

SDG Indicators for Municipalities

Indicators for Mapping Sustainable Development Goals of the United Nations in German Municipalities (Summary)



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Introduction

Even if it is not always readily apparent, the baseline conditions for sustainability are currently more favorable than ever in Germany. Here we have the German sustainability strategy at the federal level, sustainability strategies in the majority of federal states, and more and more municipalities are preparing their contribution towards sustainable development and the implementation of the United Nations Agenda 2030 with its Sustainable Development Goals (SDGs).

Sustainability starts in the municipalities, as they form the basis for the implementation of the 17 SDGs and their 169 sub objectives. In the municipalities—where people live, work, spend their leisure time, and where they have their friends and families—the concern for sustainability is greatest. Ultimately, it is the cities, counties, and municipalities which will decide whether sustainable development will be a success. That is why the manner in which communities address sustainability and the implementation of the SDGs is of central importance. Consequently, the High Level Political Forum on Sustainable Development (HLPF) of the United Nations states: “It is in the cities where the struggle for sustainable development will be won or lost.” Or to put it another way: It is in the cities where undesirable outcomes and problems, but also successes, become visible—as if seen through a magnifying glass.

There is hardly a single municipality that is currently concerned with sustainability which isn't placing an increased focus on the SDGs and examining their relevance and influence at the local level. Now this can be done by each municipality for itself and on its own. For instance, each municipality could create indicators on its own in order to assess and monitor progress and development towards achieving the SDGs. However, it may be more efficient and effective to jointly review and document which indicators are well-suited for monitoring the SDGs in German municipalities.

This is the path chosen by the “SDG Indicators for Municipalities” working group, which consists of representatives from Bertelsmann Stiftung, the Federal Institute for Research on Building, Urban Affairs and Spatial Development, the German County Association, the Association of German Cities, the German Association of Towns and Municipalities, the German Institute of Urban Affairs, the Service Agency Commu-

nities in One World at Engagement Global. This publication is the result of an intensive year-long work process. It serves to document the current state of this work, without making any claims of definitiveness or binding validity. It describes a qualified intermediate state of affairs which calls for practical testing, discussion, and certainly additional revision.

In the collection, evaluation and selection of the SDG indicators presented, existing indicator catalogs and definitions were used to a large extent. The authors of this publication feel it is important to clearly state why and in what way the (core) indicators were developed, as well as how those indicators which were selected, and those which were not selected, are to be approached. Insofar as possible, indicators are proposed that are universally available. Universal availability means that the data is available at the district and district-free city level, and in some cases also at the level of district towns and municipalities. However, there are also indicators proposed which are not (yet) available on a wide scale. The reasoning here is that individual SDGs should above all be mapped using the most meaningful indicators possible.

The justification for limiting the number of selected (core) indicators results from the need to develop a clear and manageable catalog of indicators. Yet despite the limited number of selected indicators, it was important to the authors that all 17 SDGs be mapped. This is because the individual SDGs under Agenda 2030 are also to be considered as equal and integrated. As a result, identical target measurements of approximately three (core) indicators were sought for all SDGs in the indicator catalog.

However, these target measurements were deliberately exceeded for certain individual SDGs which are particularly important to municipalities. For instance, SDG number 11 is represented using five indicators. For other SDGs, the target measurement this target size was not met due to a somewhat lower importance of the goal to the municipalities, or due to a lack of available and/or suitable indicators.

When possible, indicators were assigned to not just one but several SDGs. With this multiple assignment, the individual SDGs—with a limited total number of indicators—can be presented in as differentiated a manner as possible.

If individual SDGs or relevant municipal task areas are not yet fully mapped, we see this as cause for additional work. This applies, for instance, to the area of municipal development policy and the SDGs, where German municipalities can make a valuable contribution by assuming greater global responsibility. We are determined to pay special attention to this “construction area” in the further development of the SDG indicators.

In any event, we wish to emphasize that this catalog of SDG indicators is (only) an initial proposal on the part of the project sponsors. Using these framework conditions and areas of focus as a basis, each municipality can, should, and must decide at the local level which indicators are most suitable for mapping their respective contributions to the SDGs. Our toolkit makes it possible to discard, modify, or expand the indicators at any time. The comprehensive indicator info profiles can be a working aid to this end.

In order to facilitate the identification of other or additional indicators by the municipalities, our publication mentions not only the selected (core) indicators, but also all other essentially well-suited indicators. This document represents the publication of our consolidated interim report, which allows for continuous further expansion of our (pre)selection of indicators based on real-world trials.

Our wish is that these SDG indicators will be applied in work at the local level. We will closely follow and evaluate this work in order to determine specific needs for future editions of this publication. Therefore, your suggestions and feedback are more than welcome!

We would like to extend our thanks to all the municipalities and experts who contributed to the release of this publication, and who helped it achieve recognition as a practical tool for the implementation of SDGs and German municipalities, and thus for the promotion of sustainable development as a whole.

We are very pleased that the Presidium of the Association of German Cities endorses indicator-supported monitoring of SDGs for member cities based on SDG Indicators for Municipalities (see Appendix 6.5: Sustainable Development Goals for Municipalities (Presidium of the Association of German Cities resolution from 16-17 April 2018 – 418th session in Augsburg)).

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Key project points

2.1 Starting point

In 2015, the United Nations adopted Sustainable Development Goals as part of Agenda 2030. In 2017, the German Federal Government systematically followed the 17 SDGs in total during the further development of the German national strategy for sustainable development. In addition, a majority of the German federal states drafted or further developed sustainability strategies which at least partially conform to the SDGs. Lastly, a growing number of German municipalities are working on sustainability concepts which are intended to contribute to the implementation of international sustainability goals.

The United Nations released proposals for indicators in 2016 in order to reflect the state of sustainable development with respect to Agenda 2030. A SDG indicator catalog was also presented for the European Union in 2017. The indicator catalogs of the United Nations and the European Union are to be used as the basis for monitoring of SDG implementation at the national, regional, and local levels. However when using indicator catalogs developed at the supranational level, it should be noted that not all 17 SDGs and 169 subgoals are equally applicable to all countries and all levels of government, and also that comprehensively dependable data is not available across all indicators.

2.2 Overview of international sustainable development processes

The United Nations Agenda 2030

The United Nations (UN) Sustainable Development Goals and the monitoring of developments using indicators also represent a framework of action for German municipalities.

For example, the Council of European Municipalities and Regions / German Section (CEMR) and the Association of German Cities (DST) jointly endorse the development goals of the UN and suggest that their members actively work toward the achievement of selected agenda goals at the local level. More than 70 municipalities have now signed the model resolution “2030 – Agenda for Sustainable Development: Shaping Sus-

tainability at the Municipal Level”, with the Service Agency Communities in One World at Engagement Global (SKEW) providing in-depth consultation and networking support. Through this act, the municipalities signaled their readiness to pursue municipal strategies for sustainability management, to intensify global partnerships, to participate in measures to combat the negative effects of climate change, and to improve access to affordable sustainable energy—to name but a few examples.

All signatory municipalities, the model municipalities of the project “Global Sustainable Municipality” of the Service Center Communities in One World (SKEW) at Engagement Global as well as the cities, counties and municipalities involved in the Bertelsmann Stiftung “Monitor Sustainable Municipality” project were included in the project “SDG Indicators for Municipalities” and invited to joint discussion events. The idea here is not only to breathe life into UN goals at the municipal level, but rather is also about making the sustainability achievements of German municipalities visible by including them in national, European and international sustainability reports. The relevance check as well as the identification of suitable indicators were geared towards German municipalities. Yet this method is essentially transferable to other countries as well.

The project was dealt with in the Interministerial Working Group “Sustainable Urban Development in a National and International Perspective” (IMA Stadt), and it was included in the international peer review on the “German Sustainability Strategy”. The world federation “United Cities in Local Governments” (UCLG) also presents the German project in its world report on the implementation of SDGs at the local level for the UN. Moreover, the project “SDG Indicators for Municipalities” is now an official initiative of the “Climate Summit of Local and Regional Decision Makers” held as part of COP 23, which took place in November 2017 in Bonn.

Finally, the project was presented at European as well as international events such as the World Urban Forum (WUF) in Kuala Lumpur in February 2018.

The New Urban Agenda from Quito

The development goals of Agenda 2030 were also expanded within the framework of other UN international agendas. Held only once every 20 years, the United Nations Habitat III conference, which most recently took place in Quito, Ecuador in 2016, was a major implementation conference for urban development and the implementation of City Target 11. The so-called “New Urban Agenda” (NUA) was adopted there. The NUA does not have its own indicator or monitoring system, but rather it too adheres to the Agenda 2030 sustainability goals and their monitoring mechanisms. The NUA and its accompanying “Quito Implementation Plan” are intended to set worldwide standards for the achievement of sustainable urban development. For the first time, cities were recognized as stakeholders in the implementation of Agenda 2030 sustainability goals and the consequences of urbanization were placed on the political agenda. In addition to many generalized visions and already established standards in the global North, the NUA also contains numerous innovative ideas and approaches for German municipalities, such as the goal of “access to housing for all”, or the discussion regarding the utilization of planning-related land value increases on behalf on the general public. The paradigm shift in mobility policy also represents a source of valuable relevant information. Just as the Habitat III Conference seeks to implement Agenda 2030 goals, the conclusions of Habitat III and the recommendations of the NUA are addressed in the biannual World Urban Forum (WUF).

“Cities 2030, Cities for All: Implementing the New Urban Agenda” was the title of the 9th World Urban Forum (WUF 9), which took place this year from February 7-13, 2018 in Kuala Lumpur. A main focus of the WUF was on the implementation of the SDGs and monitoring mechanisms using indicators. In addition to the implementation of sustainability, climate and urbanization goals, municipalities are also responsible for participating in international development cooperation. Close to 700 German cities, counties, and municipalities play an active role in municipal development policy and utilize services of the BMZ-appointed Service Agency Communities in One World (SKEW), its financing instruments as well as consultation and networking services; furthermore, the international “Connective Cities” platform offers additional formats for expert-level exchanges between municipalities for sustainable urban development.

World Climate Summit in Bonn / COP 23

The goals of the World Climate Conferences are also closely linked to the climate policy goals of Agenda 2030. From November 6-17, 2017, negotiating teams from 195 countries met in Bonn to work on the implementation of the Paris Climate Agreement of 2015. As part of this agreement, all countries in the world committed to limiting the rise in the Earth’s temperature to well below 2 degrees, and to make efforts not to exceed the 1.5 degree threshold. Secondly, they will strive to more effectively adapt to and resist the inevitable consequences of climate change. Thirdly, the financial resources of the world economy are to be redirected towards a more climate friendly economy and way of life. The aim of the “Climate Change Summit of Local and Regional Policymakers” on 12 November 2017 was to highlight the key role that municipal and regional authorities play in the achievement of particles. Cities occupy a special role, particularly in the decarbonization of the energy as well as the building and transport sectors. Here as well, it is important to record the successes of municipalities using sustainability indicators and to integrate them into international reporting. In the jointly adopted resolution, more than 1,000 local and regional leaders from 86 countries, representing 804 million people, committed to implementing the objectives of the Paris Agreement in their respective jurisdictions. If fully implemented, these self- commitments will lead to a reduction of 5.6 gigatons CO₂ equivalent (GtCO₂ e) by 2020 and 26.8 GtCO₂ e by 2050. This would correspond to the 1990 level of CO₂ emissions.

2.3 Objective

The aim of the “SDG Indicators for Municipalities” project is to identify suitable indicators for mapping the implementation of SDGs at the municipal level in Germany and to provide corresponding data.

Identifying appropriate indicators involves collecting, evaluating and selecting indicators for the sub-goals and intermediate goals of the 17 SDGs that are relevant at the municipal level. This should result in the creation of a set of indicators for mapping all SDGs at the municipal level which

is directive (control-focused) and workable (straightforward) in equal measure. Generally, the project uses indicators from existing compilations; only in exceptional cases, i.e. when no suitable indicators for relevant subgoals and intermediate goals have been found in the researched sources, new indicators are proposed.

As much as possible, the data is provided to all cities and municipalities with over 5,000 inhabitants, as well as to all counties, although the indicators can typically be used in smaller towns and communities as well. Whenever possible, data is taken from official statistics; however in some cases it is necessary to draw data from other sources as well.

The proposed SDG indicator catalog should primarily contain qualitatively suitable, widely available indicators (type I indicators). However, it is also possible that qualitatively (highly) suitable indicators will be included in the proposed catalog which are not yet widely available at the municipal level (type II indicators). Thus, the data would not be available initially and would have to be collected by the municipalities themselves. Naming the type II indicators should also provide ideas for further development of the official statistics.

In any case, the provided SDG indicator catalog is suggestive in nature. The individual municipality decides on its own which indicators it would like to use while taking into account overall local conditions and using its own strategic priorities as a basis (Family City, Green City, Fair City, etc.) for mapping the implementation of SDGs. Thus, it is conceivable and also possible that the 47 proposed SDG (core) indicators may be modified, discarded, or expanded. This publication has already received many suggestions for possible additions. That is why we have listed approximately 150 additional indicators in the Annex which in principle can also be used for SDG monitoring. Taken as a whole, the SDG indicator catalog therefore assumes the role of a toolkit for the individual cities, counties, and communities.

In general, use of the indicators should above all help make sustainability management in individual communities as effective as possible with respect to the implementation of Agenda 2030 and/or the SDGs.

2.4 Methodology

The methodology for developing and supplying SDG indicators for municipalities can roughly be divided into four phases.

Phase 1: Checking the SDGs for relevance

The relevance check was based on the consideration that German municipalities (also) play an important role in the implementation of Agenda 2030 and/or the SDGs—and this applies not only to SDG 11, which specifically deals with the role of cities, but to all SDGs in general. However the objective of the “SDG Indicators for Municipalities” project is also to come up with a clearly arranged and thus user friendly catalog of SDG indicators. For this reason, the focus was placed on those subgoals and individual statements in the subgoals (or intermediate goals) which address major problems or challenges at the municipal level in Germany.

Specifically, the relevance check was divided into three steps: In the first step, the subgoals were in some cases broken up into individual statements (intermediate goals) to enable relevance checking for German municipalities which is as thorough, accurate and transparent as possible. In the second step, a “problem check” was carried out to determine whether each subgoal/intermediate goal addresses a major problem for German municipalities. In the third step, a “task check” was carried out to determine whether a contribution to the achievement of the subgoal or intermediate objective can be accomplished through municipal tasks. Only subgoals or intermediate goals deemed relevant to a problem or task were dealt with further in subsequent phases.

Phase 2: Identification and description of indicators

The indicators were identified in a total of three steps. In the first step, selected sustainability indicators sets were used in order to assign the indicators contained therein to the subgoals or intermediate goals deemed relevant. In addition to existing indicators, indicators not contained in any of the sustainability indicator sets used were also taken into account and assigned to the subgoals and intermediate goals deemed relevant. To this end, a detailed search of available data sets in various databases was carried out (e.g. The Ger-

"This Agenda is a plan of action for people, planet and prosperity." (Agenda 2030)

man Regional Database, the INKAR database of the BBSR, the Wegweiser Kommune information system of the Bertelsmann Stiftung). In the second step, all indicators were evaluated according to the four criteria of validity, data availability, data quality, and function in order to better assess the quality of the collected indicators. Using these evaluations as a basis, it was then possible to identify the Type I and Type II indicators which were especially well-suited for municipal SDG monitoring. Selection of key indicators for the proposed SDG indicator catalog (step 3) was performed using the Type I and Type II indicators as a basis. The selection centered around technical questions such as whether or not an indicator can be used to represent the entire SDG and possibly other SDGs as well.

Detailed descriptions in the form of info profiles were then created for the selected core indicators of the proposed SDG indicator catalog. A sample info profile is included in Chapter 4 of this publication.

Phase III: Collection and analysis of indicator values

The data below was collected and analyzed for the selected Type I core indicators. As a rule, data was collected for all cities and municipalities of over 5,000 inhabitants, and also for all districts. However, in some cases the data could only be collected for the districts and district-free cities, and not for district towns and municipalities. Where possible, the data from 2006 onwards was collected.

In order to gain a better understanding of the interrelationships between the selected core indicators, multivariate analyses (correlation analysis and factor analysis) were conducted for all Type I core indicators.

Phase IV: Presenting the results

The results of the "SDG Indicators for Municipalities" project are presented in a detailed German-language publication as well as via the Internet.

The publication presents the key points of the project, the methodology used, the info profiles for selected indicators, as well as the results of the statistical data analyses. On

the Bertelsmann Stiftung Monitor Nachhaltige Kommune (Monitor Sustainable Municipality / www.monitor-nachhaltige-kommune.de) homepage, the complete publication is available in PDF format, and selected contents from the publication (indicator catalog, info profiles, annexes, etc.) are available as Excel or Word documents. The data for the qualitatively well-suited and widely available indicators, i.e. Type I indicators, can be found in the Bertelsmann Stiftung Wegweiser Kommune (Municipal Signpost / www.wegweiser-kommune.de) internet portal.

2.5 Further actions

The Catalog of SDG Indicators created from May 2017 to late April 2018 is set to be tested in selected municipalities, evaluated for its practical suitability, and further revised on the basis of these results, and also on the basis of conceptual considerations.

Further revision

MWith this indicator catalog, numerous data sources have become usable for systematic quantitative measurement of SDGs. The result is a comprehensive indicator catalog which still contains some gaps. Moreover, practical testing of the indicators will reveal where there may still be barriers to its application.

The "SDG Indicators for Municipalities" working group has already developed a number of ideas and approaches for further revisions to the indicator catalog. A total of 12 fields have been specified thus far in which further revision to the SDG indicators appears fundamentally necessary and sensible. The following listing does not (yet) reflect a prioritization; this can and should only be undertaken once the present indicator catalog has been subjected to practical testing and conclusions can be drawn from its initial application. It is conceivable that individual ideas and approaches at least can already be considered in practical testing of the SDG indicators in selected municipalities and further substantiated on the basis of practical experience. Other aspects will likely necessitate a more thorough revision. The ideas and approaches for further revision thus far include:

- the further development of indicators for mapping global responsibility or development policy involvement / one world involvement of municipalities,
- the expansion of indicators for modeling urban development / urban planning (e.g. adaptation / amendment of the indicator “Financial anticipation of investors in urban development”),
- the further development of indicators to map the SDGs for which no Type I indicators have yet been specified (SDG 13, 14, 15 and 17),
- the development of detailed definitions or descriptions for Type II SDG indicators (goal: Measuring concepts to enable inter-municipal comparisons and further development of municipal statistics),
- the design of subjective indicators to complement the previously specified objective indicators (e.g. for measuring a subjective sense of security or subjective environmental impact in selected areas),
- the development of interlinkage indicators for mapping cause-and-effect relationships or conflicting goals between selected SDGs, subgoals or individual goals,
- examining the possibilities for obtaining data from “alternative” sources (e.g. use of data at the municipal, state or federal level, use of data from private / third parties or use of open data)
- examining the possibilities for easy access to the SDG indicators (in particular the Type I SDG indicators which are already identified as qualitatively well-suited and widely available—with the aim of making individual focal points visible and/or focusing more intensively on other technical items / dimensions or overarching agendas / models of sustainable development),
- conducting statistical analyses of relationships between the SDG indicators and structural variables,
- defining similarities and differences between the SDG indicators and the Reference Framework on Sustainable Cities (RFSC) in a closer alignment of the two monitoring systems if necessary,
- clarifying the extent to which the SDG indicators can be used as the basis for a reporting system to implement the New Urban Agenda (2016), as well as
- the appraisal of possibilities for incorporating aggregated data of German municipalities into European and international monitoring systems e.g. “Locally Determined Contributions” for achieving global climate goals; in consultation with the municipalities.

As an example, the following excursus further elaborates on the starting point for further development of the indicators, with respect to improving modeling of global responsibility and development policy activities on the part of municipalities.

Excursus:

Further development of indicators for modeling global responsibility and development policy activities of municipalities

“Leaving no one behind” is the commitment made by the member states of the United Nations in the preface of Agenda 2030. This refers not only to their own societies, but also to the world community. Ultimately, the 17 Sustainable Development Goals (SDGs) represent issues which go beyond our national borders and can only be implemented through global participation. Thus, municipal monitoring of the SDGs presents the challenge of also accounting for external effects that have a significant impact on whether or not other countries can achieve their sustainability goals.

Whenever possible, municipal governance systems therefore should also use indicators which measure not only targets within their own country, but also the development activities of municipalities around the world, or the effects which municipalities have on other countries. Such issues are increasingly becoming the focus of attention in keeping with the increasing importance and newfound maneuvering space of municipalities as stakeholders in development policy.

"All countries and all stakeholders, acting in collaborative partnership, will implement this plan." (Agenda 2030)

The measures within the action field "Global Sustainable Municipality" of the Service Agency Communities in One World (SKEW) supports municipalities in the conceptual implementation of the SDGs. In doing so, the topic of global responsibility is given consideration from the very start. An increasing number of municipalities are working with the SDGs in this way. This is why SKEW is working together with various stakeholders to cover this level of SDG monitoring, to develop guidelines and to assist in the search for appropriate indicators. Results from these projects will be incorporated in the future update of the SDG indicator catalog.

An example for such further development could entail using the share of fairly traded products in a municipality as an additional indicator for SDG 12.7 ("promoting sustainable practices in public procurement in keeping with national policies and priorities").

Unfortunately, specific indicators for mapping local One World activities are currently only fully applicable at the local level to a limited extent. This is partly due to the availability and accessibility of reliable data and the lack of capacity on the part of municipal administrations to continuously collect this data on their own. In addition, there is a wealth of data which municipalities can only obtain through commercial channels.

The extent to which new technological possibilities for digitalization and utilization of freely available data can contribute to the SDG monitoring process should be examined (also see the item "examining the possibilities for obtaining data from 'alternative' sources"). Creating the conditions for a wide-ranging foundation of data ultimately requires a corresponding political anchoring of these objectives within the municipalities.

Practical testing

The testing of SDG indicators and municipalities is planned both with as well as without external monitoring by the members of the working group. External support for the testing is planned, for instance, in the model municipalities of the "Sustainable Municipality Monitor" project.

In the Bertelsmann Stiftung "Monitor Sustainable Municipality" project, responsible stakeholders in the administra-

tive and political arenas are motivated and empowered to develop and implement an impact-oriented sustainability management system. There are various project modules available for this purpose: surveys, indicator development, model application, networking, scaling and evaluation. The "scaling" and "evaluation" modules are globally supported by the Service Agency Communities in One World (SKEW) at Engagement Global. Application of the model is linked to the testing of sustainability indicators—particularly the SDG indicators—in seven selected municipalities.

Independent testing can also be conducted aside from the testing of SDG indicators with external monitoring, e.g. in the municipalities which signed the model resolution of the Association of German Cities (DST) and the Council of European Municipalities and Regions / German Section (CEMR) (so-called "signatory municipalities").

Evaluation

Experience gained from the testing can be collected and used for further development. In addition, a focus is placed on municipalities which have not yet used the indicator catalog (thus far) in order to take into consideration the obstacles encountered during the first use of this instrument.

Initially, the experience and knowledge gained from pilot implementations as well as the working group members is important with respect to this overall evaluation. Moreover, individual expert interviews are planned with stakeholders active in the consultation of municipalities in the area of sustainability work. In a small number of municipalities, a qualitative study is carried out by the German Institute of Urban Affairs (Difu) on behalf of the Bertelsmann Stiftung. The evaluation is sponsored by SKEW.

In early 2019, an inventory and prioritization of ideas and approaches for further development will take place. Directly implementable improvements can already be included in the information provided about the indicators in early 2019. A second revision of the SDG Indicator Catalog is planned for early 2020, which will include those changes which require a more thorough reworking.

Overview of SDG Core Indicators

SDG	No.	No. of subgoal/ intermediate goal:	Indicator	Calculation	Type
SDG 1	1	1.3.1	SGB II/SGB XII quote	(number of beneficiaries according to SGB II and SGB XII) / (number of inhabitants) * 100	Type I
	2a	1.3.2	Poverty - child poverty	(number of non-earning beneficiaries under the age of 15 + number of non-beneficiaries in needs communities under the age of 15) / (number of inhabitants under the age of 15) * 100	Type I
	2b	1.3.2	Poverty - youth poverty	(number of beneficiaries age 15-17 + number of non-beneficiaries in needs communities age 15- 17) / (number of inhabitants age 15- 17) * 100	
	2c	1.3.2	Poverty - elderly poverty	(number of persons receiving basic security benefits over the age of 65) / (number of inhabitants over the age of 65) * 100	
SDG 2	3	2.2.1	Childhood obesity	(number of overweight children in school entry cohort) / (total number of children in school entry cohort) * 100	Type II
	4	2.4.1, 2.4.2	Ecological agriculture	(land area used for organic agriculture) / (total land area used for agriculture) * 100	Type II
	5	2.4.2	Nitrogen surplus	(nitrogen surplus) / (land area used for agriculture)	Type I
SDG 3	6	3.4.2	Premature mortality	(number of deaths among persons under the age of 65) / (number of inhabitants) * 1,000	Type I
	7	3.8.2	Doctor-provided medical care	(number of general practitioners) / (number of inhabitants) * 100,000	Type I
	8	3.9.2	Air quality	Emissions of air pollutants (sulfur dioxide, nitrogen oxides, ammonia, volatile organic compounds and particulate matter)	Type II
SDG 4	9	4.1	Dropout rate	(number of school leavers without a secondary school diploma) / (total number of school leavers) * 100	Type I
	10a	4.2, 4.6	Child care-under 3 years old	(number of children under 3 years of age in daycare facilities) / (number of children under 3 years of age) * 100	Type I
	10b	4.2, 4.6	Child care-3 to 5-year-olds in day care centers	(number of children 3-5 years of age in daycare facilities) / (number of children 3-5 years of age) * 100	
	11	4.a	Exclusion rate	(number of pupils in special schools) / (total number of pupils) * 100	Type I
SDG 5	12	5.1	Ratio of employment rates of women to men	(number of SvB women at place of residence 15-64 years of age / total number of women 15-64 years of age) / (number of SvB men at place of residence 15-64 years of age / total number of men 15-64 years of age) * 100	Type I
	13	5.1	Earnings gap between women and men	(median income SvB women (full-time) at work) / (median income SvB men (full-time) at work) * 100	Type I
	14	5.5	Proportion of women in city and district councils	(number of women with seats in city councils and district councils) / (total seats in city councils and district councils) * 100	Type I
SDG 6	15	6.3.1, 6.3.2, 6.3.3	Wastewater treatment	(quantity of wastewater treated by denitrification and phosphorus elimination) / (total quantity of wastewater) * 100	Type I
	16	6.3.1	Nitrate in groundwater	(number of measuring points exceeding threshold) / (total number of measuring points) * 100	Type II
SDG 7	17	7.2	Share of renewable energies in energy consumption	(energy supply through renewable energies) / (gross final energy consumption) * 100	Type II
	18	7.2	Wind energy	(capacity of installed wind energy) / (number of inhabitants)	Type I
	19	7.a.2	Municipal investment in the development of renewable energy	(investment in development of renewable energy) / (total municipal expenditure) * 100	Type II
SDG 8	20	8.1.1	Gross domestic product	(gross domestic product) / (number of inhabitants)	Type I
	21	8.5.1	Long-term unemployment rate	(number of unemployed with duration of unemployment > 1 year) / (number of unemployed + number of SvB at place of residence) * 100	Type I
	22	8.5.1	Employment rate	(number of SvBs at place of residence aged 15-64) / (number of inhabitants aged 15-64) * 100	Type I
	23	8.5.2	Employed individuals receiving unemployment benefits	(number of employed individuals receiving unemployment benefits (ALG II)) / (Total number of individuals receiving unemployment benefits (ALG II)) * 100	Type I
SDG 9	24	9.5.3	New business formations	(number of new business formations) / (number of inhabitants) * 1000	Type I
	25	9.5.3, 9.5.4	Highly skilled workers	(number of SvB with an academic qualification in the workplace) / (total number of SvB in the workplace) * 100	Type I
	26	9.a	Broadband internet access	(number of households with broadband internet (≥ 50 Mbps)) / total number of households) * 100	Type II

SDG	No.	No. of subgoal/ intermediate goal:	Indicator	Calculation	Type
SDG 10	27a	10.2.2, 10.3.2, 10.4	Income distribution – low income households	(number of households with total net incomes below € 25,000 per year) / (total number of households) * 100	Type I
	27b	10.2.2,10.3.2, 10.4	Income distribution – medium income households	(number of households with total net incomes between € 25,000 and 50,000 per year) / (total number of households) * 100	
	27c	10.2.2,10.3.2, 10.4	Income distribution – high income households	(number of households with total net incomes over € 50,000 per year) / (total number of households) * 100	
	28	10.2.2	Ratio of the employment rate of foreigners to the overall employment rate	(number of SvB foreigners at place of residence 15-64 years of age / total number of foreigners 15-64 years of age) / (total number of SvB at place of residence 15-64 years of age / total number of residents 15-64 years of age) * 100	Type I
	29	10.2.2	Ratio of dropout rate among foreigners to overall dropout rate	(number of foreign school leavers without a secondary school diploma / number of foreign school leavers total) / (total number of school leavers without a secondary school diploma / number of school leavers total) * 100	Type I
SDG 11	30	11.1.1	Rent prices	Average net cold rent per square meter	Type I
	31	11.2.1	Modal split	(volume of pedestrian, cycling and public transport traffic) / (total traffic volume) * 100	Type II
	32	11.2.2	Traffic injuries/fatalities	(number of injured or killed persons in traffic accidents) / (number of inhabitants) * 1,000	Type I
	33	11.3.1	Land use	(settlement and traffic area) / (total area) * 100	Type I
	34	11.3.1, 11.7	Recreation areas	(recreation area) / (number of inhabitants)	Type I
SDG 12	35	12.2	Drinking water consumption	(annual drinking water consumption (households and small businesses)) / (number of inhabitants) * (days per year)	Type I
	36	12.2, 12.6	Waste	(amount of disposed waste) / (number of inhabitants)	Type I
	37	12.6	EMAS certified sites	(EMAS certified sites) / (total number of sites) * 1000	Type II
SDG 13	38a	13.2	CO ₂ emissions – CO ₂ emissions from private households	(amount of CO ₂ emissions of private households) / (number of inhabitants)	Type II
	38b	13.2	CO ₂ emissions – CO ₂ emissions from industry, trade, commerce and services	(amount of CO ₂ emissions from industry, commerce, trade and services) / (number of inhabitants)	
	38c	13.2	CO ₂ emissions – CO ₂ emissions from transport	(amount of CO ₂ emissions from transport) / (number of inhabitants)	
SDG 14	39	14.1	Running water quality	(number of running waterways with an ecological status rating of "very good", "good" or "moderate") / (total number of running waterways) * 100	Type II
SDG 15	40	15.1, 15.5.1	Conservation areas	(area of Natura 2000 sites, landscape and nature reserves, nature parks and national parks) / (total area) * 100	Type II
	41	15.2.1	Sustainable forestry	(forest area with PEFC or FSC certification) / (total forest area) * 100	Type II
	42	15.5.2	Landscape quality and biodiversity	(actual bird stock index value) / (target bird stock index value) * 100	Type II
SDG 16	43	16.4.3	Crime	(number of crimes known to police) / (number of residents) * 1.000	Type I
	44	16.6	Debt in core budgets	(indebtedness of the municipality) / (number of inhabitants)	Type I
	45	16.7	Informal citizen participation	(number of informal participation procedures) / (number of inhabitants) * 1,000	Type II
SDG 17	46	17.3, 17.6	Development cooperation expenditure	(municipal development cooperation expenditure) / (total municipal expenditure) * 100	Type II
	47	17.16	Expenditure on fair trade products	(municipal expenditure on fair trade products) / (total municipal expenditure) * 100	Type II

Legend

- The column **"No. of subgoal or intermediate goal"** indicates the subgoals and intermediate goals within the SDG to which the indicator provides information (example: The indicator "nature conservation areas" provides information to the subgoals/intermediate goals 15.1 und 15.5.1 within SDG 15).
- The **"Type"** column provides information about the type of indicator. Type I indicators are indicators of high or very high validity which are widely available. Type II indicators are indicators with very high validity, yet which are not widely available at the municipal level (example: The indicator "SGB II / SGB XII rate" has a high validity and is widely available and is therefore a type I indicator. The indicator "air quality" also has a high validity, but there is no widespread data at the municipal level. It is therefore a Type II Indicator).

3

Indicator description

3.1 Notes on the proposed SDG Indicator Catalog

The decision to create an indicator catalog which would cover the entire range of the 17 SDGs as equally possible seemed appropriate to the “SDG Indicators for Municipalities” working group, since all 17 SDGs within Agenda 2030 are fundamentally equal. The modularity of the proposed SDG Indicator catalog should once again be pointed out here. Each municipality is free to focus on its own relevant goals and problems and to adapt its indicator catalog accordingly.

In particular, the Type I and II indicators not chosen as core indicators should be considered for this type of individualized adaptation of the indicator catalog. The entire catalog with all 618 indicators can also serve as a source of inspiration for the creation of a custom-tailored municipal sustainability indicator catalog. However, it is important to be aware that not all of the compiled indicators are equally suitable for sustainability monitoring at the municipal level. This is why the working group recommends that only Type I and II indicators be used for modifications and additions to the proposed SDG Indicator Catalog.

Unfortunately, it was not possible to cover all 17 SDGs using widely available indicators. This is why the proposed SDG Indicator Catalog contains 17 Type II indicators. SDGs 13, 14, 15 and 17 are currently only covered by indicators whose broad coverage at the municipal level is not guaranteed. Thus, the corresponding data is initially not available and must be collected by the municipalities themselves. However, defining the Type II indicators should provide ideas for further development of the official statistics. Particularly in the areas of development cooperation (SDG 17) and climate change (SDGs 13), the working group sees an urgent need for action in order to make municipal efforts in these areas comprehensively measurable and comparable.

3.2 Description of the indicators

Detailed information has been provided in the form of info profiles for all 47 key indicators in the proposed SDG Indicator Catalog. For municipal representatives, these info profiles

should primarily serve to assist in evaluating the sustainability relevance of indicators, understanding the meaning of the indicators, correctly interpreting indicator data and, in some cases, identifying interactions with other indicators and regional circumstances. Specifically, the info profiles provide the following information::

(Primary) goal:

To which goal is the indicator (primarily) assigned?

(Primary) subgoal:

To which subgoal is the indicator (primarily) assigned?

(Primary) intermediate goal:

To which intermediate goal of a subgoal is the indicator (primarily) assigned? This information is relevant only if the working group has subdivided a related subgoal into intermediate goals.

Reference to other goals, subgoals and intermediate goals:

To which goals, subgoals and intermediate goals is the indicator assigned? Multiple assignments are also visible here.

Relationship to dimensions and themes of sustainable development:

Is there a relationship you the dimensions and themes of sustainable development? Here, the following dimensions and themes were considered:

- Economy (work and employment, economic structure)
- Ecology (climate and energy, mobility, nature conservation and resource use)
- Social (poverty, housing and living environment, health and care, security, education, culture)
- Governance (administration and council work, budget management, citizen participation and citizen engagement, One-World engagement)

Relationship to agendas or models of sustainable development:

Is there a relationship to frequently occurring sustainability agendas and models? The following agendas and models were considered:

- Inclusive municipality
- Family-friendly municipality
- Environmentally friendly municipality

- Resilient municipality
- Sharing municipality
- Smart municipality
- Fair municipality
- Cosmopolitan municipality
- Demographically fair municipality
- Climate neutral municipality

Definition:

How is the indicator defined?

Relevance to sustainability:

- What practical information does the indicator provide / what does it represent?
- What is the significance of the indicator with respect to a sustainable municipality?
- Can relationships be found to the various dimensions of sustainable development (economy, ecology, social or governance)?
- Can a relationship to the various principles of sustainable development (“Intergenerational fairness principle”, “Universality principle”, “Global responsibility principle” or “Principle of joint action”) be established?

Origin

The line “Origin” provides information on whether the indicator is found in exactly this form, or a very similar form, within the indicator catalogs of the United Nations, the EU, the federal government, the federal states or the municipalities. The following sources were used here:

- United Nations: SDG Indicator Catalog of the UN
- EU: SDG Indicator Catalog of EUROSTAT
- Federal government: SDG Indicator Catalog of the German Sustainability Strategy
- States: At the federal state level, the indicator catalogs of the state sustainability strategies of Baden-Württemberg and North Rhine-Westphalia were used as examples.
- Municipalities: The municipal indicator catalogs created for the states of Baden-Württemberg and North Rhine-Westphalia were used at the municipal level as well.

Validity

- How well-suited is an indicator for representing a subgoal or intermediate goal?

Data quality (only for Type I indicators):

What is the quality of the data used to create the indicator?

Here, questions such as the ones below are relevant:

- Is the data from a reliable source?
- Is it readily apparent how the data was created?
- Does the data specify exact values or only a range of values?
- Is the data representative?

Data availability (only for Type I indicators):

For what years and at what level is the data available?

Function:

Is it an output / outcome / impact indicator, an input / output indicator or an input indicator?

Interrelationships (only for Type I indicators):

- With which other indicators / regional factors could an interrelationship exist?
- Why could this interrelationship exist?

General conditions (only for Type I indicators):

- Is the value given for the indicator “predetermined” by certain regional circumstances?
- Does the indicator show particularly high or low value for particular reasons (e.g. in large cities / small towns, in Eastern Germany / Western Germany etc.)?

Assertion:

What assertion does the indicator make?

Calculation:

What formula is used to calculate the indicator?

Source (only for Type I indicators):

From what source can the data be obtained?

Unit:

In which unit of measure are indicator values measured?

Available for (only for Type I indicators):

For which years is the data anticipated to be available in the Wegweiser Kommune information system?

4

Sample indicator info profile



SDG 1 - No Poverty

Core indicator	Poverty (child, youth and elderly poverty)																																		
(Primary) goal	Eliminate poverty in every form and everywhere (SDG 1)																																		
(Primary) subgoal	Implement social welfare systems and corresponding measures for all in line with national conditions, including basic social welfare protection, and achieve widespread care for the poor and weak by 2030 (SDG 1.3)																																		
(Primary) intermediate goal	Provide widespread care services for the poor and weak by 2030 (SDG 1.3.2)																																		
Relationship to other goals, subgoals, intermediate goals	<table border="1"> <thead> <tr> <th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th> </tr> </thead> <tbody> <tr> <td>1.3.2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10.2.2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	1.3.2									10.2.2							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17																			
1.3.2									10.2.2																										
Relationship to dimensions and themes of sustainable development	Social – Poverty																																		
Relationship to agendas or models of sustainable development	Inclusive municipality																																		
Definition	<ul style="list-style-type: none"> Child poverty: Share of under 15-year-olds affected by poverty Youth poverty: Share of 15-17-year-olds affected by poverty Elderly poverty: Share of over 65-year-olds affected by poverty 																																		
Relevance to sustainability	Various studies indicate that childhood and youth poverty have become a permanent condition in Germany. In addition, over the next few years increasing elderly poverty is to be expected as a result of pension reforms and labor market developments. Being poor not only means lacking the means to survive physically, but it is also linked to social discrimination and unequal opportunities with respect to education and societal participation. Thus, we can speak of a responsibility to adopt a shared approach in order to ensure a better future for all generations (intergenerational fairness).																																		
Origin	United Nations: European level: Federal government: States: Municipalities:																																		
Validity	This indicator provides valuable information on the degree of concern in selected populations. However, it cannot be inferred from this whether or not all those in need in the observed populations truly receive the necessary support. Moreover, the validity is somewhat limited, as not all people exercise their legitimate entitlements to social benefits. This results in unrecorded cases, which are particularly prevalent in the cases of rural areas and the elderly (elderly poverty).																																		
Data quality	This is official data of high quality, which is examined and processed in cooperation with municipal Social Security Code authorities by the Federal Employment Agency in accordance with the XSozial-BA-SGB II standard.																																		
Data availability	The data can be accessed via the Wegweiser Kommune information system and is available at the municipal level from 2006 onwards. Collection of the data up listening is conducted annually.																																		
Function	Output-, Outcome- oder Impact-Indikator: x Input-/ Output-Indikator: Input-Indikator:																																		
Interrelationships	Childhood and adolescent poverty is especially impacted by the success of the parents in the labor market and the income they earn. Accordingly, high levels of poverty coincide with a high proportion of people in long-term unemployment (SDG 8.5.1) with low income and low proportions of middle and high-income individuals (SDG 10.4). Childhood and youth poverty has an impact on success in the labor market later in life. In particular, long-term unemployment can lead to poverty in old age.																																		
General conditions	The poverty conditions of children and adolescents are always dependent on those of their guardians. There are strong regional differences between North and South as well as between East and West. The incidence of children receiving social assistance benefits in the eastern federal states is consistently high, whereas in the southern federal states it is under 10%. Single-parent households, unemployed households, and immigrant households are particularly affected by child and youth poverty.																																		
Statement	<ul style="list-style-type: none"> Child poverty: In year z, x% of the population under 15—either directly or indirectly through needs community—received social assistance in accordance with SGB II. Youth poverty: In year z, x% of the population 15-17 years of age—either directly or indirectly through needs community—received social assistance in accordance with SGB II. Elderly poverty: In year z, x% of the population over 65 years of age received basic security benefits for the elderly in accordance with SGB XII. 																																		
Calculation	<ul style="list-style-type: none"> Child poverty: (number of non-earning beneficiaries under the age of 15 + number of individuals not eligible for benefits in needs communities under the age of 15) / (number of inhabitants under the age of 15) * 100 Youth poverty: (number of benefit recipients age 15-17 + Number of individuals not eligible for benefits in needs communities age 15-17) / (number of inhabitants age 15-17) * 100 Elderly poverty: (number of persons receiving basic security benefits over the age of 65) / (number of inhabitants over the age of 65) * 100 																																		
Source	Federal / state statistical offices, Federal Employment Agency, ZEFIR, Bertelsmann Stiftung																																		
Unit	%																																		
Available for	2006 - 2016																																		

5

Appendix

- 5.1 Sustainable development goals for municipalities
(Presidium of the Association of German Cities resolution
from April 16-17, 2018 - 418th session in Augsburg)



Sustainable development goals for municipalities

(Presidium of the Association of German Cities
resolution from April 16-17, 2018 – 418th session in
Augsburg).

1. The Presidium affirms the support of the International Sustainable Development Goals (SDG) and endorses indicator-based monitoring for member cities.
2. The Presidium finds that the “SDG Indicators for Municipalities” project was implemented with the broad participation of many municipal stakeholders. The results thus provide a good basis for municipal monitoring. At the same time, the Presidium points out that the collection of indicators must remain voluntary due to the varying options for action within the cities.
3. The Presidium calls upon the Federal and State Governments to take note of the indicators created by municipalities when reporting at the European and international levels, for example to the United Nations, in order to avoid redundancies and unnecessary work at all levels.

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