

Template for summary reports under the Protocol on Water and Health

Part One General aspects

1. Were targets and target dates established in your country in accordance with article 6 of the Protocol?

Please provide detailed information on the target areas in Part Three.

YES NO IN PROGRESS

If targets have been revised, please provide details here.

2. Were they published and, if so, how?

Please explain whether the targets and target dates were published, made available to the public (e.g. online, official publication, media) and communicated to the secretariat.

They were published on the UNECE Protocol's homepage (in English and German). The webpage of the German Environment Agency (UBA) has a sub-page (<https://www.umweltbundesamt.de/en/topics/water/drinking-water/protocol-on-water-health>) which contains a link to the targets under the Protocol on Water and Health.

3. Has your country established national or local arrangements for coordination between competent authorities for setting targets? If so please describe, including information on which public authority(ies) took the leadership and coordinating role, which public authorities were involved and how coordination was ensured.

Target setting in Germany was coordinated between the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and the Federal Ministry of Health as well as the UBA and the Robert-Koch-Institute (RKI). The responsible 16 German federal states' authorities/ministries had participated in the target setting process. Already established working structures with regard to water management and health issues had been used. Before submitting the targets to the Secretariat of the Protocol on Water and Health, they were coordinated with the Federal States through the German Working Group on water issues of the Federal States and the Federal Government (LAWA) and the Working Group on environmental health protection of the Federal States (LAUG). Amendments were gathered and a final consultation had taken place. The final paper has been adopted in the plenary meetings of both Working Groups.

4. Which existing national and international strategies and legislation were taken into account?

Please briefly mention the most relevant national and international strategies and instruments that were taken into account when setting targets (only a limited number of references are required under this question; indicatively, five references are considered appropriate, but the number will depend on your national situation).

All relevant existing national, EU and international strategies and legislation and its current developments, as well as non-statutory guidance (e.g. technical standards)

were taken into consideration for all target setting areas, and stated in the respective target setting sections below. WHO instruments, like for example the WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, have also been taken into account.

5. Was cost-benefit analysis of targets set performed, and if so how?

Alternatively, please explain to what extent financial implications were taken into account when setting targets.

No cost-benefit analysis was performed, as it has not been necessary for the targets Germany has set.

6. What has been done in your country to ensure public participation in the process of target setting in accordance with article 6, paragraph 2, and how was the outcome of public participation taken into account in the final targets set?

The Federal Republic of Germany would have had to set its targets by April 2009. It was in particular due to the implementation of the EC Water Framework Directive (Directive 2000/60/EC) which took place during the same period that setting the targets was delayed. However, this delay allowed Germany to take into account the results of the public participation concerning the river basin management plans and programmes of measures in accordance with said directive, which also cover water supply and sanitation. Experience has shown that it is challenging to create public interest and therefore public participation in an area where there is limited potential for setting major national targets in view of the already achieved high connection and protection level in water supply and sanitation. Therefore, no additional participation of the public concerning the targets set in accordance with the Protocol on Water and Health was conducted within this process.

7. Provide information on the process by which this report has been prepared, including information on which public authorities had the main responsibilities, which other stakeholders were involved, etc.

For the main stakeholders involved, see also answer to question 3. above.

This report has been prepared based on existing information in the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and the Federal Ministry of Health, as well as the UBA and the RKI, principal government agencies working under the umbrella of both ministries. Other stakeholders have not been involved.

8. Report any particular circumstances that are relevant for understanding the report, e.g., whether there is a federal and/or decentralized decision-making structure, or whether financial constraints are a significant obstacle to implementation (if applicable).

Germany is a federal republic with 16 federal states. To provide water supply and sanitation is in the responsibility of the municipalities of the 16 German federal states. The federal level is mainly responsible for the legal provisions and for the international relationships with regard to water management and health issues.

Descriptions of targets set under the Protocol are contained as submitted to the Secretariat in June 2011 (http://www.unece.org/fileadmin/DAM/env/water/Protocol_on_W_H/Target_set_by_parties/germany_protocol_targets.pdf). For description of the baseline

conditions in the target setting areas, we refer to the respective sections of this target setting paper of 2011.

No additional particular circumstances are necessary for understanding this report.

9. Please describe whether and, if so, how emerging issues relevant to water and health (e.g., climate change) were taken into account in the process of target setting.

Regulation of Legionella in drinking water was identified as an emerging issue for which action could be taken (see national target a.2 below).

No specific targets were set on other emerging issues, such as e.g. demographic change, micropollutants, regaining phosphates from the waste water treatment cycle etc. However, where relevant, these issues have been considered in the baseline analyses of the target setting.

Part Two

Common indicators¹

I. Quality of the drinking water supplied

A. Context of the data

Please provide general information related to the context of the data provided under sections B and C below:

1. What is the population coverage (in millions or per cent of total national population) of the water supplies reported under this indicator?

The rationale of this question is to understand the population coverage of the water quality data reported under sections B and C below. Please describe the type of water supplies for which data is included in the following tables, and the population share covered by these supplies. Please also clarify the source of the water quality data provided (e.g., data from regulatory authorities).

Figures reported under this indicator are for all central water supplies which provide drinking water to more than 5,000 inhabitants or serve more than 1,000 m³/day, respectively. In 2013, 73.16 million people (89.7 % of the population) were supplied with central water supplies of this size. A consolidated overview of non-compliance for supplies serving less than 5,000 inhabitants with respect to number of samples taken is currently not available. Data available on non-compliance for these small supplies only relates to number of supplies, not to number of samples taken, and can therefore not be feasibly compared to the data for the larger supplies.

2. Do the water supply systems reported here supply the urban population only or both the urban and rural populations?

Water supply systems reported under this indicator supply both urban and rural areas.

3. Specify where the samples/measurements are taken (e.g., treatment plant outlet, distribution system or point of consumption).

The rationale behind this question is to understand where the samples were primarily taken from for the water quality data reported in sections B and C below.

Both quality data for samples taken at the outlet of the treatment works and within the distribution system, as well as at the point of consumption are reported in the following sections.

The scope of sampling from drinking water distribution systems is to be coordinated with the pertinent local health authorities, and varies between supply systems accordingly.

¹ In order to allow an analysis of trends for all Parties under the Protocol, please use wherever possible 2005—the year of entry into force of the Protocol — as the baseline year.

4. In the reports, the standards for compliance assessment signify the national standards. If national standards for reported parameters deviate from the WHO guideline values, provide information on the values (standards) used for calculation.

| Parameter | WHO guideline value (GV) | German drinking water ordinance value |
|------------------|---|---|
| Enterococci | No health-based GV established | 0/100ml |
| Nitrite | 3 mg/l (short-term exposure) 0.2 mg/l (long-term exposure) | 0.5 mg/l 0.1 mg/l not to be exceeded at the water works outlet |
| Lead | 0.01 mg/l | 0.010 mg/l |
| Iron | No health-based GV established | 0.2 mg/l |
| Total pesticides | No health-based GV established | 0.0005 mg/l |
| THM | The sum of the ratio of the concentration of each to its respective guideline value should not exceed 1 | Total THM: 0.05 mg/l |
| Sulfate | No health-based GV established | 250 mg/l |
| Turbidity | No health-based GV established | 1 NTU |

B. Bacteriological quality

Indicator to be used: WatSan_S2: The percentage of samples that fail to meet the national standard for E. coli and the percentage of samples that fail to meet the national standard for Enterococci.

Please comment on the trends or any other important information supporting interpretation of the data.

| WatSan_S2 | <i>Baseline value (year 2005)</i> | <i>Value reported in the previous reporting cycle (year 2010)</i> | | <i>Current value (2013)</i> |
|-------------|---------------------------------------|---|----------------------------------|---------------------------------|
| | | water works and distribution: | water works and consumers' taps: | |
| E. coli | 0.2 % | <0.1 % | <0.1 % | 0.0 % |
| Enterococci | 0.4 % | 0.2 % | <0.1 % | 0.3 % |

C. Chemical quality

Indicator to be used: WatSan_S3. All countries shall monitor and report on the percentage of samples that fail to meet the national standard for chemical water quality with regard to the following:

- (a) Fluoride;

- (b) Nitrate and nitrite;²
- (c) Arsenic;
- (d) Lead;
- (e) Iron.

Parties shall also identify up to five additional physico-chemical parameters that are of special concern in their national or local situation (e.g., pesticides).

Please comment on the trends or any other important information supporting interpretation of the data.

| Substance | Baseline value (year 2005) | Value reported in the previous reporting cycle (year 2010) | Current value (2013) |
|---|---|--|---|
| Fluoride | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % |
| Nitrate | water works and distribution: 0.2 % consumers' taps: 0.1 % | water works and distribution: <0.1 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % |
| Nitrite | water works and distribution: 0.0 % consumers' taps: 0.1 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % |
| Arsenic | water works and distribution: 0.1 % consumers' taps: 0.1 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % |
| Lead | water works and distribution: 0.0 % consumers' taps: 2.1 % | water works and distribution: 0.0 % consumers' taps: 0.2 % | water works and distribution: <0.1 % consumers' taps: <0.1 % |
| Iron | water works and distribution: 1.7 % consumers' taps: 2.6 % | water works and distribution: 0.7 % consumers' taps: 0.1 % | water works and distribution: 0.7 % consumers' taps: 0.1 % |
| Additional physico-chemical parameter 1: Copper | water works and distribution: 0.0 % consumers' taps: 2.0 % | water works and distribution: 0.1 % consumers' taps: 0.0 % | water works and distribution: <0.1 % consumers' taps: <0.1 % |

² As defined in the WHO Guidelines for drinking-water quality.

| Substance | Baseline value (year 2005) | Value reported in the previous reporting cycle (year 2010) | Current value (2013) |
|---|---|--|---|
| Additional physico-chemical parameter 2: Total pesticides | water works and distribution: 0.3 % consumers' taps: 0.1 % | water works and distribution: 0.2 % consumers' taps: 0.0 % | water works and distribution: 0.1 % consumers' taps: 0.0 % |
| Additional physico-chemical parameter 3: THM | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % |
| Additional physico-chemical parameter 4: Sulphate | water works and distribution: 0.4 % consumers' taps: 0.3 % | water works and distribution: 0.2 % consumers' taps: 0.0 % | water works and distribution: 0.3 % consumers' taps: 0.0 % |
| Additional physico-chemical parameter 5: Turbidity | water works and distribution: 0.8 % consumers' taps: 1.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.2 % consumers' taps: 0.0 % |

II. Reduction of the scale of outbreaks and incidence of infectious diseases potentially related to water

In filling out the following table, please consider the following points:

- (a) For reporting outbreaks, please indicate if the numbers reported are related to all exposure routes or only related to water (i.e., for which there is epidemiological or microbiological evidence for water to have facilitated infection);
- (b) For reporting incidents:
 - (i) Please report cases per 10,000 persons;
 - (ii) Please differentiate between zero incidents (0) and no data available (-);
 - (iii) If possible, please distinguish between autochthonous and imported cases.

Please consider extending the list of water-related diseases to cover other relevant pathogens (e.g., enteric viruses, Cryptosporidium, Giardia, Legionella).

Please indicate how the information is collected (e.g., event-based or incidence based).

Please comment on the trends or any other important information supporting interpretation of the data.

| | (No. of cases (incidence) (all exposure routes) | | | Number of outbreaks >4 cases (all exposure routes*) | | |
|---|---|---|---|--|--|-------------------------|
| | Baseline (2009) | Value reported in the previous reporting cycle (2012) | Current value (2015) | Baseline (2009) | Value reported in the previous reporting cycle (2012) | Current value (2015) |
| | | | | | | |
| Cholera | 0 (0) | 0 (0) | 3, thereof 0 autochthonous (0) | 0 | 0 | 0 |
| Bacillary dysentery (shigellosis) | 614, thereof 202 autoch- thonous (0.08/10, 000) | 526, thereof 208 autoch- thonous (0.07/10,000) | 570, thereof 194 autochthonous (0.07/10,000) | 4 | 0 | 1 |
| Enterohaemorrha- gic E. coli. | 837, thereof 757 autoch- thonous (0.10/10, 000) | 1,531, thereof 1,285 autoch- thonous (0.19/10,000) | 1,605, thereof 871 autochthonous (0.20/10,000) | 1 | 3 | 2 |
| Viral hepatitis A | 925, thereof 631 autoch- thonous (0.11/10, 000) | 831, thereof 554 autoch- thonous (0.10/10,000) | 855, thereof 385 autochthonous (0.11/10,000) | 5 | 7 | 6 |
| Typhoid fever | 63, thereof 9 autoch- thonous (0.01/10. 000) | 58, thereof 6 autoch- thonous (0.01/10,000) | 65, thereof 2 autochthonous (0.01/10,000) | 0 | 0 | 0 |

III. Access to drinking water

Please comment on the trends or any other important information supporting interpretation of the data.

| <i>Percentage of population with access to drinking water</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2010)</i> | <i>Current value (2013)</i> |
|---|------------------------------|--|-----------------------------|
| Total | 100% | 100% | 100% |
| Urban | 100% | 100% | 100% |
| Rural | 100% | 100% | 100% |

Please specify if the above data is based on national estimates or estimates provided by the WHO/United Nations Children's Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation.

If national estimates are provided, please specify how access is defined and estimated in your country.

JMP definitions and categories are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.

Under the German Drinking Water Ordinance of 21 May 2001 (TrinkwV 2001), last amended through the 3rd amending regulation of 18 November 2015, the requirements governing drinking water quality must be met by all drinking water supplies, regardless of their size, the quantity supplied, the number of persons served, or organizational and ownership structures. Therefore, the minimum requirements cited in the Ordinance apply to both centralized public water supply systems and private wells, which are all subject to surveillance by the authorities. Both centralized supplies and private wells are included in the figures given above on access to drinking water. Access is not defined in terms of volume available per day and capita. According to JMP definitions, 100 % of the population of Germany has access to improved sources. The vast majority of 99.3 % has access to household connections of piped supplies; a minority uses private wells with piped connections into home, too, typically employing protected dug wells, boreholes and protected springs.

IV. Access to sanitation

Please comment on the trends or any other important information supporting interpretation of the data.

| <i>Percentage of population with access to sanitation</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2010)</i> | <i>Current value (2013)</i> |
|---|------------------------------|--|-----------------------------|
| Total | 100 % | 100 % | 100 % |
| Urban | 100 % | 100 % | 100 % |
| Rural | 100 % | 100 % | 100 % |

Please specify if the above data is based on national estimates or estimates provided by JMP for Water Supply and Sanitation.

If national estimates are provided, please specify how access is defined and estimated in your country.

JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.

German statistics cover population connected to public sewers (with or without connection to wastewater treatment plants) and population not connected to public sanitation (with connection to small scale wastewater treatment plants or with septic tanks). Both public sewers and decentralized sanitation are improved sanitation; in 2010, 96.6 % of the population had access to public sanitation, and the remaining 3.4 % had access to decentralized sanitation.

V. Effectiveness of management, protection and use of freshwater resources

Water quality

On the basis of national systems of water classification, the percentage of the number of water bodies or the percentage of the volume (preferably) of water³ falling under each defined class (e.g., in classes I, II, III, etc. for non-EU countries; for EU countries, the percentage of surface waters of high, good, moderate, poor and bad ecological status, and the percentage of groundwaters/surface waters of good or poor chemical status).

For non-European Union Countries

Status of surface waters

| <i>Percentage of surface water falling under class^a</i> | <i>Baseline value (specify the year)</i> | <i>Value reported in the previous reporting cycle (specify the year)</i> | <i>Current value (specify the year)</i> |
|--|--|--|---|
| I | | | |
| II | | | |
| III | | | |
| IV | | | |
| V | | | |
| Total number/volume of water bodies classified | | | |
| Total number/volume of water bodies in the country | | | |

^a Rename and modify the number of rows to reflect the national classification system.

³ Please specify.

Status of groundwaters

| <i>Percentage of groundwaters falling under class^a</i> | <i>Value reported in the previous reporting cycle</i> | | |
|---|---|---|---|
| | <i>Baseline value (specify the year)</i> | <i>Reporting cycle (specify the year)</i> | <i>Current value (specify the year)</i> |
| I | | | |
| II | | | |
| III | | | |
| IV | | | |
| V | | | |
| Total number/volume of groundwater bodies classified | | | |
| Total number/volume of groundwater bodies in the country | | | |

^a Rename and modify the number of rows to reflect the national classification system.

For European Union countries

Ecological status of surface water bodies

| <i>Percentage of surface water classified as:</i> | <i>Baseline value (2009)</i> | <i>Value reported in the previous reporting cycle (2009)</i> | <i>Current value (2015)</i> |
|---|----------------------------------|--|---------------------------------|
| High status | 1.6 % | 1.6 % | 0.3 % |
| Good status | 9.5 % | 9.5 % | 8.1 % |
| Moderate status | 30 % | 30 % | 37.1 % |
| Poor status | 34 % | 34 % | 34.7 % |
| Bad status | 23 % | 23 % | 19.8 % |
| Total number/volume of water bodies classified | 9,567 | 9,567 | 9,528 |
| Total number/volume of water bodies in the country | 9,863 | 9,863 | 9,798 |

Chemical status of surface water bodies

| <i>Percentage of surface water bodies classified as</i> | <i>Baseline value (2009)</i> | <i>Value reported in the previous reporting cycle (2009)</i> | <i>Current value (2015)</i> |
|---|----------------------------------|--|---------------------------------|
| Good status | 88 % | 88 % | 0 % |
| Poor status | 12 % | 12 % | 100 % |
| Total number/volume of water bodies classified | 9,863 | 9,863 | 9,805 |
| Total number/volume of water bodies in the country | 9,863 | 9,863 | 9,805 |

Status of groundwaters

| <i>Percentage of groundwaters classified as</i> | <i>Baseline value (2009)</i> | <i>Value reported in the previous reporting cycle (2009)</i> | <i>Current value (2015)</i> |
|---|----------------------------------|--|---------------------------------|
| Good quantitative status | 96.2 % | 96.2 % | 95.8 % |
| Good chemical status | 62.7 % | 62.7 % | 65.2 % |
| Poor quantitative status | 3.8 % | 3.8 % | 4.2 % |

| <i>Percentage of groundwaters classified as</i> | <i>Baseline value (2009)</i> | <i>Value reported in the previous reporting cycle (2009)</i> | <i>Current value (2015)</i> |
|---|----------------------------------|--|---------------------------------|
| Poor chemical status | 37.1 % | 37.1 % | 34.8 % |
| Total number/volume of groundwater bodies classified | 989 | 989 | 1,250 |
| Total number/volume of groundwater bodies in the country | 989 | 989 | 1,253 |

Please provide any needed information that will help put into context and aid understanding of the information provided above (e.g., coverage of information provided if not related to all water resources, how the quality of waters affects human health).

According to the Water Framework Directive the status of water bodies is evaluated every six years. In this time the measures in the programmes of measures to improve water status can show first effects. First River Basin Management Plans have been established end of 2009, the second plans have been established end of 2015.

For some percentages of surface water bodies, the status has not been evaluated due to unclear conditions. The difference between the number of surface water bodies with regard to ecological and chemical status is due to the fact, that for territorial waters (sea) only the chemical status is evaluated according to the EU Water Framework Directive.

Due to new EU provisions with regard to priority substances the chemical status of all surface water bodies in Germany is poor (mercury in biota, ubiquitous substance).

As evaluation methods and other criteria have changed with regard to surface waters between the first and second river basin management plans, a comparison between 2009 and 2015 is not completely possible.

Water for drinking water in Germany is taken mostly from groundwater bodies and partly from surface water bodies. It is treated according to the quality of the raw water.

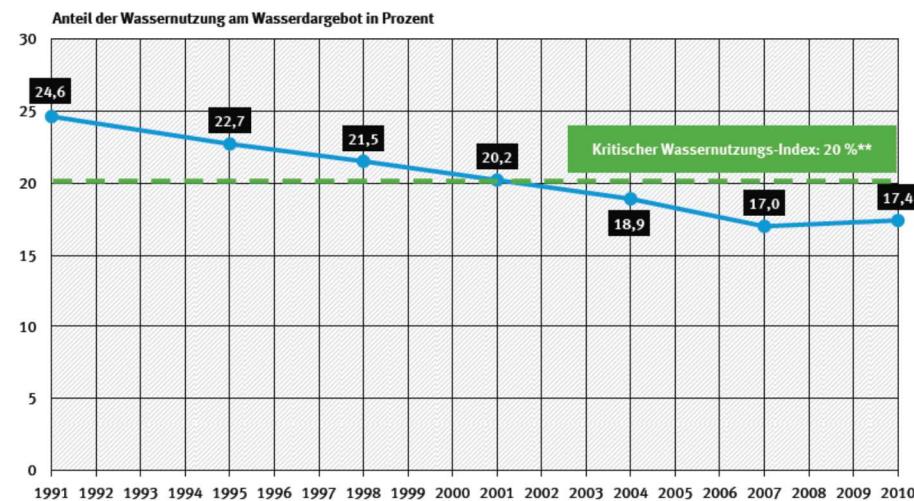
Water use

Please provide information on the water exploitation index at the national and river basin levels for each sector (agriculture, industry, domestic), i.e., the mean annual abstraction of freshwater by sector divided by the mean annual total renewable freshwater resource at the country level, expressed in percentage terms.

Water abstraction by sector is published every three years in Germany. The latest data are from 2010 (published in 2013).

The water exploitation index for Germany is calculated (based on data from 2010) with 17.4 %.

Wassernutzungs-Index*



* Der Wassernutzungs-Index wird gebildet aus dem Verhältnis der gesamten Wasser-Entnahme des betrachteten Jahres (seit 2007 inkl. der landwirtschaftlichen Berechnung) zum langjährigen Wasserdargebot in Deutschland (188 Mrd. m³).

Quelle: Statistisches Bundesamt, Fachserie 19, R. 2.1 und 2.2, Wiesbaden; verschiedene Jahrgänge und Statistisches Jahrbuch 2012, Wiesbaden 2012

** Ein Wassernutzungs-Index von 20 % gilt als Schwellenwert zum Wasserknappheit.

(Source: German Federal Statistical Office, accessible at
<https://www.umweltbundesamt.de/search/content/Wassernutzungsindex>)

If water abstractions exceed 20 % of the total renewable freshwater resource, this is a sign of water stress. The water exploitation index of Germany is lower than 20 % since 2004.

| Water exploitation index | Baseline value (1991) | Value reported in the previous reporting cycle (2007) | Current value (2010) |
|---------------------------|--|---|--|
| Agriculture | No information* | 0.1 billion m³* | 0.2 billion m³* |
| Industry ^a | 11 billion m³ ** | 7.2 billion m³ ** | 18.2 billion m³*** |
| | 28.8 billion m³ ** for energy production | 19.7 billion m³ ** for energy production | 20.7 billion m³*** for energy production |
| Domestic use ^b | 6.5 billion m³ | 5.1 billion m³ | 5.1 billion m³ |

^a Please specify whether the figure includes both water abstraction for manufacturing industry and for energy cooling.

^b Please specify whether the figure only refers to public water supply systems or also individual supply systems (e.g., wells).

* I.e. water abstraction for agricultural irrigation

** I.e. water abstraction by sector

Part Three

Targets and target dates set and assessment of progress

For countries that have set targets and target dates, please provide information specifically related to the progress towards achieving them. If you have not set targets in a certain area, please explain why.

For countries in the process of setting targets, please provide information on the relevant target areas (e.g., baseline conditions, provisional targets, etc.)

Suggested length: one page (330 words) per target area.

I. Quality of the drinking water supplied (art. 6, para. 2 (a))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target a.1: To improve access to information and sensitize the owners of private wells to the potential hazards to drinking water quality and their obligations under the Drinking Water Ordinance.

Target date: 31 December 2011

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 3.

National target a.2: To revise the national Drinking Water Ordinance

Target date: 31 December 2011 (target has been achieved earlier)

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 5.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

National target a.1: Please refer to target setting paper of 08.06.2011, page 4.

National target a.2: Please refer to target setting paper of 08.06.2011, page 7.

3. Assess the progress achieved towards the target.

National target a.1: The advice booklet was first published in February 2012. A second edition (which takes into account the recent changes in the German Drinking Water Ordinance of 21 May 2001 (TrinkwV 2001) since publication of the first edition) was printed in 2013.

The booklet is mainly distributed through local health agencies that hand it out to operators of private wells during their inspection activities. The authorities responsible for drinking water on Federal State level were asked to invite all local health agencies in their area of responsibility to use and distribute the booklet. Furthermore, it can be directly ordered and downloaded from the website of the German Environment Agency. Feedback shared on the booklet was throughout positive, and local health agencies confirmed its continued use in their work practice.

In addition to the booklet for operators of private wells, the joint interinstitutional working group on private wells has also developed a brochure with recommendations on the surveillance of private wells for local health authorities in 2014.

National target a.2: The revised Ordinance was published in the Bundesgesetzblatt (Federal Law Gazette) on 11 May 2011 and entered into force on 1 November 2011. An additional revision of the Ordinance was published in the Bundesgesetzblatt on 13 December 2012 and entered into force on 14 December 2012. Through the second revision, local health agencies were disburdened, the surveillance with respect to Legionella in house installations was simplified, and it was stipulated that binding and clear hygiene requirements for materials in contact with drinking water will be developed, amongst other things. The individual national targets described (i.e. aspects of clear regulations on Legionella, introduction of a parametric value for uranium, reduction of the parametric value for cadmium, introduction of special consumer information obligations, comprehensive and specific regulations for water supply facilities in vehicles and temporarily operated water supplies, requirement for the official accreditation of certification bodies for products in contact with drinking water, and a requirement for the matrix-specific accreditation of drinking water analysis laboratories) were addressed through the two revisions of the Drinking Water Ordinance (TrinkwV 2001).

According to the European provisions, the EURATOM-Directive 2013/51, drinking-water needs to be monitored for radioactive substances. Through the third revision of the Drinking Water Ordinance, published in the Bundesgesetzblatt on 25 November 2015 and entered into force on 26 November 2015, the respective requirements were incorporated into the Ordinance.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

Please see answer to question 3 above.

5. If you have not set a target in this area, please explain why.

II. Reduction of the scale of outbreaks and incidents of water-related disease (art. 6, para. 2 (b))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To maintain the Federal Ministry for Health's (BMG) support of the Conciliatory Laboratory for Legionella. In connection with *Legionella*, reference is made to letter a 2) "Revision of the Drinking Water Ordinance".

Target date: No target date.

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 8.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Please refer to target setting paper of 08.06.2011, page 10.

3. Assess the progress achieved towards the target.

The Federal Ministry for Health (BMG) continues to support the Conciliatory Laboratory for Legionella. Furthermore, Germany fully participates in the European Legionnaires' Disease

Surveillance Network (ELDS-NET) since October 2012, located at ECDC in Stockholm. The aim of the network is the early detection of clusters of travel-associated Legionnaires' disease (TALD) in Europe in order to identify and eliminate the source of infection.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

III. Access to drinking water (art. 6, para. 2 (c))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.
2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.
3. Assess the progress achieved towards the target.
4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

According to JMP-definition, 100 % of the population in Germany has access to improved drinking water supplies. As such, it is not possible to improve this area any further.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 11.

IV. Access to sanitation (art. 6, para. 2 (d))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.
2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.
3. Assess the progress achieved towards the target.
4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

In view of the connection levels achieved, no target has been set. In 2013, 100 % of the German population was connected to collective sanitation systems or other means of sanitation.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 13.

V. Levels of performance of collective systems and other systems for water supply (art. 6, para. 2 (e))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To describe and subsequently continuously improve drinking water quality from small-scale public drinking water supplies.

Target date: Continuous improvement. It is not yet possible to specify a target date.

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 17.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Please refer to target setting paper of 08.06.2011, page 18.

3. Assess the progress achieved towards the target.

For 2008 and 2010, upon special request of the EU Commission, summary reports on the quality of drinking water have been prepared. Summarising information from these requests is available in the public domain in a synthesis report, as well as in technical reports which contain detailed fact sheets per Member State at http://ec.europa.eu/environment/water/water-drink/reporting_en.html. With the Federal-Länder government information and communication platform *WasserBLICK* (www.wasserblick.net), the technical basis for reporting, has been established since 2010 (see section XX below). This platform can now also be used for small supplies (supplies delivering 10-1,000 m³ per day). The Federal States have begun to report data on small supplies. The evaluation of these data for a nationwide overview is ongoing.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

VI. Levels of performance of collective systems and other systems for sanitation (art. 6, para. 2 (e) continued)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of the high level of performance achieved by sanitation systems in Germany, especially with regard to wastewater collection and treatment, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 15.

VII. Application of recognized good practices to the management of water supply, (art. 6, para. 2 (f))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To increase the number of water utilities with TSM confirmation and ensure compliance with the technical standards.

Target date: 31 December 2013

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 20.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Please refer to target setting paper of 08.06.2011, page 21.

3. Assess the progress achieved towards the target.

At the time of reporting, 435 companies were certified for the water sector (according to <http://www.dvgw.de/angebote-leistungen/technisches-sicherheitsmanagement-tsm/>, status 07 April 2016), representing a 24 % increase in the number of certified utilities.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

VIII. Application of recognized good practice to the management of sanitation (art. 6, para. 2 (f) continued)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of the high standards regulated for the management of sanitation, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 19.

IX. Occurrence of discharges of untreated wastewater (art. 6, para. 2 (g) (i))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of the rarity of such cases in Germany and the sufficient existing legal provisions, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 22.

X. Occurrence of discharges of untreated storm water overflows from wastewater collection systems to waters within the scope of the Protocol (art. 6, para. 2 (g) (ii))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of the rarity of such cases in Germany and the sufficient existing legal provisions, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 22.

XI. Quality of discharges of wastewater from wastewater treatment installations to waters within the scope of the Protocol (art. 6, para. 2 (h))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.
2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.
3. Assess the progress achieved towards the target.
4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

In view of the high performance levels of wastewater treatment plants in Germany and the sufficient existing legal and technical provisions, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 24.

XII. Disposal or reuse of sewage sludge from collective systems of sanitation or other sanitation installations (art. 6, para. 2 (i), first part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To update the national Sewage Sludge Ordinance (AbfKlärV). The EC Sewage Sludge Directive (Directive 86/278/EEC) regulates the protection of the environment, and in particular of the soil, when using sewage sludge in agriculture. The Directive was transposed into German national law with the Sewage Sludge Ordinance (AbfKlärV), which imposes far more stringent requirements than the Directive. These requirements will be tightened up still further in the on-going revision of the AbfKlärV, extending the Ordinance's scope. By imposing high standards for sewage sludge (including organic and inorganic pollutants) that is recovered for use in soil, it is possible to reduce or avoid cultivation-related emissions from fertilisers, particularly into the soil, and to promote a sustainable closed substance cycle in the interests of resource conservation.

Target date: 31 December 2011

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 26.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

The regulatory process to update the Sewage Sludge Ordinance has started in 2011 and is still ongoing due to some delays in the interministerial discussions on Federal level.

3. Assess the progress achieved towards the target.

The requirements of the AbfKlärV will be tightened up still further in the on-going revision, extending the Ordinance's scope by introducing an obligation to recycle phosphorus directly from municipal wastewater, sewage sludge or ashes from incinerated sewage sludge for most of the wastewater treatment facilities for municipal waste water in Germany. This obligation will enter into force after a transition period of about ten years giving all relevant actors the necessary time to invest in such treatment infrastructure. Furthermore, horticultural measures, giving greater consideration to organic pollutants, and regulate the hygiene safety of sewage sludge, as well as ensuring regular, voluntary quality assurance, will be included. By ensuring high quality recycling of phosphorus and imposing high standards for sewage sludge (including organic and inorganic pollutants) that is recovered for use in soil, it is possible to reduce or avoid cultivation-related emissions from fertilisers, particularly into the soil, and to promote a sustainable closed substance cycle in the interests of resource conservation.

After the finalisation of the interministerial discussions a first draft updated ordinance has been consulted with the relevant stakeholders and *Länder* in the second half of 2015. In 2016, the final draft of the updated Sewage Sludge Ordinance will be sent to the European Union for Notification Procedure and afterwards to parliamentary procedure on federal level.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

The target has not changed, but the target date had to be revised. It is assumed that the updated Sewage Sludge Ordinance comes into force in the first half of 2017.

5. If you have not set a target in this area, please explain why.

XIII. Quality of wastewater used for irrigation purposes (art. 6, para. 2 (i), second part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of the very little amount of waste water used for irrigation purposes and the fact, that domestic waste water cannot be applied to agricultural land according to national legal provisions, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 26.

XIV. Quality of waters which are used as sources for drinking water (art. 6, para. 2 (j), first part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.
2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.
3. Assess the progress achieved towards the target.
4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

In view of the existing protection of waters as sources for drinking water, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 19.

XV. Quality of waters used for bathing (art. 6, para. 2 (j), second part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.
2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.
3. Assess the progress achieved towards the target.
4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

No target has been set, due to the rather high percentage of German bathing waters in compliance with the EU provisions and the clear provisions in the EU Bathing Water Directive. In the 2014 bathing season 97.6 % of the bathing waters had been in excellent, good or sufficient quality.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 29.

XVI. Quality of waters used for aquaculture or for the production or harvesting of shellfish (art. 6, para. 2 (j), third part)

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.
2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.
3. Assess the progress achieved towards the target.
4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.
5. If you have not set a target in this area, please explain why.

Due to the existing sufficient EU and national legal provisions and due to the fact that Germany is in compliance with them, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 30.

XVII. Application of recognized good practice in the management of enclosed waters generally available for bathing (art. 6, para. 2 (k))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To update the technical regulations on swimming pool water

Target date: 31 December 2012

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 32.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Please refer to target setting paper of 08.06.2011, page 33.

3. Assess the progress achieved towards the target.

The standard DIN 19643 (parts 1-4) has been updated, taking 551 appeals into account, and was published in November 2012. Meanwhile part 5 considering the bromine-ozone process is in preparation. The UBA has published a notification on the “hygienic requirements of baths and their monitoring” (DOI 10.1007/s00103-013-1899-7, available online at https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/hygieneanforderungen_ueberwachung_baeder_2014_57.pdf) in 2014 that comments the updates and

changes in DIN 19643 (part 1-4) as an information for professionals. In particular, it summarizes and recommends new assessments and measures for parameters in swimming pool- and bathing water including additional ones derived from DIN 19643.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

XVIII. Identification and remediation of particularly contaminated sites (art. 6, para. 2 (l))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of the statutory provisions already in force in Germany, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 34.

XIX. Effectiveness of systems for the management, development, protection and use of water resources (art. 6, para. 2 (m))

For each target set in this area:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

3. Assess the progress achieved towards the target.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

5. If you have not set a target in this area, please explain why.

In view of effective existing management systems, no target has been set.

For further information on the baseline analysis, please refer to the target setting paper of 08.06.2011, page 36.

XX. Additional national or local specific targets

In cases where additional targets have been set, for each target:

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To publish regular reports and consumer information on drinking water quality in water supply zones that deliver more than 10 m³ of water per day or supply more than 50 people.

Target dates: 31 December 2011 (extending "WasserBLick" to include an interface for drinking water) and 31 December 2013 (annual publication of the drinking water quality report in large water supply zones).

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 38.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Please refer to target setting paper of 08.06.2011, page 40.

3. Assess the progress achieved towards the target.

The reporting data from most of the Federal *Länder* is submitted in electronic format to the aforementioned national reporting portal, "WasserBLick". This portal has been extended to include drinking water reporting, and all national implementation data is entered into the WISE system from there.

It is expected that the report on drinking-water quality in small water supply zones will be published in 2016, and that the next report on drinking-water quality in large water supply zones for the reporting years 2014-2016 will be published in 2017.

The target date for annual publication of the drinking water quality report in large water supply zones has been postponed to 31 December 2018.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

Please also see answer to question 3 above.

Recent discussions with the Federal *Länder* have shown that annual reporting would require significant resources which are assumed to be better used for other improvement measures.

5. If you have not set a target in this area, please explain why.

1. Describe the target, target date and baseline conditions. Please include information on whether the target is national or local, and intermediate targets as relevant. Also include information on the background and justification for the adoption of the target.

National target: To improve Federal communication and education of the general public on the topics of drinking-, bathing- and swimming water, with particular consideration for children's health.

Target date: 31 December 2013

Baseline conditions: Please refer to target setting paper of 08.06.2011, page 42.

2. Describe the actions taken (e.g., legal/regulatory, financial/economic and informational/educational, including management measures) to reach the target, having regard to article 6, paragraph 5, and, if applicable, the difficulties and challenges encountered.

Please refer to target setting paper of 08.06.2011, page 43.

3. Assess the progress achieved towards the target.

- a. *UBA brochure on drinking water: "Rund um das Trinkwasser"*: The third edition of the brochure "Rund um das Trinkwasser" was published in December 2013. The brochure is very well perceived and accepted amongst the general public. The document can be ordered directly through the UBA-website, and is also being distributed at the events of others, as for example water suppliers.
- b. *Creation and maintenance of a catalogue of frequently asked questions (FAQs)*: The selection of FAQs and respective answers are continually updated, however, has not been published online yet.
- c. *Children's book and quiz*: The children's book was published in 2012, and the quiz also went online in 2012. There is high demand for the children's book which is very popular. It has been printed in several editions, and can be obtained through UBA's website. Readings by the author for school classes, where the issue of water is presented to children in this extraordinary way, are also very popular. The children's book was translated into Czech, and the Czech version can be obtained through the organization 'Sovak'. The quiz has been developed, and can be played online at the UBA-website. Children as well as adults like playing it at public events, such as on fairs and at open house days. Teachers are using the quiz to introduce the topic water in their classes.
- d. *Website*: UBA's website has been revised in the section on drinking water, and information is continually being updated.
- e. *Short films*: UBA's website is to include a library of short films on the topic of drinking water. It is planned to develop short films, based on the characters depicted in the children's book. To date, no films have been included on UBA's website. However, a film on disinfection by products in bathing waters, and how they can be avoided, has been developed and is available at UBA's webpage at <https://www.umweltbundesamt.de/themen/duschen-vor-dem-sprung-ins-schwimmbecken-haelt-das>.
- f. *UBA brochure on bathing waters*: It is planned to develop an advice booklet, informing the general public on the topics of bathing waters and swimming by the end of 2016. This shall cover internal and external pools, as well as bathing waters. In addition to the technical / scientific topic of quality and treatment of pool waters and quality of natural bathing waters, the topic of health care in relation to swimming as physical exercise will also be covered.

4. In the review of progress achieved towards the target, has it appeared that the target and target date need to be revised, e.g., in the light of scientific and technical knowledge? If so, and if the revised target and target date have already been adopted, please describe them.

Please see answer to question 3 above.

5. If you have not set a target in this area, please explain why.

Part Four

Overall evaluation of progress achieved in implementing the Protocol

In this part of the summary report, Parties shall provide an analysis and synthesis of the status of implementation of the Protocol. Such an overall evaluation should not only be based on the issues touched upon in the previous parts, but should also include, as far as possible, a succinct overview of implementation of activities related to, for example:

- (a) Response systems (article 8);
- (b) Public awareness, education, training, research and development and information (article 9);
- (c) Public information (article 10);
- (d) International cooperation (article 11);
- (e) Joint and coordinated international action (article 12);
- (f) Cooperation in relation to transboundary waters (article 13);
- (g) International support for national action (article 14).

This analysis or synthesis should provide a succinct overview of the status of and the trends and threats with regard to waters within the scope of the Protocol sufficient to inform decision makers, rather than an exhaustive assessment of these issues. It should provide an important basis for planning and decision-making as well as for the revision of the targets set, as needed.

Suggested length: up to 3 pages

A lot of the provisions of the Protocol on Water and Health have already been implemented in Germany. The access to drinking water and sanitation is overall provided. Provisions with regard to drinking water quality, quality of drinking water resources, good status of waters, water management etc. are existing and are implemented in practical terms.

Generally, Germany is on track with achieving the targets set.

Education, training and informing the general public, including particularly children and adolescents, is an essential part considered in the target setting process. The underlying assumption is that an informed public can today and in the future provide a fundamental contribution to water related issues, such as water safety and protection of water sources. Information for the public is provided, and recent research results and policy developments are communicated in a timely manner in order to ensure their widespread perception and application. Public consultation with regard to water management issues and projects is guaranteed according to EU and national law. A lot of research projects with regard to emerging issues are ongoing, be it for example on climate change and its effects on water resources, or on resource efficient processes i.e. concerning waste water treatment. Improvements with respect to access to drinking water are not possible anymore in Germany.

The quality of drinking water supplied by large water supplies has already reached a high level, and has partly (e.g., for the parameters nitrate or lead) even improved further since the last reporting exercise under the Protocol. Therefore, measures targeting at these supplies are not sensible for Germany.

Therefore, target setting and measures with respect to drinking water focus on

- Keeping up the generally good status and the high level of health protection
- Improving the situation of small scale water supplies

- Improving existing deficiencies of drinking water installations in buildings, including e.g. the control of Legionella and regulating materials in contact with drinking water, for example through regulating these issues in the German Drinking Water Ordinance of 21 May 2001 (TrinkwV 2001) which was amended in 2012 and in 2015, and thus initiating improvement.

Target setting and measures with respect to enclosed bathing water focus on updating assessment and measures for detection of Legionella, formulating requirements for additional parameters in bathing water (bromate, chlorate, chlorite and arsenic), and new treatment-processes for treatment of bathing water through revising the standard DIN 19643 "Treatment and disinfection of water used in bathing facilities".

Only 20 % of the available freshwater resources in Germany are currently used. Germany has no bigger water quantity problems. As Germany is a densely populated country the water uses are manifold. Water pollution from point sources and diffuse sources are prevailing problems, but tackled by existing EU and national legal provisions that Germany always tries to be in compliance with. Water ecology, mainly biology, is another main issue, especially due to the provisions of the EU Water Framework Directive. A lot has to be done in this field too in Germany. Healthy ecosystems will also help with regard to continued implementation of the Protocol in the upcoming years.

No major improvements with respect to access to improved sanitation are possible in Germany. The level of performance achieved by sanitation systems in Germany is already rather high.

Germany strives for keeping up the high level performance in the sanitation sector, will improve the handling of sewage sludge (see target set) and will further discuss upcoming issues and problems, e.g. the demographic change (less wastewater causes longer water stays in the sewers), energy efficient wastewater treatment, presence of new pollutants (e.g. drug residues), recovery of usable waste water constituents and effects of climate change (presumably more heavy rain events in the future). No further specified targets with regard to implementing the Protocol can be set yet.

International cooperation takes place in six international river basin commissions or bodies as well as in 4 bilateral transboundary waters' commissions. The cooperation covers all water management issues like surface and groundwater quality, water ecology, flood protection, warning and alarm systems in case of accidents etc. Drinking water and sanitation are also issues in those international discussions. The above mentioned commissions, especially the international ones, are platforms to coordinate the implementation of EU water directives on river basin level, especially the EU Water Framework Directive and the EU Flood Risk Management Directive. Detailed information on international cooperation in river basins could be inter alia found in the compilation of transboundary cooperation fact sheets as part of the so called Blueprint of the EU Commission, see <http://ec.europa.eu/environment/water/water-framework/implrep2007/pdf/Governance-Transboundary%20Fact%20Sheets.pdf>.

Furthermore, Germany is part of ENDWARE, an informal network of EU drinking-water regulators who meet twice per year for exchange of information and experience.

Germany is represented in the Bureau of the Protocol on Water and Health. Germany also cooperates with a lot of countries in the framework of the UNECE Water Convention and of course the Protocol on Water and Health. International support for national action is not really relevant for Germany.

Germany, together with Serbia and the non-governmental organisation Women in Europe for a Common Future e.V. (WECF), leads the activity on small-scale water supplies and sanitation under the current Programme of Work of the Protocol. Particularly under this

activity, Germany has contributed to international cooperation, joint and coordinated international action, and international support for national action through the following:

- Development of a draft collection of good practices and tools: This document will include case examples of how policy instruments were applied in countries in the region. This will include information on success factors and challenges encountered during implementation, thus facilitating the exchange of information on policy instruments and programmes applicable in the European Region. BMUB and BMG provided financial support for this activity.
- Data collection on small scale water supplies through a questionnaire exercise: Comprehensive information on small scale water supplies within the European Region (including e.g. on how such systems are regulated) was requested from the countries in the region through a questionnaire exercise. The data has been assessed, and informed the collection of good practices, thus also facilitating exchange of information within the region.
- Pilot projects funded and technically supported by Germany: A major subregional advocacy and capacity building event was held by WHO in June 2014 in Bishkek, Kyrgyzstan, to promote the WSP approach among national governments and facilitating its update in policy and practice, back-to-back with a meeting of the WHO-hosted Small Community Water Supply Management Network. The activities were funded under the BMUB/ UBA Advisory Assistance Programme and conducted with technical support from Germany.

Part Five

Information on the person submitting the report

The following report is submitted on behalf of the Federal Republic of Germany in accordance with article 7 of the Protocol on Water and Health.

Name of officer responsible for submitting the national report: Bettina Rickert

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On behalf of the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety and the Federal Ministry of Health:

German Environment Agency

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Signature:



Date: 18 April 2016

Submission

Parties are required to submit their summary reports to the joint secretariat, using the present template and in accordance with the adopted guidelines on reporting, by **18 April 2016**. Submission of the reports ahead of this deadline is encouraged, as this will facilitate the preparation of analyses and syntheses to be made available to the third session of the Meeting of the Parties.

Parties are requested to submit, to the two addresses below, an original signed copy by post and an electronic copy either on a CD-ROM or by e-mail. Electronic copies should be available in word-processing software, and any graphic elements should be provided in separate files.

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