
Template for summary reports in accordance with article 7 of the Protocol on Water and Health

Executive summary

Implementation of the Protocol during the reporting period faced no special challenges.

During the reporting period, achievements with respect to targets set included

- Revision of the drinking-water ordinance (TrinkwV) in January 2018
- Uptake in data collection of drinking-water quality from small public water supplies
- New ordinance on the Reform of Sewage Sludge Utilisation of September 2017
- Contributions to update of the technical regulations on swimming pool water
- Activities to improve communication and education of the general public on the topics of drinking-, bathing- and swimming water, with particular consideration for children's health

Due to wide access to drinking water and sanitation in Germany, no further important achievements can be reported.

Germany, together with Serbia, is leading the Protocol activity on small-scale water supplies and sanitation, and has been supporting related activities throughout the reporting period.

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 two.

YES NO IN PROGRESS

If targets have been revised, please indicate the date of adoption and list the revised target areas. Please provide detailed information in part two.

2. Were targets and target dates published and, if so, how?

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 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. Was a programme of measures or action plan developed to support implementation of the targets? If so, please briefly describe that programme or plan, including how financial implications were taken into account.

No programme of measures or action plan to support implementation of the targets was developed as this was deemed unnecessary given the limited number of targets set.

5. 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 covers 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.

6. Please provide information on the process by which this report has been prepared, including information on which public authorities had the main responsibilities and what other stakeholders were involved.

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 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.

7. Please report any particular circumstances that are relevant for understanding the report, including whether there is a federal and/or decentralized decision-making structure.

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.

Part two

Targets and target dates set and assessment of progress

For countries that have set or revised 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 baseline conditions and/or targets considered under the relevant target areas.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

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. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

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) 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).

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.

The latest revision of the Drinking Water Ordinance was published in the Bundesgesetzblatt on 8 January 2018 and entered into force on 9 January 2018, which introduced the option to adapt drinking-water monitoring frequencies and parameters based on a risk assessment, forbids introducing objects into drinking-water installations which do not serve the purpose of drinking-water supply, increased analyses for enterococci, and introduced a requirement for laboratories to inform local health agencies directly of positive results of legionella analyses in drinking water.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to achieving SDG 6, particularly target 6.1 to achieve equitable access to safe and affordable drinking water for all, including those served by small and individual water supplies.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

National target: To maintain the Federal Ministry of Health's (BMG) support of the Conciliary 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

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

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The Federal Ministry of Health (BMG) continues to support the Conciliary 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. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The tasks of the Conciliary Laboratory for Legionella encompass the diagnosis of Legionella diseases and therefore help the early detection and containment of outbreaks of Legionella disease which is compatible with SDG goals 3 and 6 of the 2030 Sustainable Development Agenda.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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. In 2016, 99.4 % of the population were connected to the public water supply. 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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
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 2016, 100 % of the German population was connected to collective sanitation systems or other means of sanitation. 97 % of the population is connected to public sewers.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5 of the Protocol).

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

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

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; the first summary report should be expected in 2019.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to collecting and publishing data on SDG 6, particularly on target 6.1 (access to safely managed drinking water services).

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))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

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

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

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 11 January 2019), representing a 28 % increase in the number of certified utilities.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to SDG 6, particularly target 6.1, by promoting safe water supply.

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))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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 (art. 6, para. 2 (g) (ii))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
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 (art. 6, para. 2 (h))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
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))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

The Ordinance on the Reform of Sewage Sludge Utilisation of 27 September 2017 entered into force on 3 October 2017.

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The new ordinance tightens the existing requirements for soil-related sewage sludge utilisation and extends its scope of application to include landscaping measures. The aim is to better fulfil the objectives of sustainable environmental protection and resource protection. The central element of the ordinance however, is the inclusion, for the first time, of comprehensive requirements for the recovery of phosphorus from sewage sludge and sludge incineration ash. The operators of wastewater treatment plants and sewage sludge incineration plants must comply with these requirements starting in 2029 at the latest. The obligation to recover phosphorus applies when sewage sludge has a phosphorous content of 20 grams or more per kilogram of dry solids. The ordinance does not set out a specific technology for phosphorus recovery but leaves sufficient leeway for the use or development of innovative recovery processes. Sewage sludge with low phosphorus content (less than 20 grams of phosphorus per kilogram of dry solids) is exempt from the recovery obligation.

The current practice of soil-related sewage sludge utilisation will only be permitted for sewage sludge from treatment plants with a capacity of less than 100,000 p.e. starting in 2029. From 2032, this will only be allowed for plants with a capacity of less than 50,000 p.e. This takes into account the special circumstances in rural regions. In addition, the ordinance opens the possibility for soil-related sewage sludge utilisation on the basis of voluntary quality control that supplements regulatory supervision.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The new ordinance on sewage sludge will contribute to national resource efficiency and to achieving SDG 6, mainly target 6.1 concerning pollution reduction and recycling.

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))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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

In view of the very little amount of wastewater used for irrigation purposes and the fact, that domestic wastewater cannot be applied to agricultural land according to national legal provisions, no target has been set. Still ongoing discussions on EU level on provisions for water reuse may cause changes on national level at a later stage.

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))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
5. If you have not set a target in this area, please explain why.

No target has been set, due to the high percentage of German bathing waters in compliance with the provisions in the EU Bathing Water Directive. In the 2017 bathing season 98 % of the bathing waters had been in excellent, good or sufficient quality.

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

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

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

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

The standard DIN 19643 (especially part 1) is currently subject to update. Meanwhile part 5 considering the bromine-ozone process is after pronounced controversial discussion 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 and will be updated after standard DIN 19643 is published. In particular, it summarizes and recommends assessments and measures for parameters in swimming pool- and bathing water including additional ones derived from DIN 19643.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to achieving SDG 3, particularly combating water-borne diseases and other communicable diseases, by increasing the safety of swimming pool water.

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 (I))

For each target set in this area:

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.

2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) and justification for the adoption of the target.
2. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).
3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
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. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

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

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

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 (Water Information System for Europe (<http://water.europa.eu>) from there.

It is expected that the report on drinking-water quality in small water supply zones will be published in 2019, and the actual report on drinking-water quality in large water supply zones for the reporting years 2014-2016 has been 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 2019.

4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.

The target contributes to collecting and publishing data on SDG 6, particularly on target 6.1 (access to safely managed drinking water services).

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

1. Please describe the current target and target date. Please provide information on the background (including the baseline/starting point and reference to existing national and international legislation) 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. Please describe the actions taken (e.g., legal/regulatory, financial/economic, informational/educational and management measures) to reach the target (see also article 6, paragraph 5, of the Protocol).

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

3. Please assess the progress achieved from the baseline towards meeting the target as well as any challenges encountered.

- a. *UBA brochure on drinking water: "Rund um das Trinkwasser"*: The fourth edition of the brochure "Rund um das Trinkwasser" was published in December 2016. 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 still a 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 with information about drinking water is continually being updated.

- e. *Short films*: UBA's website is to include a library of short films on the topic of drinking water. UBA realised short films on the topic of drinking water hardness and waste management of medication, available at <https://www.umweltbundesamt.de/themen/wasser/trinkwasser/trinkwasserqualitaet#textpart-4>. Furthermore, it is planned to develop more short films on the topic of drinking water. A film on disinfection by-products in bathing waters, and how they can be avoided, 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*: The first edition of the brochure "Rund um das Badewasser" was published in December 2016. 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.
4. Please describe how the target set under this area contributes to fulfilling global and regional commitments, in particular the 2030 Sustainable Development Agenda.
- The target contributes to target 6.5 (water resource management) through providing information and informing the public about their possible contribution.
5. If you have not set a target in this area, please explain why.

Part three

Common indicators¹

I. Quality of the drinking water supplied

1. Context of the data

1. What is the population coverage (in millions or per cent of total national population) of the water supplies reported under sections 2 and 3 below?

The rationale of this question is to understand the population coverage of the water quality data reported under sections 2 and 3 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).

Water supplies covered under sections 2 and 3 provided services to 72.4 million persons (88% of the population of Germany) in 2016.

2. Please specify from where the water quality samples reported in sections 2 and 3 below are primarily taken (e.g., treatment plant outlet, distribution system or point of consumption).

The rationale of this question is to understand where the samples were primarily taken from for the water quality data reported in sections 2 and 3 below.

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.

The limit values must comply with the German Drinking water ordinance at the taps that serve to obtain the drinking water. That means the samples have usually to be taken at the point of consumption. Chemical parameters whose concentration does not increase in the distribution network or in the domestic distribution may be monitored at the treatment plant outlet and in the distribution system.

3. In sections 2 and 3 below, the standards for compliance assessment signify the national standards. If national standards for reported parameters deviate from the World Health Organization (WHO) guideline values, please provide information on the standard values.

The rationale of this question is to understand any possible differences between the national standards for microbiological and chemical water quality parameters and the respective WHO guideline values.²

The national standards for compliance signify the requirements by the German Drinking water ordinance, for which the European standards set in the EU Drinking water directive have to be considered. The WHO guideline values shall be treated as recommendatory, in particular where no European or national standards exist.

| 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) | 0.5 mg/l 0.1 mg/l not to be exceeded at the water works outlet |
| Coliforms | Thermotolerant coliform bacteria 0/100ml | Coliforms 0/100ml |
| C. perfringens | No health-based GV established | 0/100ml |
| 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 |
| Nickel | 0.07 mg/l | 0.02 mg/l |

2. Bacteriological quality

4. Please indicate the percentage of samples that fail to meet the national standard for *Escherichia coli* (*E. coli*). Parties may also report on up to three other priority microbial indicators and/or pathogens that are subject to routine water quality monitoring.

If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” water supplies or by population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the column “area/category” in the table below accordingly.

If data can be reported neither for urban and rural areas nor for alternative categories, please report total (national) values only.

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

² The latest edition of the WHO *Guidelines for Drinking-water Quality* is available at: http://www.who.int/water_sanitation_health/publications/dwq-guidelines-4/en/.

Segregated data for urban and rural areas can not be provided. Data on compliance in small public water supplies for 2016 is currently being compiled.

| <i>Parameter</i> | <i>Area/category</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2013)</i> | <i>Current value (2016)³</i> |
|-----------------------------------------------|----------------------|------------------------------|---------------------------------------------------------------------------------|-----------------------------------------|
| <i>E. coli</i> | Total | 0.2 % | water works and distribution: <0.1 % consumers' taps: 0.0 % | 0.04 % |
| | Urban | | | |
| | Rural | | | |
| Additional parameter 1: Enterococci | Total | 0.4 % | water works and distribution: 0.3 % consumers' taps: 0.0 % | 0.14 % |
| | Urban | | | |
| | Rural | | | |
| Additional parameter 2: Coliforms | Total | | | 1.35 % |
| | Urban | | | |
| | Rural | | | |
| Additional parameter 3: <i>C. perfringens</i> | Total | | | 0.05 % |
| | Urban | | | |
| | Rural | | | |

3. Chemical quality

5. Please report on the percentage of samples that fail to meet the national standard for chemical water quality with regard to the following parameters:

- (a) Arsenic;
- (b) Fluoride;
- (c) Lead
- (d) Nitrate.

6. Please also identify up to three additional chemical parameters that are of priority in the national or local context.

If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” sanitation systems or by population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the column “area/category” in the table below accordingly.

³ Recent data does not distinguish between sampling locations of water works and distribution, and consumers' taps anymore as in previous reporting cycle

If data can be reported neither for urban and rural areas nor for alternative categories, please report total (national) values only.

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

Segregated data for urban and rural areas can not be provided. Data on compliance in small public water supplies for 2016 is currently being compiled.

| <i>Parameter</i> | <i>Area/category</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2013)</i> | <i>Current value (2016)⁴</i> |
|--------------------------------------|----------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------|
| Arsenic | Total | water works: 0.1 % consumers' taps: 0.1 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | 0.02% |
| | Urban | | | |
| | Rural | | | |
| Fluoride | Total | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | 0 % |
| | Urban | | | |
| | Rural | | | |
| Lead | Total | water works and distribution: 0.0 % consumers' taps: 2.1 % | water works and distribution: <0.1 % consumers' taps: <0.1 % | 0.52 % |
| | Urban | | | |
| | Rural | | | |
| Nitrate | Total | water works and distribution: 0.2 % consumers' taps: 0.1 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | 0.04 % |
| | Urban | | | |
| | Rural | | | |
| Additional parameter 1: Pest. tot | Total | water works and distribution: 0.3 % consumers' taps: 0.1 % | water works and distribution: 0.1 % consumers' taps: 0.0 % | 0.05 % |
| | Urban | | | |
| | Rural | | | |
| Additional parameter 2: Copper | Total | water works and distribution: 0.0 % consumers' taps: 2.0 % | water works and distribution: <0.1 % consumers' taps: <0.1 % | 0.11 % |
| | Urban | | | |
| | Rural | | | |

⁴ Recent data does not distinguish between sampling locations of water works and distribution, and consumers' taps anymore as in previous reporting cycle

| <i>Parameter</i> | <i>Area/category</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2013)</i> | <i>Current value (2016)⁴</i> |
|--------------------------------------|----------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------|---------------------------------------------|
| | Urban | | | |
| | Rural | | | |
| Additional parameter 3: THM | Total | water works and distribution: 0.0 % consumers' taps: 0.0 % | water works and distribution: 0.0 % consumers' taps: 0.0 % | 0.01 % |
| | Urban | | | |
| | Rural | | | |
| Additional parameter 4: Nickel | Total | | | 0.36 % (2016) |
| | Urban | | | |
| | Rural | | | |

II. Outbreaks and incidence of infectious diseases related to water

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

- (a) *For reporting outbreaks, please report confirmed water-related outbreaks only (i.e., for which there is epidemiological or microbiological evidence for water to have facilitated infection);*
- (b) *For reporting incidents, please report the numbers related to all exposure routes. In your response:*
- (i) *Please report cases per 100,000 population;*
- (ii) *Please differentiate between zero incidents (0) and no data available (-).*

Please extend the list of water-related diseases, to the extent possible, to cover other relevant pathogens (e.g., enteric viruses, Giardia intestinalis, Vibrio cholerae).

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

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

| <i>Disease</i> | <i>Incidence rate per 100,000 population (all exposure routes)</i> | | | <i>Number of outbreaks (confirmed water-borne outbreaks)</i> | | |
|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------|---------------|---------------|
| | <i>Baseline (2009)</i> | <i>Value reported in the previous reporting cycle (2015)</i> | <i>Current value (2018)</i> | <i>Value reported in the previous reporting cycle</i> | | |
| | | <i>Baseline (2009)</i> | <i>(2015)</i> | <i>Current value (2018)</i> | <i>(2009)</i> | <i>(2015)</i> |
| Cholera | 0 | 3 (all imported) (0.004/100,000) | 0 | — | — | — |

| | | | | | | |
|------------------------------------------------|------------------------|------------------------|------------------------|---|---|----|
| Shigellosis | 617 (0.8/100,000) | 570 (0.7/100,000) | 675 (0.8/100,000) | — | — | — |
| Enterohaemorrhagic <i>E. coli</i> infection | 835 (1.0/100,000) | 1,604 (2.0/100,000) | 2,226 (2.7/100,000) | — | — | — |
| Typhoid fever | 65 (0.1/100,000) | 68 (0.1/100,000) | 58 (0.1/100,000) | — | — | — |
| Viral hepatitis A | 929 (1.1/100,000) | 856 (1.1/100,000) | 1,043 (1.3/100,000) | — | — | — |
| Legionellosis | 503 (1.1/100,000) | 880 (1.1/100,000) | 1,443 (1.7/100,000) | 6 | 5 | 10 |
| Cryptosporidiosis | 1,106 (1.4/100,000) | 1,735 (2.1/100,000) | 1,810 (2.2/100,000) | — | — | — |
| <i>Giardia lamblia</i> | 3,962 (4.8/100,000) | 3,602 (4.5/100,000) | 3,411 (4.1/100,000) | — | — | — |
| Leptospirosis | 92 (0.1/100,000) | 86 (0.1/100,000) | 117 (0.1/100,000) | — | — | — |

All data according to national incidence based surveillance.

High incidence of notified Hepatitis A in 2018 is due to current outbreaks (not water-related).

Increasing yearly notifications of **enterohaemorrhagic E. coli** infection are most likely due to increased awareness and testing and increased availability and application of PCR-based screening methods. However, denominator data (# of tests done) is unfortunately not available.

Increasing yearly notifications of **legionellosis** are most likely due to increased awareness and testing and increased availability and application of antigen-based testing in urine. However, denominator data (# of tests done) is unfortunately not available.

The reason for the increase in notified cryptosporidiosis and leptospirosis is not known.

III. Access to drinking water

If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” water supply systems or by population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the table below accordingly.

If data can be reported neither for urban and rural areas nor for alternative categories, please report total (national) values only.

Please comment on the trends or provide any other important information supporting interpretation of the data with regard to access to drinking water.

| Percentage of population with access to drinking water | Baseline value (2005) | Value reported in the previous reporting cycle (2013) | Current value (2016) |
|--------------------------------------------------------|-----------------------|-------------------------------------------------------|----------------------|
| Total | 100% | 100% | 100% |
| Urban | 100% | 100% | 100% |

| <i>Percentage of population with access to drinking water</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2013)</i> | <i>Current value (2016)</i> |
|---------------------------------------------------------------|------------------------------|--------------------------------------------------------------|-----------------------------|
| Rural | 100% | 100% | 100% |

Estimates provided by the WHO/United Nations Children’s Fund (UNICEF) Joint Monitoring Programme (JMP) for Water Supply and Sanitation. *JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.*

National estimates. *Please specify how “access” is defined and what types of drinking-water supplies are considered in the estimates in your country.*

In particular, please specify if the above percentage on “access to drinking water” refers to access to (tick all applicable):

- Improved drinking water sources (as per JMP definition)
- Supplies located on premises
- Supplies available when needed
- Supplies that provide drinking water free from faecal contamination

Under the German Drinking Water Ordinance of 21 May 2001 (TrinkwV), last amended through a new amending regulation of 8 January 2018, 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. According to JMP definitions, 100 % of the population of Germany has access to improved sources. The vast majority of 99.4 % 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. No information is available at the national level on the faecal contamination and level of continuity of private wells.

IV. Access to sanitation

If possible, please provide segregated data for urban and rural areas in the table below. If this is not possible, please consider reporting by alternative categories available in your country, for example by “non-centralized versus centralized” sanitation systems or by population number-based categories. If you do so, please indicate the reported categories by renaming the rows in the table below accordingly.

If data can be reported neither for urban and rural areas nor for alternative categories, please report total (national) values only.

Please comment on the trends or provide any other important information supporting interpretation of the data with regard to access to sanitation.

| <i>Percentage of population with access to sanitation</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2013)</i> | <i>Current value (2016)</i> |
|-----------------------------------------------------------|------------------------------|--------------------------------------------------------------|-----------------------------|
| Total | 100% | 100% | 100 % |

| <i>Percentage of population with access to sanitation</i> | <i>Baseline value (2005)</i> | <i>Value reported in the previous reporting cycle (2013)</i> | <i>Current value (2016)</i> |
|-----------------------------------------------------------|------------------------------|--------------------------------------------------------------|-----------------------------|
| Urban | 100% | 100% | 100 % |
| Rural | 100% | 100% | 100 % |

- Estimates provided by JMP. *JMP definitions are available at <http://www.wssinfo.org/definitions-methods/watsan-categories>.*
- National estimates. *Please specify how “access” is defined and what types of sanitation facilities are considered in the estimates in your country.*

In particular, please specify if the above percentage on “access to sanitation” refers to access to (tick all applicable):

- Improved sanitation facilities (as per JMP definition)
- Facilities not shared with other households
- Facilities from which excreta is safely disposed in situ or treated off site

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 2013, 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

1. Water quality

1. On the basis of national systems of water classification, please indicate the percentage of water bodies or the percentage of the volume (preferably) of water⁵ falling under each defined class (e.g., for European Union countries and other countries following the European Union Water Framework Directive⁶ classification, 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 other countries, in classes I, II, III, etc.).

⁵ Please specify.

⁶ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

(a) **For European Union countries and other countries following the European Union Water Framework Directive classification**

(i) *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 % | 7.9 % |
| Moderate status | 30 % | 30 % | 36.1 % |
| Poor status | 34 % | 34 % | 33.8 % |
| Bad status | 23 % | 23 % | 19.2 % |
| Total number/volume of water bodies classified | 9,567 | 9,567 | 9,542 |
| Total number/volume of water bodies in the country | 9,863 | 9,863 | 9,807 |

(ii) *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 % (due to ubiquitous substances like mercury, Germany is very strict on this) 84 % (without ubiquitous substances) |
| Poor status | 12 % | 12 % | 100 % |
| Total number/volume of water bodies classified | 9,863 | 9,863 | 9,807 |
| Total number/volume of water bodies in the country | 9,863 | 9,863 | 9,807 |

(iii) *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 % | 95.7 % |
| Good chemical status | 62.7 % | 62.7 % | 64 % |
| Poor quantitative status | 3.8 % | 3.8 % | 4.3 % |
| Poor chemical status | 37.1 % | 37.1 % | 36 % |
| Total number/volume of groundwater bodies classified | 989 | 989 | 1,180 |

| <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> |
|-----------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------|---------------------------------|
| Total number/volume of groundwater bodies in the country | 989 | 989 | 1,180 |

(b) For other countries

(i) Status of surface waters

| <i>Percentage of surface water falling under class^a</i> | <i>Baseline value (specify year)</i> | <i>Value reported in the previous reporting cycle (specify year)</i> | <i>Current value (specify 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.

(ii) *Status of groundwaters*

| <i>Percentage of groundwaters falling under class^a</i> | <i>Baseline value (specify year)</i> | <i>Value reported in the previous reporting cycle (specify year)</i> | <i>Current value (specify 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.

2. Please provide any other 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).

Concerning the EU Water Framework Directive (WFD), provisions for the evaluation of ecological and chemical status have changed between 2009 and 2015. They are stricter now especially with regard to the chemical status, where e.g. mercury has now to be monitored in biota. Ubiquitous substances prevail and therefore in Germany, which interprets this strictly, all surface water bodies are not in good chemical status. It is difficult to find measures to improve the situation on ubiquitous substances. There is progress with regard to other substances. If ubiquitous substances are not taken into account, 84 % of the surface water bodies would be in good status. Thus 2009 and 2015 cannot really be compared.

Progress in improving overall water status is also slow with regard to ecological status, but there is improvement with regard to some biological quality elements like fish species.

The one out all out approach of the WFD is challenging as it hides progress with regard to some parameters or substances.

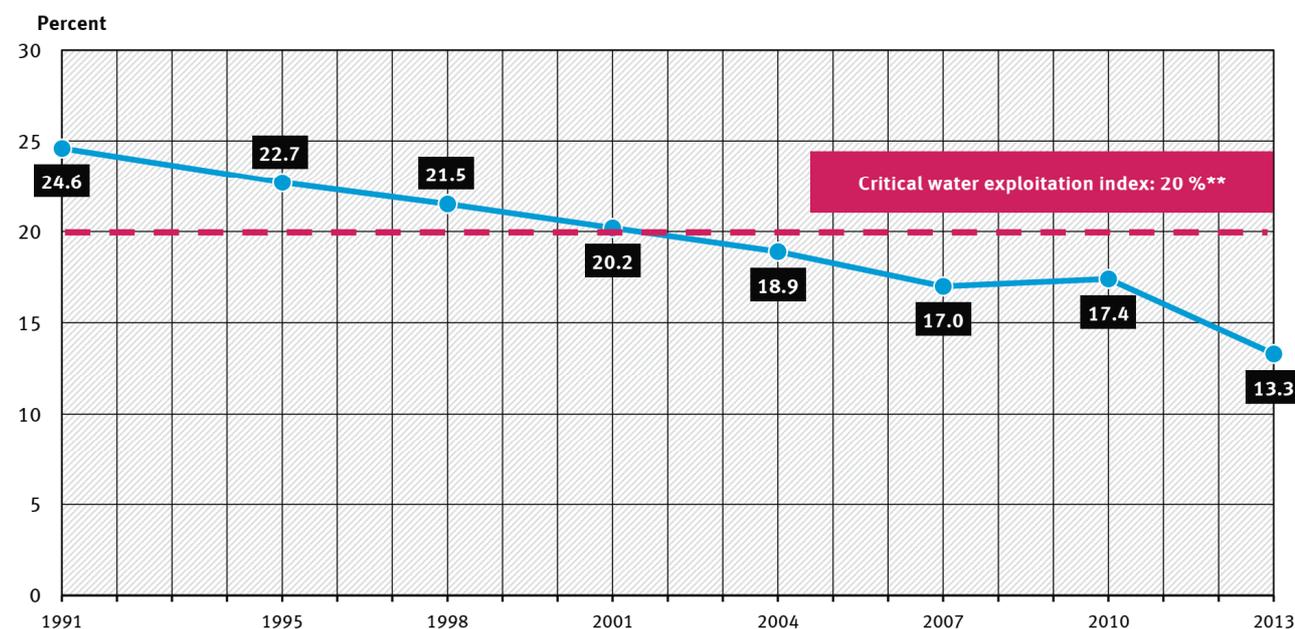
2. Water use

3. 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.

In order to assess the effects of water extraction on water bodies, water demand is compared with the total renewable freshwater resources ("available water supply"). The result is referred to as water exploitation index. If extraction exceeds 20 % of the available water supply, this is a sign of water stress. Germany's water exploitation index has been below the critical level since 2004.

Water exploitation index

Proportion of water abstraction to water resources*



* The water exploitation index is derived from the ratio of total water abstraction of the given year (since 2007 including irrigation) to the long-term potential water resources in Germany (188 billion m³).
** A water exploitation index of 20 % is considered as threshold for water stress.

Source: Federal Statistical Office of Germany; Fachserie 19, R. 2.1 and 2.2, Wiesbaden, various years; German Federal Institute of Hydrology, Koblenz, release dated 09.12.2016

| Water exploitation index | Baseline value (1991) | Value reported in the previous reporting cycle (2010) | Current value (2013) |
|---------------------------|------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
| Agriculture | No information | 0.2 billion m ³ * | 0.3 billion m ³ * |
| Industry ^a | 11 billion m ³ ** | 18.2 billion m ³ ** | 6.1 billion m ³ *** |
| | 28.8 billion m ³ ** for energy production | 20.7 billion for energy production | 13.6 billion m ³ *** for energy production |
| Domestic use ^b | 6.5 billion m ³ | 5.1 billion m ³ | 5.1 billion m ³ |

^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 to individual supply systems (e.g., wells).

* I.e. water abstraction for agricultural irrigation

** I.e. water abstraction by sector

Part four

Water-related disease surveillance and response systems

1. In accordance with the provisions of article 8 of the Protocol:

Has your country established comprehensive water-related disease surveillance and early warning systems according to paragraph 1 (a)?

YES NO IN PROGRESS

Has your country prepared comprehensive national or local contingency plans for responses to outbreaks and incidents of water-related disease according to paragraph 1 (b)?

YES NO IN PROGRESS

Do relevant public authorities have the necessary capacity to respond to such outbreaks, incidents or risks in accordance with the relevant contingency plan according to paragraph 1 (c)?

YES NO IN PROGRESS

2. If yes or in progress, please provide summary information about key elements of the water-related disease surveillance and outbreak response systems (e.g., identification of water-related disease outbreaks and incidents, notification, communication to the public, data management and reporting). Please also provide reference to existing national legislation and/or regulations addressing water-related disease surveillance and outbreak response.

Outbreak detection and management is organised taking into account the complex federal structure of Germany. Primary responsibility lies with the local authorities. Special situations (e.g., affecting several federal states) are handled (independent of the mode of transmission or pathogen) according to the “Allgemeine Verwaltungsvorschrift über die Koordinierung des Infektionsschutzes in epidemisch bedeutsamen Fällen (Verwaltungsvorschrift-IfSG-Koordinierung - IfSGKoordinierungs-VwV)” http://www.verwaltungsvorschriften-im-internet.de/bsvwvbund_12122013_31945300302.htm

3. Please describe what actions have been taken in your country in the past three years to improve and/or sustain water-related disease surveillance, early warning systems and contingency plans, as well as to strengthen the capacity of public authorities to respond to water-related disease outbreaks and incidents, in accordance with the provisions of article 8 of the Protocol.

(a) The Robert Koch-Institute developed a system for automatic detection and reporting of case clusters using surveillance data. The system and its reports are provided to health authorities on a weekly basis to facilitate outbreak detection and response. This specifically includes legionellosis and other potentially water-borne pathogens.

(b) The Robert Koch-Institute maintains and provides several guidance documents for public health authorities and clinicians to facilitate early diagnosis of cases and adequate response to outbreaks (e.g., for legionellosis: https://www.rki.de/DE/Content/InfAZ/L/Legionellose/OEGD/Dokumente_Tab.html).

Part five

Progress achieved in implementing other articles of the Protocol

Please provide a short description of the status of implementation of articles 9 to 14 of the Protocol, as relevant.

Suggested length: up to two pages

The German Environment Agency (UBA) conducts 3-day training sessions with a focus on staff from local health agencies twice a year, addressing current issues of drinking-water supply and bathing water hygiene. It furthermore publishes brochures, children’s books and

further guidance materials for the general public on these issues, and informs on the Protocol on Water and Health, including a link to the national targets set, on its webpage.

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, 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:

- Organising a sub-regional workshop on improving small-scale water supplies for better health in EU countries. The workshop strengthened national capacities towards improving the situation and management of small-scale water supplies and inspired respective policy actions and targeted programmes, including through the setting and implementation of targets under the Protocol on Water and Health. It was financially supported by the German Environment Agency (UBA).
- Development of a draft guidance on costing and financing small-scale water services: This document will include guidance and case examples of how sustainable financing of small-scale drinking-water and wastewater systems can be achieved. Financial support for this activity is provided by the German Environment Agency (UBA).

Part six

Thematic part linked to priority areas of work under the Protocol

1. Water, sanitation and hygiene in institutional settings

1. In the table below, please provide information on the proportion of schools (primary and secondary) and health-care facilities that provide basic water, sanitation and hygiene (WASH) services.

Basic services refer to the following:

(a) *Basic sanitation service: Improved facilities (according to JMP definition), which are sex-separated and usable at the school or health-care facility;*

(b) *Basic drinking water service: Water from an improved source (according to JMP definition) is available at the school or health-care facility;*

(c) *Basic hygiene service: Handwashing facility with water and soap available to students (schools) or patients and health-care providers (health-care facilities).*

If the above definitions/categories do not apply in your country, please report for alternative categories for which data are available. In this case, please indicate the reported categories by renaming the rows in the table below accordingly.

Data source on coverage of basic sanitation services and basic hygiene services are estimates, as published in the JMP report “Drinking Water, Sanitation and Hygiene in Schools. Global baseline report 2018”. According to JMP definition, there is also 100% access to improved drinking water.

Please indicate the source of data. If data is not available, please put (-).

| <i>Institutional setting</i> | <i>Current value (2018)</i> |
|-------------------------------|-----------------------------|
| <i>Schools</i> | |
| Basic sanitation service | 100 % |
| Basic drinking-water service | 100% |
| Basic hygiene service | 100 % |
| <i>Health-care facilities</i> | |
| Basic sanitation service | 100 % |
| Basic drinking-water service | 100% |
| Basic hygiene service | 100 % |

2. Has the situation of WASH in schools been assessed in your country?

YES NO IN PROGRESS

3. Has the situation of WASH in health-care facilities been assessed in your country?

YES NO IN PROGRESS

4. Do approved policies or programmes include actions (please tick all that apply):

- To improve WASH in schools
- To improve WASH in health-care facilities

5. If yes, please provide reference to main relevant national policy(ies) or programme(s).

2. Safe management of drinking-water supply

6. Is there a national policy or regulation in your country, which requires implementation of risk-based management, such as WHO water safety plans (WSPs), in drinking water supply?

YES NO IN PROGRESS

7. If yes, please provide reference to relevant national policy(ies) or regulatory documentation.

8. In the table below, please provide information on the percentage of the population serviced with drinking-water under a WSP.

Please indicate the source of data. If data is not available, please put (-).

| <i>Percentage of population</i> | <i>Current value (specify year)</i> |
|---------------------------------|-------------------------------------|
| Total | No info |

3. Equitable access to water and sanitation

9. Has the equity of access to safe drinking-water and sanitation been assessed?

YES NO IN PROGRESS

10. Do national policies or programmes include actions to improve equitable access to water and sanitation (please tick all that apply):

- To reduce geographical disparities
- To ensure access for vulnerable and marginalized groups
- To keep water and sanitation affordable for all

11. If yes, please provide reference to main relevant national policy(ies) and programme(s).

Part seven

Information on the person submitting the report

The following report is submitted on behalf 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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Telephone number: +49 (30) 8903 45133

Name and address of national authority: German Environment Agency (UBA)

Signature: 

Date: 18.04.2019

Submission

1. 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, 210 days before the next session of the Meeting of the Parties. 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 Meeting of the Parties.

2. Parties are requested to submit, to the two addresses below, an original signed copy by post and an electronic copy by e-mail. Electronic copies should be available in word-processing software.

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