project is to test participation methods and ways of getting people actively involved, initially on a pilot basis. Following an evaluation, the recommended measures are to be implemented in all 15 neighbourhoods designated as social spaces.

Within the scope of the programme *Starke Veedel - Starkes Köln* (Strong Neighbourhoods - Strong Cologne) several different funds are being used to promote local projects and initiatives in these areas. Engaged citizens, but also citizen action groups, facilities and resident groups with good ideas to enhance the way people live together in these neighbourhoods have the opportunity to apply for funding from the fund. These projects can come from the social, cultural, creative or sporting sectors.

In general, upgrading procedures for major development areas are conducted with citizen participation. One example is the intensive participation within the scope of the *Wettbewerblicher Dialog* (Competitive dialogue) in Köln-Kreuzfeld in 2021. Six interdisciplinary planning teams presented their own urban development plans for the new district of Kreuzfeld. Interested citizens were able to examine all proposals and vote for their favourite.

Promotion of social engagement

The City of Cologne is very active in promoting civic engagement. Since this is a cross-cutting issue, support has to come from central level. To this end, a 2001 resolution of the City Council established the **Kommunalstelle zur Förderung und Anerkennung Bürgerschaftlichen Engagements** (Local Unit for Promoting and Recognising Civic Engagement) within the Office of the Mayor. This unit is the point of contact for all volunteers, organisations, associations and other citizen action groups, and establishes contacts to the relevant advisory bodies and institutions. It aims to promote the public appreciation of voluntary work, raise awareness of all aspects of volunteering, and improve the framework conditions for voluntary work.

The **Kölner Netzwerk Bürgerengagement** (Cologne Network for Civic Engagement, KNBE) is a voluntary network that brings together representatives of the political and administrative realms, the private sector, the science and research community and bodies

working for the public good, as well as active citizens. All participants work together on an equal footing and contribute their own expertise, skills and experience. The responsibilities of the network are:

1. to generate impetus to advance civic engagement of every sort and across all sections of societal life,
2. to implement and appropriately update the *Kölner Konzept zur Förderung bürgerschaftlichen Engagements* (Cologne Concept to Promote Civic Engagement),
3. to bring together the activities involved in encouraging and supporting volunteering,
4.   to step up communication between actors, and
5. to continue to develop in both qualitative and quantitative terms.

The *Kölner Konzept zur Förderung bürgerschaftlichen Engagements* (Cologne Concept to Promote Civic Engagement) adopted in 2005 by the City Council provides the foundation for the work of the Cologne Network for Civic Engagement. It comprises 44 recommendations for action to promote civic engagement in Cologne. Examples of the measures already taken include elaborating the Guidelines for Civic Engagement, which have since been updated three times, and providing a database that comprises more than 900 different options for volunteering in Cologne.

Currently KNBE uses a variety of activities to encourage people with disabilities to get involved in volunteering, to enable them to transition from recipients of assistance to providers of assistance. Podcasts address digitalisation in voluntary work. The *Junge Ehrenamt* is working to make the *Jugendleiter*in-nencard* more attractive to young people in Cologne. This is a nationwide scheme that helps young people to acquire youth leadership skills; the card is awarded to young people who have acquired the necessary skill set. MentoRing provides exchange and training for mentor projects. A major online event scheduled

Photo 51:   Pedestrian traffic check for the pedestrian traffic concept Severinsviertel

for 2023 will focus on networking and exchange in the wake of the COVID-19 pandemic.

Non-profit private-sector engagement is every bit as important and indispensable as the input of individual volunteers. The working group **Unternehmen engagiert in Köln** (Cologne Businesses Engage), which is attached to KNBE provides the support structures required. To promote private-sector engagement, the **Unternehmen engagiert in Köln** forum is being established as a network where private businesses that are already engaged can share ideas and experience, as well as discussing with businesses that are embarking for the first time in this area, for the mutual benefit of all participants. In spring 2023 a kick-off event will be held to launch and establish the systematic promotion of relevant issues vital for the future in Cologne, in line with the SDGs and the principles of Corporate Social Responsibility (CSR).

Other activities to support civic engagement include the *KölnEngagiert* prize, which is awarded once a year

in recognition of exceptional civic engagement, activities to bring the issue of volunteering to the attention of the general public with volunteering mentors appointed every year, Cologne's annual day of volunteering, the introduction of the NRW volunteer card in Cologne (an expression of appreciation of volunteers this card also entitles the holder to various price reductions), the placing of volunteers in suitable areas by the *Kölner Arbeitskreis Bürgerschaftliches Engagement* (Cologne Working Group for Civic Engagement, KABE), the establishment of an online exchange to match volunteers with suitable openings, and the range of political education services offered by the Office for Advanced Training/Adult Education.

Photo 52:   Cologne Perspectives Future Forum 2019

Cologne municipal administration - administrative reform and digitalisation programme

In 2016 Cologne's municipal administration launched *Verwaltungsreform #wirfürdiestadt,* an administrative reform project unlike any other in any major German city. A rigorous participatory process in the run-up to the reform, involving administration staff, the political level and civil society, identified need for action at every level of administrative activities. In 2017 the City Council unanimously approved the funding needed for the five-year project (2017-2022). The administrative reform is to help achieve a holistic improvement of municipal administration and the sustainable transition to an innovative and learning organisation. Overall the reform is acting as a catalyst and driving digitalisation and innovation, as well as supporting a holistic innovative movement with the ultimate goal of offering civil society and the political level a professional service provider, an attractive employer and a respected partner. Since 2019 agile formats have been added, promoting innovation and change within the framework of workshops for change. In 2019 and 2020 transparency reports were published, providing information about the status of reform and the individual projects. Since the project was launched its activity completion rate has remained at a very high level. Overall the reform is increasingly broadening in scope, with more and more interconnected modernisation measures. As a follow-on measure, sustainable innovation promotion is planned in the form of a skills centre for innovation, that will be attached to the Mayor's Strategic Steering Division.

Both the administrative reform and the overall strategy set out in the Cologne Perspectives 2030+ identify digitalisation as a cross-cutting issue for the entire administration. This involves more than merely providing online information and moving individual procedures online. Digital delivery of essential public services is seen as an important factor in making Cologne an attractive location, and as the responsibility of the municipality as a whole. It should comprise attractive digital education services, open and real-time data, digital infrastructure and broadband coverage as well as digital communication services. The *Digitalisation Programme* provides the strategic coordination of individual digitalisation projects and initiatives. It promotes and coordinates municipal initiatives, measures and projects in the various field of action. To ensure the effective use of funding and circumspect use of resources it pushes for blueprints to be developed and for sustainable project outputs. Examples of ongoing activities under the Digitalisation Programme include the optimisation of business processes, upskilling and training staff, and digitalising technical units.

SDGs in budget planning

To achieve the objectives stipulated in the field of sustainable development, the City of Cologne integrates the funding required to achieve the objectives in its budget plan, as set out in the *Anlagenband zum Haushaltsplan 2022.* Climate change mitigation activities, for instance, are included in many product areas of the core budget plan for 2022. Investments of some EUR 41.1 million were earmarked for direct climate action, i.e. greenhouse gas emission reduction, while a sum of EUR 5.7 million was set aside for consumptive outlays, meaning that the core budget for 2022 earmarked a total of some EUR 46.8 million for direct climate action activities. An annual sum of EUR 20 million for climate action measures was included for the years covered by the medium-term financial plan. The programme budget was to be detailed during the budget year by the City Council. This sum is to ensure financing for longer-term, sustainable climate action measures (such as the photovoltaic drive and measures to improve energy efficiency). Over the planning period (2022-2025) this programme budget thus currently provides for EUR 80 million. The budget also includes estimates for a number of other measures, which are to mitigate the impacts of climate change without actually reducing emissions of greenhouse gases. They can be catego-

rised as adaptation to climate change and/or support for biodiversity.

The results-oriented budget offers a sound basis for managing resources effectively on the part of the administration. It focuses attention on local goals and thus supports sustainable economic activities, which is essential if the municipality is to continue to meet its responsibilities in the long term. The legal requirement to establish objectives and indicators to ascertain the degree to which objectives have been met is met in Cologne in Section 3 of the budget plan (results-oriented budget). Since 2015 objectives and indicators have been linked with the pertinent aggregate financial information at product group and product levels. One important building block in the systematic development of a results-oriented approach to the municipal budget as a whole is the implementation of elements to foster sustainability within the results-oriented budget. Against this background, the City of Cologne was involved in the NRW state working group on Agenda 21's ***Modellprojekt Kommunaler Nachhaltigkeitshaushalt*** (Municipal budgets for sustainability model project). The project aims to integrate sustainability objectives in the municipal budget such that sustainability becomes an integral part of all local activities. To this end, since 2019 the United Nations SDGs and the sustainability goals of the German federal government and the government of the state of North Rhine-Westphalia (NRW) have been linked with financial resources and initial indicators that already exist for individual product groups and products. The 2022 budget directly links financial resources and the intended results of sustainability goals in five selected areas (the product areas, product groups and products of the Office for Landscape Management and Green Spaces, the Office for Sport, Cologne Fire Service, the Public Health Office and the Municipal Library). The sustainability budget links the results-oriented budget to the 17 SDGs. All in all the sustainability budget is thus an extension of the results-oriented budget of the City of Cologne, incorporating sustainability factors.

Anti-debt measures

Stable finances are essential to ensure steady, reliable local development. The development and functionality of the city as a local community must be guaranteed over a longer period in line with strategic priorities set. In the double-entry accounting system, data analysis, adjustment of data and the presentation of a results-oriented budget for sustainability provide the basis for the realignment of local finances with an ***inter-generational perspective.*** In this, financial strategy, financial planning and forecasting of financial-policy and technical scenarios regarding budget and asset development trends are combined. The underlying methodology aims to develop a materially sustainable local financial policy with the help of a regularly updated sustainability analysis (the Cologne model), which can set out long-term goals and impacts of strategic urban development and provide for discussion of different scenarios. The financial perspective thus reflects the financial-policy, financial-sector and fiscal frameworks and serves to set out how to retain an inter-generational ability to act. There is a correlation between this and the financial strategy developed specifically for the budget and financial planning period. Overall the financial perspective always takes account of the goal of achieving a reliable, generationally sound and thus materially sustainable budget.

The Cologne district government, which is the supervisory body, approved the two-year budget for 2023/2024 in December 2022. It complies with provisions designed to prevent the need for a concept to address budget deficits. The costs incurred as a result of the COVID-19 pandemic and the war in Ukraine mean that the plan to balance the budget in 2023 and 2024 can only be achieved in 2023 for profit and cash flow planning taking account of assistance under the Act to Isolate the Costs to Local Budgets in the State of North Rhine-Westphalia arising as a Result of the COVID-19 pandemic and the War against Ukraine. For the following period (2025-2027) the budget plan is largely balanced.

It should be noted that the City of Cologne has significantly reduced its debt level over recent years. Over the period 2015 to 2021 total debt from investment and liquidity loans was reduced from EUR 3,016.0 million by EUR 822.9 million to EUR 2,193.1 million. Investment loans in hand were reduced from EUR 2,162.9 million in 2015 to EUR 1,457.9 million in 2021. Over the same period, outstanding loans to ensure liquidity were also reduced from EUR 853.1 million to EUR 735.2 million. The level of debt from investment and liquidity loans totalled EUR 2,193.1 million as at 31 December 2021. The per capita debt from investment loans stood at about EUR 1,351. In comparison to other German municipalities, Cologne occupied the middle ground with this figure. Outstanding liquidity loans will increase over 2023/2024 because of the impacts of the COVID-19 pandemic and the Ukraine war. It will only be possible to reduce liquidity loans in the years following as a result of the additional costs incurred.

In terms of investment, the City of Cologne is currently introducing financial controlling for construction-related investment. Under the latest plans, EUR 700-800 million is to be invested annually over the next five years. This will raise the total investment loans but also the asset volume. Sustainability and the realisation of climate targets enjoy high priority in investments.

Sustainability-oriented investment strategy for financial investment

In 2020 the Municipal Finance Department updated its *investment guidelines* and thus the specific requirements for capital investments involving the core budget and the foundations. The update incorporates sustainability as a vision. Against this background, the City of Cologne Finance Department and the municipal insurance scheme *(städtische Zusatzversorgungskasse)* focus in particular on sustainability. The investment guidelines were updated as part of the federally-assisted project *Klimafreundlich in-*

vestieren - Kommunales Divestment und Re-Investment (Climate-friendly investment - local divestment and re-investment). The new investment guidelines put in place ambitious environmental, social and governance criteria for the City of Cologne, that must be aligned with requirements regarding the security and profitability of investments. In future, all capital investment involving funds from Cologne's core budget will need to comply with these criteria. As a result, specific exclusion criteria have been drawn up for businesses, states and the assets management specialists mandated by the City of Cologne. Within the scope of investments

1. Investment in business activities involving fossil fuels and the nuclear power industry are broadly excluded,
2. All investment in the manufacture of and trade in weapons and military equipment is excluded,
3. Specific requirements are made of companies in terms of compliance with human rights and labour rights, and
4. When government securities are purchased, the state in question must have signed the Paris Agreement on climate change.

The City of Cologne will regularly review the sustainability principles and align them with changing framework conditions and standards.

The administration is currently exploring *alternative financial instruments,* in particular green bonds, that can be used specifically for green and sustainable transition. In this context the preconditions for green financing and the pros and cons thereof for Cologne are being analysed. On this basis, an open paper for decision-making is to be produced this year, that is also to include EU taxonomy considerations.

Photo 53:   Information event on the redesign of Neusser Straße

3.16.5   Indicators

**16 PEACE, JUSTICE AND STRONG INSTITUTIONS**
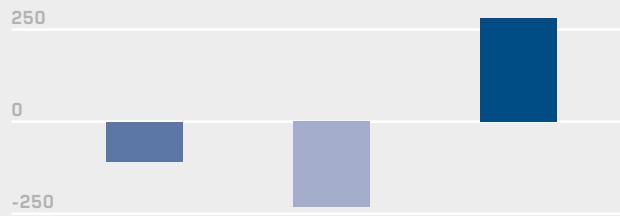
Financial balance

Budget surplus/deficit per inhabitant (Source: SDG Portal)

The financial balance provides information about the financial performance of a municipality, that will enable it to shape the economic, social and environment conditions independently on the ground. The financial balance reflects the outcome of the financial statement on the action of the municipality regarding the core budget over one year. Over the period under review the City of Cologne initially demonstrated a negative trend. Since 2016 the city has achieved a budget surplus again in some years. In 2020 the provisional financial balance stood at EUR 282 per inhabitant, as compared to the average for NRW of EUR 119 per inhabitant (2020). Improvements here can help achieve Objective 8.2.c of the German Sustainable Development Strategy (Ratio of government debt to GDP must not exceed 60 % To be maintained until 2030).
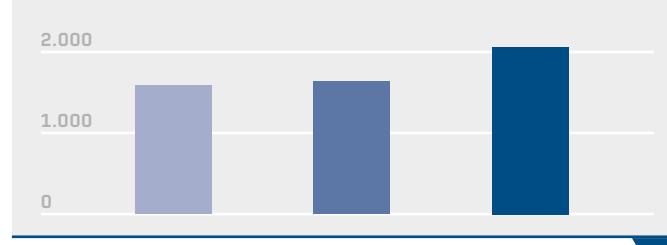
Financial balance

-108.00 €	-232.00 €	282.00 €
2010	2015	2020

Tax revenue

1,591.00 €	1,636.00 €	2,061.00 €
2010	2015	2020

Tax revenue

Tax revenue per inhabitant (Source: SDG Portal)

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

The taxation capacity largely determines the financial scope open to a municipality and it provides information about the economic strength and structural weakness of a municipality. Then, however, it should be taken into account that tax revenue does not include other sources of revenue (e.g. from fees, levies, investment allocations from federal and state governments or general allocations within the local financial compensation system). In the City of Cologne, over the period under review, a positive trend can be seen in the tax revenue per inhabitant. Revenue per capita rose from EUR 1,591 in 2010 to EUR 2,061 in 2020. Increases in tax revenue in Cologne over the entire period are thus about EUR 600 higher than the average for NRW as a whole. No specific objectives regarding tax revenues are set out in the German Sustainable Development Strategy or the sustainable development strategy at state level in NRW.

## 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Criminal offences
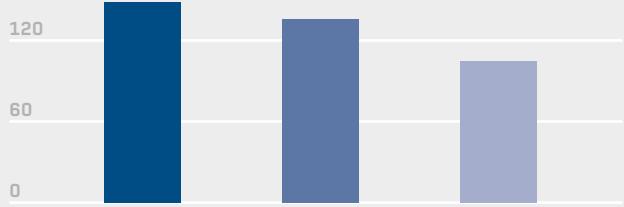
Number of criminal offences recorded per 1,000 inhabitants (Source: SDG Portal)

This indicator looks at the number of criminal offences recorded by the police in a municipality in terms of the number of inhabitants, giving a picture of general and public security. Since no distinction is made between the different types of offences, little can be said about successes in fighting organised crime. The number of criminal offences recorded in the City of Cologne over the period under review has declined, to a level of 104.4 per 1,000 inhabitants in 2020, but it remains higher than the value for NRW as a whole (2020: 67.8 criminal offences per 1,000 inhabitants). The downwards trend can nevertheless help achieve Objective 16.1 of the German Sustainability Strategy (Reduce the number of criminal offences recorded per 100,000 inhabitants to less than 6,500 by 2030).
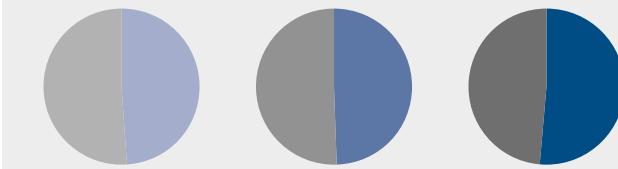
Criminal offences

148.7 Number 2013	**135.5** Number 2016	**104.4** Number 2020

Turnout for local elections

49.1 % 2009	**49.7** % 2014	**51.4** % 2020

Turnout for local elections
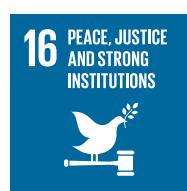
Percentage of people on the electoral register who actually cast their vote (Source: City of Cologne-Office for Urban Development and Statistics - Statistics Information System)

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

The turnout at local elections translates as the chance to have a say on political issues at this level. Turnout was slightly up at the last local elections in Cologne. In 2020, turnout in NRW as a whole was 51.9% which was slightly higher than the figure for Cologne. There were huge differences in the turnout in Cologne's individual districts, with figures varying between 22.5% and 69.2%.

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Liquidity loans

2010	2015	2020
225.00 €	781.00 €	662.00 €

Liquidity/cash loans in the core budget per inhabitant
(Source: SDG Portal)

Short-term liquidity loans in the core budget point to shortfalls that a municipality bridges by overdrawing (overdraft). High liquidity loans over a longer period point to a radical imbalance in the budget structure of a municipality, which is a problem in terms of inter-generational justice. In the City of Cologne, liquidity loans per inhabitant rose over time up to 2019, and fell again in 2020 to EUR 662.00 per inhabitant.

This trend has been above the national average since 2015, but below the average for NRW, which stood at EUR 1,264 per inhabitant in 2020. One-off factors are responsible for developments in 2020 and 2021. In the medium term, liquidity loans are expected to rise, because of the additional costs incurred as a result of the war in Ukraine and budget deficits in the medium-term financial planning.

**17 PARTNERSHIPS
FOR THE GOALS**

3.17   SDG 17 - Partnerships for the Goals

3.17.1   SDG 17 - Introduction and relevance for German municipalities

SDG 17 calls on the world to strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development, with respect to all the SDGs. These can only be achieved through strong partnerships at multiple levels. Politics, civil society, academia and business must work together to implement the goals - locally, regionally, nationally and globally. This means that multi-actor partnerships between public, private and civil society partners are key. The core principle of "leave no one behind" describes the special responsibility to include all people on the path to sustainable development. In particular, the needs of the poorest and most disadvantaged should be taken into account -

both within a society and in the context of the global community. Accordingly, the 2030 Agenda calls for the countries of the Global North to support the countries of the Global South, e.g. in capacity building for sustainable development.[27] For German municipalities, the following themes are therefore especially relevant for implementing this SDG (please also compare these with the targets for SDG 17 in the annex):

▎ Forming and supporting partnerships and cooperation arrangements
▎ Promoting global justice
▎ Implementing local development policy and cooperation.

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27   See Germany's Voluntary National Review to the High-Level Political Forum 2021 and the German Sustainable Development Strategy 2021.

3.17.2   Links to Cologne's objectives

**Cologne will step up regional and international cooperation.
(Objective 4.5, Cologne Perspectives 2030+)**
Our world is growing closer together: Cologne has global links thanks to international companies, trading relations, science and research, culture and its own diverse and multicultural society. Cities networks and partnerships, and joint projects (such as the EU's GrowSmarter project) offer huge potential for economic and sustainable developments and for knowledge transfer. These existing global networks are to be further expanded and used to benefit the entire society of the city.

However, it is not only at global level that greater cooperation offers many opportunities. At regional level too, cooperation with neighbouring municipalities offers scope to benefit from synergy. One central factor in inter-municipal cooperation is mobility, for instance for the many people who commute every day across the city line in both directions. Positive experience has already been gained in cooperation among the various public transport providers (VRS, VRR, AVV) and the regional provider NVR. Other issues are currently rarely addressed in a regional context. In the fields of school construction, social infrastructure and inter-municipal urban development, for instance, joint approaches and model projects are to be developed and implemented.

The *StadtUmlandKonzepte* (City and Surrounding Area Concepts) and the Concept for the Cologne/Bonn Metropolitan Region already provide ideas and are to be translated into more specific terms in the form of a Metropolitan Region Programme.

3.17.3   Overview: Qualitative aspects and indicators

Qualitative aspects:
❚ Cooperation and support for municipalities abroad
❚ Promoting global justice on the ground in Cologne
❚ Cooperation and networks for sustainability inside Germany

Indicators:
❚ Local spending on development cooperation
❚ Projects with partners in countries in the Global South
❚ Fairtrade Town
❚ Fairtrade Schools
❚ City twinning and sustainability

3.17.4   Contributions of the City of Cologne to the SDG

Cooperation and support for municipalities abroad

Cologne is a city with strong international links, and cooperation agreements with municipalities in other countries are particularly important. The city maintains strong relations with partner municipalities. In addition to contacts at administrative level, it is the wide spectrum of civil society encounters that mould twinning arrangements. Every year the ***Förderprogramm "Städtepartnerschaften gestalten!"*** (Shape Town Twinning Programme) supports civil society projects. Public-benefit, non-profit associations and citizen action groups, education facilities and church communities based in Cologne may apply for assistance under the programme. The annual ***Projektförderung Entwicklungszusammenarbeit*** (Programme to Support Development Cooperation) provides targeted support for education and PR projects and activities relating to the international aspects of the SDGs. Projects that are eligible for support include, in particular, those addressing SDG 13 (Climate action) and human rights.

Cologne has a total of 22 international city partnerships, with a wide spectrum of focuses. ***Municipal climate partnerships*** are particularly important in terms of sustainable development. In 2011, the Federal Ministry for Economic Cooperation and Development (BMZ) launched and financed the programme that is implemented by the Service Agency and NRW's state working group 21 NRW. Within Germany, Cologne is a trailblazer seen in terms of the number of its climate partnerships. With three intensive climate partnerships, the city is part of the ever-growing movement: Cologne - Rio de Janeiro (Brazil, since 2012), Cologne - Corinto/El Realejo (Nicaragua, since 2012) and Cologne - Yarinacocha (Peru, since 2017). In all of these partner cities, Cologne has elaborated joint action programmes with priority targets that

are implemented step by step and updated and taken to the next level every two years. The action programmes include climate action measures, as well as adaptation to climate change and environmental and natural resource protection activities. Ongoing measures include support for drinking water supply and disaster risk management, coastal and mangrove protection, and solid waste management. Within the scope of the partnership with Corinto/El Realejo, various large-scale projects have been implemented in recent years, with funding worth EUR 1.3 million from the federal and state governments, and contributions made by the City of Cologne. The achievements of this climate partnership led to a nomination for the German Sustainability Award.

Overall Cologne's development work in partner cities outside Germany (in particular with Rio de Janeiro, Corinto/El Realejo, Tunis and Bethlehem) has become increasingly important in recent years. Within the

Photo 54: Fair Trade Night

scope of the partnership with Rio de Janeiro, a project was launched in 2021 to **introduce the circular economy for food and organic waste** with the help of Engagement Global's Programme to Support Municipal Climate Change Mitigation and Adaptation Projects (FKKP). Given that organic waste accounts for an extremely high percentage of municipal waste (54%), the project aims to help prevent food waste. The percentage of food waste used in compost is also to be raised significantly. The concept of reducing food waste is to be broadly publicised in both Rio and Cologne and civil society made more aware of the need to deal respectfully with food. The sports project **More than just a ball - street football in Chorweiler and Rio de Janeiro** has been implemented since 2013. The project aims to improve intercultural understanding and the personal development of young people in disadvantaged parts of the two cities. Instruction and working groups allow the young people to approach and become familiar with the lives of their peers in the other country. Regular two-way visits are organised to allow the young people to engage directly with their peers.

Other specific examples of work outside Germany that the City of Cologne undertakes with federal funding or on a self-funded basis include projects under the Municipal COVID Solidarity Package launched by Engagement Global (including developing an application to improve communication with citizens in crises and emergencies, and improving the quality of medical care), a project to develop the range of further training available in Tunis in the field of waste management and the circular economy, a sports partnership with an NGO in Nairobi (giving girls access to sustainable education through football), and topic-specific discussions with partner cities (e.g. on sexual orientation and gender identity within the framework of Sister Cities stand Together).

StEB, the utility responsible for wastewater and flood protection, is involved in a German-Ukrainian partnership under which it provides expertise to help the Ukrainian water utility Lvivvodokanal in Lvov to ensure the needs-driven, safe and secure management of its plant in the long term. The project is financed through the Federal Ministry for Economic Cooperation and Development (BMZ) and is to provide for an exchange of experience on all aspects of drinking water supply and sanitation.

Cologne is also a member of a number of **European and international networks** supporting transnational cooperation between municipalities, districts and regions at practical level. Work in these networks facilitates an exchange of experience and provides a forum for the joint development of strategies and measures. One example is Cologne's membership of the EUROCITIES network, the largest independent European network of cities with 200 member cities in 38 countries. It fosters exchange on urban development for the future. The City of Cologne is also a member of the Climate Alliance of European cities with indigenous rainforest peoples.

Promoting global justice on the ground in Cologne

Since 2011 the City of Cologne has always been certified as a **Fairtrade Town,** undertaking to support fairtrade and drive forward pertinent PR work, networking and awareness. In 2017 it won the **Hauptstadt des Fairen Handels** (Fairtrade Capital) competition, while in 2021 it came second in this Germany-wide competition organised by the Federal Ministry for Economic Cooperation and Development (BMZ). This is further proof of Cologne's impressive civic engagement. Both within the municipal administration and among civil society, awareness of fairtrade structures and fair and sustainable consumption has been steadily developed. To coordinate activities, a Fairtrade Town Cologne steering group has formed, bringing together civil society and municipal actors. In recent years, the municipal administration and various civil society partners have implemented a wide range of activities. Many projects have been supported and assisted, focusing on the fields of information work, marketing, sales and global learning. One example is the

Cologne Fairtrade Night, which has been held every year since 2016, presenting many aspects of fairtrade and thus raising public awareness. Addresses and discussions provide information on various issues, while innovative businesses from the region present sustainable alternatives to conventional products. Cologne-based initiatives report on their work.

Since 2011 the City of Cologne has coordinated the *Netzwerk Eine-Welt Stadt Köln* (One-World City Cologne Network), which brings together some 400 associations, institutions and individuals actively engaged in working for development. Mutual support and joint actions harness synergy and thus underpin one-world work with a view to raising awareness, PR work and networking. The city supports members of the network, helping organise network meetings, forge contacts, propose partners and ensure reciprocal information sharing. In 2021 the network celebrated its 20th anniversary.

Cooperation and networks for sustainability inside Germany

The City of Cologne cooperates with partners in several networks with a view to driving regional and national inter-municipal cooperation for sustainability. Since 2017 the City of Cologne has, for instance, been part of the *Dialogue of mayors about sustainable cities.* This dialogue brings together more than 30 mayors, who meet regularly to discuss measures and strategies for sustainable development. Joint statements and policy papers provide impetus for the national level regarding municipal sustainability policies and sustainable urban development.

In 2020 the Cologne/Bonn regional association, of which the City of Cologne is a member, launched the *Metropolitan Region Programme.* It builds on the 2019 overarching Metropolitan Region Concept and the Regional Climate Change Strategy, which are intended to underpin the region's ability to develop. Along with (municipal) actors, the Metropolitan Region Programme helps draft a strategic framework for action that identifies guidelines and requirements for model projects. The Metropolitan Region Programme receives funding from the European Regional Development Fund within the framework of Regio.NRW 2018 - Innovation und Transfer.

To address the opportunities and challenges posed by dynamic growth in the urban region of Cologne, the city is cooperating within *two inter-municipal agreements spanning the city itself and the surrounding areas* (Kooperation Köln und rechtsrheinische Nachbarn (K&RN) in which Cologne cooperates with neighbours on the right bank of the Rhine and linksrheinischen Stadt Umland Netzwerk (S.U.N.) in which it cooperates with neighbours on the left bank of the Rhine). Both networks were founded within the scope of the *Stadt Umland.NRW* project initiated by the NRW state government in 2016. Within the *Stadt Umland Netzwerk* (S.U.N.) the City of Cologne cooperates with other municipalities on the left bank of the Rhine. The heart of Cologne and its surrounding area

are facing an influx of new inhabitants, strong commuter flows and increasing pressure on land used for settlement, economic activities, transport, and as open spaces. The network aims to address these challenges cooperatively and in a forward-looking and cross-border manner. One example of a concrete activity is the project *NACHWUCHS - Nachhaltiges Agri-Urbanes zusammenWACHSEN,* under which innovative, space-saving spatial structures are to be developed along with attractive settlement forms for the 21st century. Within the scope of the K&RN alliance Cologne works with neighbours on the right bank of the Rhine and other partners. In 2018 it published *Regiebuch Kooperation Köln & rechtsrheinische Nachbarn - Raumperspektive 2035* (Script for cooperation between Cologne and its neighbours on the right bank of the Rhine - prospects for the area up to 2035). During an inter-municipal workshop process, the script was used to develop integrated spatial

perspectives and a strategic framework for action for the period up to 2035. The Metro KLIMA-LAB is one such project, which is to develop a city and open space concept in the light of the need to adapt to climate change, for the area between Niederkassel, Troisdorf and Cologne.

The City of Cologne is also involved in the research project ***iResilience - Soziale Innovation und intelligente Stadtinfrastrukturen für die resiliente Stadt der Zukunft*** (2018-2022) (iResilience - Social Innovation and Smart City Infrastructure for the Resilient City of the Future) funded by the Federal Ministry of Education and Research. In three pilot districts of Cologne and Dortmund, new procedures and cooperation arrangements are being tested for climate action at local level. The project uses a participatory process to bring together citizens, local businesses, the workforce, the municipal administration, the po-

Abb. 55: 10 years of Cologne climate partnerships

litical level and citizen action groups for various events and in new formats. Actors are to be made aware of climate change and the consequences thereof at local level, and are to become actively involved in devising measures together to protect the city against extreme rainfall and heat, as well as ensuring that greenery in the city can play its role in regulating the urban climate. (Ideas include private building protection against extreme rainfall in consultation with the neighbourhood, use of shady paths on hot days, and cooperation with property owners and tenants to increase the greenery in courtyards.) Digital and social innovations to raise climate resilience are important. All ideas will be compiled in the

form of road maps for the climate-robust development of pilot areas. The results and processes of the pilot districts are to be transferrable to other districts of the partner cities and other cities.

Within the scope of its membership of **Region Köln Bonn e.V.** the City of Cologne is also networked with the wider Cologne/Bonn region. Given the increasing importance of metropolitan regions in the European Economic Area, the region is actively pushing for sustainable, networked development at state, national and European levels. In this framework the essential concepts are drawn up, such as the Regional Climate Change Strategy and a Metropolitan Region Concept.

Abb. 56: 10 years of Cologne climate partnerships

3.17.5   Indicators

17 PARTNERSHIPS FOR THE GOALS

Local spending on development cooperation
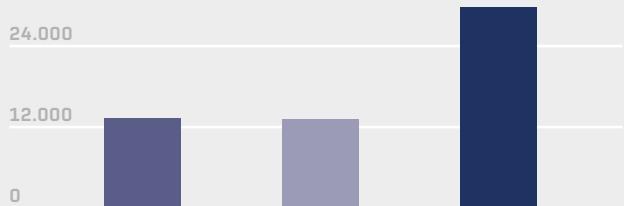
Total local spending on development work inside Germany and for development cooperation outside Germany including staffing costs (Source: City of Cologne - Office of the Mayor))

To realise the Sustainable Development Goals (SDGs) around the world, international partners are important. Cologne has been actively involved in development cooperation since about 2011, especially in cooperation with its partner cities in the Global South: Bethlehem, Rio de Janeiro, Corinto and Tunis. It is also important to step up lobbying, education work and networking in Cologne on development issues. This indicator reflects the resources used by the City of Cologne to foster development cooperation with work inside and outside Germany.
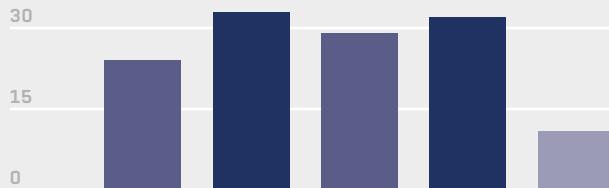
Local spending on development cooperation

132,617 €	131,608 €	297,797 €
2014	2017	2020

Projects with partners in countries in the Global South

24	33	29	32	11
2016	2017	2018	2019	2020

17 PARTNERSHIPS FOR THE GOALS

Projects with partners in countries in the Global South

Town twinning projects per annum related to the SDGs with and in partners in the Global South (Source: City of Cologne - Office of the Mayor))

The contribution to the 17 SDGs and their targets is achieved through an intensive exchange with partner cities in the Global South and education facilities such as schools and universities, but also designers. The municipal administrations have cooperated closely, shared innovate approaches related to the SDGs and thus forged closer links. In some cities in the Global South with which the City of Cologne maintains partnerships, large-scale joint infrastructure projects were also conducted. Twinning associations and the municipal administration have often supported one another. The special importance of the SDGs for further cooperation is to be further pinpointed here and awareness raised.

17 PARTNERSHIPS FOR THE GOALS

Fairtrade-Town

Number of certifications of the municipality as a Fairtrade Town (Source: SDG Portal)

Certification as a Fairtrade Town is issued by Fairtrade Deutschland e.V., in recognition of municipal engagement for fairtrade products (fair minimum prices for producers). Municipalities, administrative districts and regions are required to meet certain criteria (council resolutions, establishment of a steering group, fairtrade products in the product ranges of local retailers, involvement of civil society and ongoing PR work). Certification must be renewed every two years. The City of Cologne has so far received four certifications as a Fairtrade Town (2019). At federal and state level in NRW no comparable data is available. The German Sustainable Development Strategy and the sustainable development strategy at state level in NRW contain no relevant objectives on certification.

Fairtrade-Town

1	2	4
2011	2015	2019

Fairtrade-Schools

1	6	12
2013	2017	2021

17 PARTNERSHIPS FOR THE GOALS

Fairtrade-Schools

Number of schools certified as Fairtrade Schools as a percentage of all schools
(Source: www.fairtrade-schools.de)

Certification as a Fairtrade School is issued by Fairtrade Deutschland e.V., in recognition of a school's engagement for fairtrade products (fair minimum prices for producers). Certification can be obtained by any sort of school in Germany meeting the following criteria: Establishment of a school team, production of a fairtrade compass, availability of fairtrade products, fairtrade as an integral part of instruction, events and PR work on the issue of fairtrade. Certification must be renewed every two years. In the City of Cologne the number of Fairtrade Schools rose from one school in 2013 to 12 in 2021. At federal and state level in NRW no comparable data is available. The German Sustainable Development Strategy and the sustainable development strategy at state level in NRW contain no relevant objectives on certification.
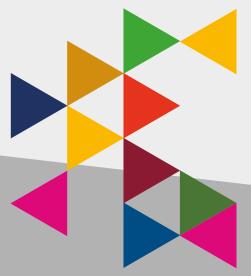
17 PARTNERSHIPS FOR THE GOALS

City twinning and sustainability

2016	2017	2018	2019	2020
6	**7**	**7**	**7**	**7**

Twinning arrangements of the City of Cologne with cities in the Global South (Source: City of Cologne, Office of the Mayor)

Cologne maintains municipal and climate partnerships around the globe. It has extensive, and in some cases extremely active partnerships with cities in the Global South (DAC states). These include the twinning arrangements Cologne - Rio de Janeiro, Cologne - Corinto/El Realejo, Cologne - Bethlehem, Cologne - Tunis, Cologne - Istanbul, Cologne - Beijing and since 2017 Cologne - Yarinacocha. Within these partnerships there is technical dialogue, and joint projects are implemented addressing aspects of sustainability. The civil society twinning associations also contribute to the intensive exchange between cities.

17

04

4   Outlook

This Voluntary Local Review (VLR) takes a comprehensive look at the implementation status of the Sustainable Development Goals (SDGs) in the City of Cologne, in both qualitative terms (setting out activities to foster sustainability) and in quantitative terms (analysing indicators). The presentation of the individual SDG-related activities and indicators demonstrates the important contribution Cologne is making to realising the 2030 Agenda at local level. While local reporting on sustainability in Germany has often focused more on quantitative indicators to date, the VLR aims to take a holistic approach to presenting local sustainability. It thus illustrates how the global framework of reference provided by the 2030 Agenda can be localised in both qualitative and quantitative terms to help achieve the SDGs.

This first VLR submitted by the City of Cologne builds on the city's first sustainability report, published in 2022, which in turn was based on the reporting framework for sustainable municipalities. Taken together, the two reports provide a starting point for developing Cologne's sustainability and VLR reporting in the years to come, and putting these on a more permanent footing. Reporting is thus seen as an on-

going process, in which results to date are taken as the basis for future reports.

Essentially this international sustainability report has three distinct purposes. Firstly it allows us to reflect on progress made towards achieving sustainable development. Central activities (strategies and concepts to guide actions, measures, projects, political decisions, specific objectives, cooperation arrangements and networks, and organisational structures) can be presented together, developments rendered tangible with the help of indicators, and action required identified. Secondly, reporting helps communicate information about the sustainability status quo at local level to policy-makers and interested parties, establishing transparency and generating more attention. Finally, reporting is a central steering element in the ongoing cycle of local sustainability management and for the future alignment of local planning. The degree of objectives achievement can be considered, mechanisms set in course where objectives were not attained, and new priorities set in the interests of continually improving action.
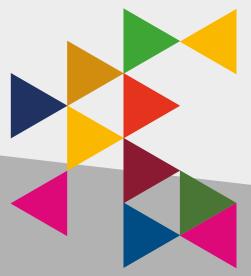
This VLR is part of the ever-growing, worldwide VLR reporting movement, and indicates that municipalities can play a key part in realising the 2030 Agenda. Local contributions were found to all SDGs addressed. The contributions presented here cover most of the 169 targets. In this regard the VLR supports the assumption found in much literature that at least 65 per cent of the SDG targets will only be achieved if municipalities are consistently involved in implementation and monitoring (see Introduction). The VLR report offers huge potential to supplement national and regional reporting to the UN High-Level Political Forum for Sustainable Development, by adding the dimension of local practical experience. For the successful implementation of the 2030 Agenda, it is crucially important that the various levels (international, national, regional, local) be dovetailed. This VLR has been drawn up with five others under the auspices of a Germany-wide process. This fosters inter-municipal exchange in Germany, and worldwide, on various aspects of reporting (e.g. regarding procedures and

structures) as well as encouraging mutual learning through innovative beacon projects.

Within the administration of the City of Cologne, the process of elaborating the VLR has strengthened inter-office exchange. The process illustrated the wide spectrum of relevant issues and the importance of cooperation to drive forward sustainability as a challenge for all. Against this background, we hope that this VLR will encourage other municipalities to report on their own activities to realise the SDGs. The most recent United Nations programme reports on achieving the Sustainable Development Goals indicate a need for urgent action if the 17 SDGs are to be achieved by 2030 (half the time available since the 2030 Agenda was adopted in 2015 has already elapsed). Local realisation gives municipalities a special responsibility to drive forward sustainable development within the UN's Decade of Action (2020-2030).

Accordingly, the City of Cologne plans to rigorously continue along the path it has chosen to achieve greater sustainability in the years to come. The focus is thus on realising the urban development strategy Cologne Perspectives 2030+ and the goals set out there (see Sustainability in the City of Cologne - an Introduction) in the context of the 2030 Agenda.

05

5 Anhang

5.1   Summary of the 169 SDG targets (adapted)

SDG 1 - End poverty in all its forms everywhere

1.1	Eradicate extreme poverty
1.2	Reduce relative poverty
1.3	Implement social protection systems and measures, achieve substantial coverage of the poor and vulnerable
1.4	Equal rights to economic and other resources (access to basic services)
1.5	Build resilience of poor people (to environmental, economic and social shocks/disasters)
1.a	Ensure mobilisation of resources for developing countries to implement programmes /policies to end poverty
1.b	Create policy frameworks at regional, national and international levels to eradicate poverty.

SDG 2 - End hunger, achieve food security and improved nutrition and promote sustainable agriculture

2.1	End hunger, ensure access to food
2.2	End all forms of malnutrition
2.3	Double agricultural productivity and incomes of small-scale food producers
2.4	Ensure sustainable food production and implementation of resilient agricultural practices
2.5	Maintain the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals (and their related wild species)
2.a	Investment to enhance agricultural productive capacity in developing countries
2.b	Correct and prevent trade restrictions and distortions in world agricultural markets
2.c	Adopt measures to ensure the proper functioning of food commodity markets and facilitate access to market information

SDG 3 - Ensure healthy lives and promote well-being for all at all ages

3.1	Reduce maternal mortality
3.2	Reduce neonatal and infant mortality
3.3	Combat communicable diseases
3.4	Reduce premature mortality from non-communicable diseases, promote mental health and well-being
3.5	Strengthen prevention and treatment of substance abuse
3.6	Halve the number of global deaths and injuries from road traffic accidents
3.7	Ensure access to sexual/reproductive health care (family planning, information and education)

3.8   Achieve universal health coverage / access to health-care services and essential medicines/vaccines for all

3.9   Reduce deaths and illnesses from chemicals and pollution of environmental assets

3.a   Strengthen the WHO Framework Convention on Tobacco Control

3.b   Support research and development and access to vaccines and medicines (developing countries)

3.c   Increase health financing / education and training of the health workforces in developing countries

3.d   Strengthen early warning, risk reduction and management of national and global health risks

SDG 4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

4.1   Ensure completion of free and quality education for all children

4.2   Ensure access to quality early childhood education and care

4.3   Ensure access to affordable and quality technical, vocational and tertiary education

4.4   Ensure sufficient skills for employment, decent jobs and entrepreneurship

4.5   Ensure equal opportunities and equal access to all levels of education and training

4.6   Minimise the number of illiterates

4.7   Improve knowledge and skills to promote sustainable development (learners - ESD)

4.a   Build and upgrade safe, inclusive and effective education facilities that are child-, disability- and gender-sensitive

4.b b   Increase the number of scholarships available to developing countries for enrolment in higher education

4.c   Increase the supply of qualified teachers in developing countries

SDG 5 - Achieve gender equality and empower all women and girls

5.1   End discrimination against women/girls

5.2   Eliminate violence against women/girls

5.3   Eliminate child, early and forced marriage, and female genital mutilation

5.4   Recognise and value unpaid care and domestic work (promote shared responsibility within the household and family)

5.5   Ensure participation and equal opportunities for women in leadership roles at all levels

5.6   Ensure access to sexual and reproductive health and rights

5.a   Undertake reforms to give women equal rights to economic and other resources

5.b   Enhance the use of enabling technologies to promote the empowerment of women

5.c   Strengthen sound policies/legislation for gender equality and the empowerment of women

SDG 6 - Ensure availability and sustainable management of water and sanitation for all

6.1   Achieve access to safe and affordable drinking water for all

6.2   Achieve access to adequate sanitation and hygiene for all

6.3   Improve water quality

6.4   Increase water use efficiency, reduce water scarcity

6.5   Implement integrated water resources management

6.6   Protect and restore water-related ecosystems (mountains, forests, wetlands, rivers, aquifers and lakes)

6.a   Expand international cooperation and support for developing countries in the area of water and sanitation

6.b b Strengthen the participation of local communities in sustainable water management and sanitation

SDG 7 - Ensure access to affordable, reliable, sustainable and modern energy for all

7.1   Ensure access to affordable, reliable and modern energy services

7.2   Increase the share of renewable energy

7.3   Increase energy efficiency

7.a   Enhance international cooperation to facilitate access to clean energy research and technology

7.b   Expand infrastructure/upgrade technology in developing countries for supplying sustainable energy services

SDG 8 - Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

8.1   Sustain per capita economic growth (GDP)

8.2   Achieve higher levels of economic productivity through diversification, modernisation and innovation

8.3   Promote development-oriented policies that support / create decent jobs, entrepreneurship and innovation (small businesses)

8.4   Improve resource efficiency in consumption & production, endeavour to decouple economic growth from environmental degradation

8.5   Achieve full and productive employment and decent work for all (including women and men with disabilities) as well as equal pay for work of equal value

8.6   Reduce the proportion of youth not in employment, education or training

8.7   Take measures to eradicate forced and child labour, slavery and human trafficking

8.8   Protect labour rights and promote safe working environments

8.9   Devise and implement policies to promote sustainable tourism

8.10   Strengthen the capacity of domestic financial institutions to expand access to financial/ insurance services

8.a   Increase Aid for Trade support for developing countries

8.b   Develop a global strategy for youth employment and implement the Global Jobs Pact

SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

9.1   Develop resilient and sustainable infrastructure to support economic development and human well-being

9.2   Promote sustainable industrialisation and increase industry's share of employment and GDP

9.3   Increase the access of small-scale industrial and other enterprises to financial services

9.4   Upgrade infrastructure and retrofit industries to make them sustainable

9.5   Enhance research and upgrade the technological capability of industrial sectors

9.a   Facilitate sustainable infrastructure development in developing countries

9.b   Support domestic technology development, research and innovation in developing countries

9.c   Increase access to information and communications technology and provide access to the Internet

SDG 10 - Reduce inequality within and among countries

10.1   Achieve income growth among the poorest

10.2   Empower and promote the inclusion of all

10.3   Ensure equal opportunity and reduce inequalities

10.4   Adopt policies for greater equality (wage policy, social protection)

10.5   Improve regulation and monitoring of global financial markets and institutions

10.6   Strengthen the voice of developing countries in decision-making in global economic and financial institutions

10.7   Facilitate orderly and safe migration and mobility, implement well-managed migration policies

10.a   Implement the principle of special and differential treatment for developing countries (in accordance with WHO agreements)

10.b   Encourage official development assistance and financial flows to developing countries

10.c   Reduce transaction costs for migrant remittances

SDG 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

11.1   Ensure access for all to affordable, safe and adequate housing and basic services

11.2   Provide access to sustainable transport systems for all, improve road safety

11.3   Enhance sustainable urbanisation, implement participatory, integrated sustainable settlement planning and management

11.4   Strengthen efforts to protect and safeguard the world's cultural and natural heritage

11.5   Improve disaster risk management

11.6   Reduce the environmental impact of cities (air quality, waste)

11.7   Provide universal access to green and public spaces

11.a   Support economic, social and environmental links between cities and rural communities by strengthening national and regional development

11.b   Adopt and implement integrated policies and plans for sustainable urban development (inclusion, resource efficiency, climate change mitigation, adaptation and holistic disaster risk management)

11.c   Support developing countries in building sustainable and resilient buildings

SDG 12 - Ensure sustainable consumption and production patterns

12.1   Implement measures for sustainable consumption and production patterns

12.2   Achieve sustainable management and use of natural resources

12.3   Halve food waste and reduce food losses

12.4   Achieve the environmentally sound management of waste and chemicals

12.5   Reduce waste generation

12.6   Encourage companies to adopt sustainable practices and reporting

12.7   Promote sustainable public procurement

12.8   Ensure that people everywhere have the relevant information and awareness for sustainable development

12.a   Support developing countries in moving towards sustainable patterns of consumption and production

12.b   Develop and implement tools to monitor the impacts of sustainable tourism

12.c   Reduce fossil fuel subsidies, taking into account the specific needs of developing countries

SDG 13 - Take urgent action to combat climate change and its impacts

13.1   Strengthen resilience and adaptive capacity to climate change

13.2   Integrate climate measures into national policies

13.3   Improve education and human and institutional capacity on climate change mitigation and adaptation

13.a   Provide financial support for climate action in developing countries

13.b   Raise capacity for climate change-related planning and management in developing countries

SDG 14 - Conserve and sustainably use the oceans, seas and marine resources for sustainable development

14.1   Reduce marine pollution
14.2   Sustainably manage and protect marine and coastal ecosystems
14.3   Reduce ocean acidification and address the impacts
14.4   Implement sustainable fishing mechanisms
14.5   Contribute to the conservation of coastal and marine areas
14.6   Prohibit forms of fisheries subsidies that lead to overcapacity and illegal fishing
14.7   Increase economic benefits for developing countries through the sustainable use of marine resources
14.a   Increase scientific knowledge in order to improve ocean health and enhance biodiversity
14.b   Provide access for small-scale fishers to marine resources and markets
14.c   Enhance the conservation and sustainable use of the oceans and their resources

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

15.1   Ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems
15.2   Promote the sustainable management of all types of forests
15.3   Combat desertification and neutralise land degradation
15.4   Conserve mountain ecosystems
15.5   Reduce the degradation of natural habitats, halt the loss of biodiversity
15.6   Promote fair and equitable sharing and appropriate access to genetic resources
15.7   End poaching and trafficking of protected species of flora and fauna
15.8   Prevent the introduction of invasive alien species
15.9   Integrate ecosystem and biodiversity values into local planning/policies
15.a   Increase financial resources to conserve biodiversity and ecosystems
15.b   Increase financial resources for sustainable forest management and provide incentives for developing countries to adopt such management
15.c   Combat poaching and trafficking of protected species

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

16.1	Reduce violence and related death rates
16.2	End violence against children
16.3	Ensure equal access to justice
16.4	Combat organised crime, reduce illicit financial and arms flows
16.5	Reduce corruption
16.6	Develop effective, accountable and transparent institutions
16.7	Ensure participatory decision-making at all levels
16.8	Strengthen the participation of developing countries in the institutions of global governance
16.9	Provide legal identity for all
16.10	Ensure access to information and protect fundamental freedoms
16.a	International cooperation: prevent violence and combat terrorism and crime
16.b	Promote and enforce non-discriminatory laws and policies

SDG 17 - Strengthen the means of implementation and revitalise the Global Partnership for Sustainable Development

Finance

17.1	Strengthen domestic resource mobilisation to improve domestic tax collection capacity in developing countries
17.2	Fulfil ODA commitments
17.3	Mobilise additional financial resources for developing countries
17.4	Assist developing countries in managing debt
17.5	Implement investment promotion regimes for developing countries

Technology

17.6	Enhance cooperation for knowledge transfer (North-South) in the field of science, technology and innovation
17.7	Promote the development, transfer and dissemination of sustainable technologies in developing countries
17.8	Establish systematic cooperation for science, technology and innovation; introduce global technology capacity-building mechanism

Capacity development

17.9	Enhance international support for capacity building in developing countries

Trade

17.10	Promote an open, equitable and rules-based world trading system
17.11	Increase the exports of developing countries
17.12	Implement duty/quota-free market access for developing countries

Systemic issues

17.13   Enhance global macroeconomic stability

17.14   Enhance policy coherence for sustainable development

17.15   Respect each country's sovereignty in the implementation of policies for sustainability

17.16   Expand global (multi-actor) partnerships for sustainable development

17.17   Encourage and promote the formation of public, public-private and civil society partnerships

17.18   Enhance capacity-building support for developing countries to increase data availability

17.19   Develop measurements of progress on sustainable development, and support statistical capacity-building in developing countries

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5.3   Table of figures