

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

Executive summary

Please provide an overall evaluation of the progress achieved in implementing the Protocol in your country during the reporting period. Please provide a short description of the main steps taken and highlight important achievements, key challenges, success factors and concrete good practice examples.

Suggested length: maximum 2 pages

Estonia ratified the Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes on 9th September 2003. Starting that date Estonia has been guided by the Protocol. Estonia is a member of the European Union and must implement the EU policy. The aim and idea of the Protocol coincide a lot with the policy in the EU. Therefore most of our targets are based on EU relevant targets.

During the reporting period a lot of success has been achieved to reach the targets. For example, one of our target is ensuring appropriate sewage collection and treatment for all the residents with target indicator percentage (%) of population connected with public sewerage system or have appropriate own system. Percentage of people connected with public sewerage system risen to 83% in 2017 and 96% of the population is connected to the public sewerage system in agglomeration areas more than 2000 pe. 100% of WWTPs are in conformity with the UWWTD requirements in the agglomeration areas more than 2000 pe. And even more, WWTPs fulfil the HELCOM convention requirements, which has much higher treatment standards than is set in UWWTD. New wastewater treatment plants have been built and existing ones have been reconstructed. Huge investments have been done to sanitation systems and therefore, all Estonian cities are covered with public sewerage systems and urban wastewater treatment plants. In future, more attention should be paid to rural areas sanitation systems.

Estonia transposed Commission Directive (EU) 2015/1787 of 6 October 2015 amending Annexes II and III to Council Directive 98/83/EC on the quality of water intended for human consumption which regulates the risk based approach concerning drinking water quality. It is now an option for Estonian water works to choose between regular monitoring of substances in DW or develop monitoring plan based on risk assessment. It gives our water suppliers a chance to optimize the sampling frequency and sampled parameters based on risk assessment and therefore focus resources on most critical points of the DW chain bearing in mind that monitoring is expensive especially for small water suppliers that are most common in Estonia. It was rather positive amendment for Estonia, because the water suppliers no longer have to monitor substances that are not present in their DW source or DW and therefore cut costs of sampling. In that process, Estonia gathered all the data of the ground water bodies and developed a estimation about substances occurrence in DW. For example since there are no fluorides present in our surface water bodies or in groundwater in northern parts of Estonia, it would be unreasonable to monitor them.

In 2018 Ministry of Social Affairs started to develop the new Public Health Plan 2020-2030 which is a national strategy for public health inter alia environmental health adopted by the Government. In the beginning of that process public consultations were held in the ministry. In addition, local municipalities were visited by the Ministry and the plan was introduced and discussed in the local communities. In 2018 a provisional vision document was developed,

which sets main priority areas. One of the priority areas is water inter alia drinking water and bathing water. The vision entails problem areas and main aims that need action. One of the main aim for new Public Health Plan is to increase the percentage of population connected to the public water supply of which water is safe to drink.

Another aim is to have an overview of water quality of all the individual water works (private wells), that are not under state surveillance (survey is currently ongoing concerning these wells) and to search opportunities for them to connect to the public water supply or implement other measures for safe drinking water.

One of our target is increasing of the total number of persons who are supplied with safe drinking water (coming from the public water supply system) with target indicator percentage (%) of population supplied with drinking water conforming to requirements. In order to increase the total percentage of population who has access to safe and monitored drinking water, a lot of remedies have been implemented and investments have been made, including money from the state budget, EU funds, as well as drinking water producers themselves. The results are obvious – percentage of population supplied with drinking water by public drinking water supply conforming to requirements in 2017 was 99,2% and in 2018 99,26%.

Since 2018 Ministry of the Environment launched a new measure to financing households for connecting to public water and sewerage system in agglomerations over 2000 pe, which turned out to be very popular.

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.

In 2016 Estonia set three targets – those targets have not changed:

1. Increasing percentage of population supplied with drinking water conforming to requirements.
2. There are no outbreaks of diseases due to drinking water.
3. Ensuring appropriate sewage collection and treatment for all the residents

2. Were targets and target dates 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.

Targets were developed and published together with the following strategic documents:

- National Health Plan 2009-2020 (<https://www.sm.ee/et/rahvastiku-tervise-arengukava-2009-2020>) was adopted by the Government (also the targets are set in the new National Health Plan 2020-2030, that is currently being developed),
- Estonian Environmental Strategy 2030 (<https://www.envir.ee/en/news-goals-activities/strategy-and-development>),

- River Basin Water Management Plans for 2015-2021 (<https://www.envir.ee/en/river-basin-management-plans>).
- Many targets are legal requirements set in different legal acts. Preparing legal act is a public process and stakeholders are involved.

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.

Estonia has established arrangements for coordination for setting targets. In Estonia the responsibility for implementing Protocol on Water and Health is divided between the Ministry of the Environment and the Ministry of Social Affairs.

Under the authority of the Ministry of the Environment falls the responsibility for assuring and preserving the quality of the water as a resource (both groundwater and surface water), which is to be used as a source of drinking water. The Ministry of the Environment is responsible for the following government functions: protection of the national environment and of nature; maintenance of the land and spatial databases; natural resources including estimation of the their quantities and regulation of their use, recycling, and protection; radiation safety; surveillance over the environment; organisation of meteorological, geological, cartographic, geodesic surveys and ecological/marine research; maintenance of the land and water cadastres; and drafting of legislation regarding these areas. In other words, the responsibility of the Ministry of the Environment is to organise and coordinate environmental policy.

Under the authority of the Ministry of Social Affairs falls the responsibility for protecting the health of the population and coordinating activities in this area. The Ministry drafts legislation aimed at assuring a healthful human environment, as well as strategies and policies to advance the same. The Health Board is a subsidiary agency of the Ministry of Social Affairs which is responsible for surveillance of drinking water and bathing water quality.

Despite the fact that there is no official coordination body for Protocol implementation, incl target setting, co-operation between involved ministries and other competent authorities and stakeholders work well. During Consultation process Estonia received recommendation regarding creating official coordination group and we are working on with this suggestion concerning forming this official coordination group.

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.

Targets have been included in several national strategies and programmes: National Health Plan 2009-2020, Estonian Environmental Strategy 2030, River Basin Water Management Plans 2015-2021, Oil shale Development plan 2016-2030, Radiation Protection National Strategy 2018 to 2027.

Securing the population with safe and healthy drinking water is one of the priorities in the field of environmental health. Program objective: The risks from living environment are reduced.

For example, the Environmental Health Program has been prepared for the implementation of the National Health Plan 2009-2020 and the achievement its goals. The program focuses on promoting environmental health and the program is funded from the state budget. The programme includes several water related targets, that are constantly being monitored:

- The percentage of the population provided with water from central water supply network: 87,63% (2018)

- The percentage of water supply systems connected to the Water Health Information System with more than 5000 consumers: 70,3% (2016. a)
- The number of outbreaks of illnesses due to the contamination of water and the number of the sick in the case of the outbreak of an illness: 0
- Bathing water quality (percentage of bathing water that is classified as “excellent” or “good”): 84%

River Basin Water Management Plans will be developed to provide a thorough overview of the status of Estonian waterbodies and to plan activities to improve the status of rivers, lakes and coastal waters and the sea. The plan is drawn up for each river basin district for six years and then updated. Current River Basin Water Management Plans have been prepared for the period 2015-2021. Concrete actions are foreseen in Programmes of Measures under the River Basin Water Management Plans. The guidelines and restrictions in the River Basin Water Management Plans and the Programme of Measures must be taken into account in the elaboration of planning and development plans and in the granting of environmental permits. The cost of the activities listed in the River Basin Water Management Plans for the period 2015-2021 is 363 million EUR, covering all different areas related to water, including agriculture, regional development, energy, etc. The costs are divided as following: 158 million for wastewater treatment, 98 million for past pollution remediation, 73 million for agricultural water protection measures and 28 million for watercourse activities and 6 million for other water related activities. Actions will be financed from the state budget, the local governments, the European Union and the private sector. Elaborating River Basin Water Management Plans is a public process, Environmental Board coordinates involvement of public and other stakeholders.

Several targets in Estonia have been set as legal requirements in different legal acts.

In Estonia there is the Foundation Environmental Investments Centre under the Ministry of the Environment. It is a financial institution, mediating state budget funds (revenues from environmental charges), EU funds, funds from foreign aid programmes and the Green Investment Scheme, and granting loans for the implementation of environmental projects. For example, water companies and local governments can apply for support from there for projects to meet the drinking water and wastewater related requirements.

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?

Processes of developing and implementing Estonian Environmental Strategy, River Basin Water Management Plans and National Health Plan (and process of their development) have been public and therefore public participation was made available. Several targets are set as legal requirements in legal acts. Preparing legal act is a public process where stakeholders are involved.

Ministry of Social Affairs started to develop the new National Health Plan 2020-2030. In the beginning of that process public consultations were held in the ministry. All the relevant stakeholders, also NGOs and other bodies who represent the people were invited and participated in the discussion. Also local municipalities were visited by the Ministry and the plan was introduced and discussed in the local communities.

Ministry of the Environment has started preparation of Water Management Plans for the period 2021-2027. All the relevant stakeholders, also NGOs and other bodies who represent the people are invited and participated in the discussion. All information is available for public. Public participation is coordinated by Environmental Board.

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.

According to the responsibilities mentioned above under point 3, drinking and bathing water was prepared by the Ministry of Social Affairs and Health Board. Remaining parts were prepared by the Ministry of the Environment. The Estonian Waterworks Association was also 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.

There are not any federal decentralized structures in Estonia.

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.

Target: Increasing percentage of population supplied with drinking water conforming to requirements.

At the end of year 2018, 87,63% of the total national population was connected to the water supplies, of whom 99,26% used water for which no microbiological, chemical and indicator values were not exceeded (except radiological indicators).

In the last 3 years this numbers have remained stable.

Percentage of population supplied with drinking water conforming to requirements	Baseline 2006	2016	2017	2018
	73%	98,1%	99,2%	99,26%

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).

Drinking water related legislation in Estonia is intended to support the development and implementation of risk management strategies that will ensure the safety of drinking water supplies through the control of hazardous constituents of water.

Since Estonia is a member of the EU, the water quality must be in compliance with the Directive 98/83/EC. The Directive laid down the essential quality standards at EU level. A total of 48 microbiological, chemical and indicator parameters must be monitored and tested regularly. In general, WHO guidelines for drinking water and the opinion of the Commission's Scientific Advisory Committee are used as the scientific basis of the quality standards in the drinking water.

Requirements of Council Directive 98/83/EC of 3 November 1998 concerning quality of water intended for human consumption and WHO recommendations are transposed into the following Estonian legislation:

-Regulation 82 (31 July 2001) of the Minister of Social Affairs: "Quality and control requirements for drinking water and methods for testing"

-Regulation 91 (8 December 2009) of the Minister of Social Affairs: "Procedure for certifying persons who sample drinking water"

-Regulation 18 (26 March 2002) of the Minister of the Environment: "Procedure for issuing, altering, and revoking permits and temporary permits for the special use of water, list of materials which must be submitted in support of application, and forms for the permit"

-Regulation 1 (2 January 2003) of the Minister of Social Affairs: "Quality and control requirements for surface water and ground water to be used or potentially used for production of drinking water"

We have implemented EU Directive 98/83/EC which sets limit values for different parameters.

In order to increase the total percentage of population who has access to safe and monitored drinking water, a lot of remedies have been implemented and investments have been made, including money from the state budget, EU funds, as well as drinking water producers themselves.

We have made significant investments to comply with drinking water and wastewater directives since 2004. Approximately 1,5 billion euros have been invested using EU funds, Estonian Environmental Investment Centre aid and water companies and municipalities own contribution. What's important to highlight is that more than 50% of the environmental funds money that have been available in Estonia, have been used to build and upgrade our water infrastructure. This has been possible as we have taken the achievement of compliance with drinking water and wastewater directives very seriously and this has been the priority of our government in the environmental sector since the accession to EU.

The results are obvious – pollution load have been decreased significantly, at the same time the amount of wastewater is relatively constant during this period.

However, achieving these goals has been very challenging as Estonia is very sparsely populated country. This results in very high investment and maintenance cost per capita.

We have several future challenges related to sustainability and affordability issues in this sector. Water utilities efficiency must be raised through consolidation of smaller water companies to regional ones.

In 2004 Ministry of the Environment of Estonia took the initiative and restructured smaller water companies to regional companies, which serve several municipalities together, altogether 40% of the municipalities are operated by regional water companies. Regional water companies ensure better service quality and lower price of water, ensure efficient management and higher competence of water service. But not all water companies have yet joined into regional companies. Today we are convinced that regional water companies are the right solution for us to ensure sustainable water service in long term. Thus, for instance,

when there is a question whether to give financial support to the water company, we always give preference to a regional water company. Thus we are continuing promoting the consolidation of water companies.

We are trying to find a long term self-sustainable solution for the water utilities sector after EU funds closure after 2023. We have all-ready made the first steps as 40% of municipalities are covered by regional water utilities and in 2016-2018 Estonian Water Works Association conducted a study „Development of strategies towards a sustainable water sector“.

To help the municipalities to tackle the environmental goals in water management, Ministry of the Environment has prepared guidelines for the municipalities how to regulate the supervision of the individual sewerage systems. Since 2018 Ministry of the Environment launched a new measure to financing households for connecting to public water and sewerage system in agglomerations over 2000 pe, which turned out to be very popular.

Current EU Cohesion Fund period for financing water sector with 140 MEUR will be the last financial period for the agglomerations over 2000 pe as the heavy investments will be completed and in parallel we are trying to find the optimal structural for the water management sector.

The Estonian Water Companies Association (EVEL) organizes day-to-day information and training on membership related to the sector's legislation and technical development.

In 2015, the EVEL team gathered to set common requirements for the competence of water treatment operators, ie the professional standard. The need for common requirements led to the need to increase and harmonize operator knowledge. A study commissioned by the Ministry of the Environment entitled “Assessment of Efficiency of Waste Water Treatment Plants Established in EU-EIC and Supported by EIC and Reconstructed in 2004-2014” was issued by the Ministry of the Environment, which stated that one of the major shortcomings in the post-project operation of wastewater treatment plants is the competence of the wastewater treatment plant operators and the first solution was to create a vocational training system for operators.

In 2017, EVEL in cooperation with the Järvamaa Vocational Education Center (JKHK) launched the JKHK two-year workplace-based study program “Water Operator”. The curriculum concerns the training of both drinking water and sewage treatment plant operators. In the same year, 24 students from the first flight started their studies. In the autumn of 2018 the second flight was followed. After 2 years of study, the curriculum is completed by a professional examination and a certificate of professional qualification “Water Management Operator, Level 5”.

The digitalisation of existing assets (digital twin) is an important area for making the water business sector effective. To this end, EVEL has launched a GIS project aimed at making better management decisions based on digital data.

In 2018, the project started to address the quality issues of drinking water. In many parts of Estonia, the problem is the decrease in consumption volumes and the consequent slowdown in water exchange. The result is an increase in microbiological indicators in the water pipeline. Project results are expected by spring 2020.

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

Access to safe drinking water and sanitation is essential to health and environment, a basic human right and a component of effective policy for health protection. In 2006, 73% of the population in Estonia was supplied with drinking water that conformed with requirements. Today, we have reached the level of 99%.

One problem is the abundance of small water suppliers and the issues concerning their sustainability and water quality.

The fulfillment of the targets is influenced in some cases by the availability of funds (eg., the percentage of the population provided with water from central water supply network).

The results of the investments to the water infrastructure sector are obvious – pollution load have been decreased significantly, higher connection rates to drinking water and sewerage systems, conformity with environmental and health norms.

With the investments 83% of the population is connected to the public sewerage system. And 96% of the population is connected to the public sewerage system in agglomeration areas more than 2000 pe.

100% of WWTPs are in conformity with the UWWTD requirements in the agglomeration areas more than 2000 pe. And even more, WWTPs fulfill the HELCOM convention requirements, which has much higher treatment standards than is set in UWWTD.

Since 2012 over 60 000 inhabitants have gained the opportunity to connect with public drinking water and sewerage systems.

The new measure for private households has resulted for more than 2400 inhabitants to build the connections to public drinking water and sewerage systems.

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 global indicator selected by UN Member States for monitoring SDG target 6.1 is **‘proportion of population using safely managed drinking water services’**.

One of the main aims for DW in the current and upcoming National Health Plan till 2030 is to increase the percentage of population connected to the public water supply of which water is safe to drink. This target is inline with SDG 6.1 and 6.3.

At the end of year 2018, 87,63% of the total national population was connected to the water supplies. These are supplies that are under the Health Board supervision.

Another aim is to have an overview of water quality of all the individual water works not under state surveillance and if possible connect them to the public water supply or implement other remedies for water safety. The population that uses non-piped sources of drinking water (boreholes, wells) is 12,37%. Those are private water supplies that are not under the governmental supervision. These targets are in line with SDG 6.1.

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.

Target: There are no outbreaks of diseases due to drinking water. Target date: **2019**

Base value (2010): 0

Current value (2018): 0

Target is set on national level (in National Health Plan 2009-2020) in accordance with Council Directive 98/83/EC which determines that: quality of water intended for human consumption, Member States shall take the measures necessary to ensure that water intended for human consumption is wholesome and clean. For the purposes of the minimum requirements of this Directive, water intended for human consumption shall be wholesome and clean if it:

- (a) is free from any micro-organisms and parasites and from any substances which, in numbers or concentrations, constitute a potential danger to human health, and
- (b) meets the minimum requirements set out in directive Annex I, Parts A and B;

Due to implementation of improved methods and surveillance monitoring, there have been no outbreaks associated with drinking water during the past 26 years.

According to the WHO, microbial hazards continue to be the primary concern in both developing and developed countries. This target is a priority for Estonia, because the potential health consequences of microbiological contamination are such that its control must always be of paramount importance and must never be compromised.

- 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).

Estonia has adopted Council Directive 98/83/EC and with surveillance monitoring performed by the Health Board and additional monitoring done by the water producers to have good overview of water quality in public water supplies. Owners of supplies that do not meet the requirements for water quality are obliged to improve the water quality. There are no drinking water supply systems in Estonia which constantly fail to meet the requirements of microbiological parameters. Temporary deviations from required microbiological parameters have been noted in less than 0,03% of water works under surveillance.

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

In period of 2016-2018 there were no water-related outbreaks. No outbreaks due to drinking water from water works have been registered for 26 years.

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

These targets are in line with SDG 6.1, 6.2 and 6.3. Requirements also help to achieve SDG 3.2.

- 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.

Target: Increasing percentage of national population connected to the water supplies

Base value (2006): 73%

Current value (2018): 87,63%

Target value (2020): 91%

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).

We have implemented EU Directive 98/83/EC which sets limit values for different parameters. In order to increase the total percentage of population who has access to safe and monitored drinking water, a lot of remedies have been implemented and investments have been made, including money from the state budget, EU funds, as well as drinking water producers themselves.

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

According to the WHO, access to safe drinking-water is essential to health, a basic human right and a component of effective policy for health protection. In 2006, 73% of the population in Estonia was connected to the water supplies. Today, we have reached the level of 87,63 % .

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

It is in line with SDG 1.4, 3.2, 3.8, 4.a and 6.1, 9.1 and 11.1.

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

We have set target under 6.2(a), this also covers 6.2(c).

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.

Target: Ensuring appropriate sewage collection and treatment for all the residents.

Inadequate sanitation is a major cause of disease world-wide and improving sanitation is known to have a significant beneficial impact on health both in households and across communities. The maintenance of hygienic conditions, through services such as wastewater disposal helps to protect public health and prevent diseases. According to WHO, management and investments in improvements on sanitation systems should be made based on adequate understanding of the actual health risks posed by the systems and how these risks might best be controlled. As waste water is the main source of point pollution to water bodies being therefore also environmental concern, it is essential to implement appropriate waste water collection and treatment requirements all over Estonia.

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).

Estonia must ensure waste water treatment according to Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment, and HELCOM recommendations.

The Ministry of the Environment is responsible for implementation of the directive and HELCOM recommendations for waste water treatment.

Requirements of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment and HELCOM recommendations are transposed into Estonian legislation. Requirements are set in Water Act and also in Government and ministerial regulations issued under the Water Act. Sanitation issues are regulated by:

-Water Act

-Public Water Supply and Sewerage Act

-Regulation No. 99 (29 November 2012) of the Government of the Republic of Estonia “Requirements for Waste Water treatment and Waste Water and Storm Water management, Waste Water and Storm Water pollution indicators and verification measures”

-Regulation No 78 (24.05.2004) of the Minister of the Environment “Requirements for using sewage sludge in agriculture, green area creation and recultivation”.

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

We have invested a lot of money to sanitation systems and therefore, all Estonian cities are covered with public sewerage systems and urban wastewater treatment plants. In future, more attention should be paid to rural areas sanitation systems.

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

Inadequate sanitation is a major cause for water bodies pollution being therefore high environmental concern. Inadequate sanitation is also major cause of diseases world-wide and improving sanitation is known to have a significant beneficial impact both on environment and on health. The maintenance of hygienic conditions, through services such as wastewater disposal helps to protect environment and public health. Therefore it is fulfilling SDG 6.2 and 6.3 and also 3.2, 3.3, 3.8 and 3.9. Also SDG 1.4, ensure access to basic sanitation, is fulfilled. Activities concerning access to sanitation also helps to achieve SDG 4.a, 5.1, 9.1 and 11.1.

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

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.

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 our legal system, collective systems are considered as water supply zones and therefore have to meet all the drinking water requirements on same basis as 6.2.(a).

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.

Sewage collecting systems requirements and targets are covered with 6.2.(d). All Estonian sanitation systems must have also sewage collecting systems due to requirement that all generated waste water must be treated before discharging.

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.
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.

We have only set national targets in this area and no protocol targets.

Health Board has worked out guidelines for private well owners (<https://www.terviseamet.ee/et/valkonnad/keskkonnatervis/vesi/kaevuvesi>).

According to the regulation No. 82 (31 July 2001) of the Minister of Social Affairs: "Quality and control requirements for drinking water and methods for testing" paragraph 1 section 3 Health Board local regional services must advise private well owners concerning water quality.

Therefore it is fulfilling SDG 6.1 and 6.3, 6.6. and also 15.1.

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.

Sanitation management is covered with 6.2.(d). All Estonian sanitation systems must have sewage collecting systems and all generated waste water must be treated before discharging according to the set quality standards.

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.

According to Water Act, discharging of untreated wastewater is prohibited. Detailed requirements for wastewater treatment are set in regulation No. 99 (29 November 2012) of the Government of the Republic of Estonia “Requirements for Waste Water treatment and Waste Water and Storm Water management, Waste Water and Storm Water pollution indicators and verification measures”.

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).

Detailed requirement for wastewater treatment are set in regulation No. 99 (29 November 2012) of the Government of the Republic of Estonia “Requirements for Waste Water treatment and Waste Water and Storm Water management, Waste Water and Storm Water pollution indicators and verification measures”. Wastewater shall be treated before discharging into a recipient up to the limits or treatment levels established by the regulation, on the spot, or transported or discharged into a wastewater treatment plant. According to Water Act a permit for the special use of water is necessary if effluent or other pollutants are discharged into a recipient. Permit for the special use of water is issued by Environmental Board and meeting the permit requirements are inspected by Environmental Inspectorate. When discharging effluent into a recipient whose status class is poor or bad, the issuing authority of permits for the special use of water may impose requirements that are up to 30 percent more stringent than those established by the regulation on effluent discharged to the recipient. When discharging effluent into a recipient whose quality indicators deteriorate due to discharging effluent to the recipient and there is a threat that the status class of the water body will deteriorate, the issuing authority of permits for the special use of water may impose requirements that are up to 15 percent more stringent than those established by the regulation.

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

Permit for the special use of water for wastewater discharge is issued by Environmental Board. Concrete conditions for wastewater treatment and discharge are set in this permit for the special use of water. Inspection over the fulfilment of conditions set in permit are made by the Environmental Inspectorate.

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

Requirements for wastewater treatment are in line with SDG indicator 6.3 and 6.6 by helping to improve water quality by reducing pollution and minimizing release of hazardous chemicals and materials and halving the proportion of untreated wastewater and to protect and restore water-related ecosystems. Also requirements for wastewater treatment help to achieve SDG 3.3, 3.9, 11.b, 12.4.

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

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.

According to regulation No 99 (29 November 2012) of the Government of the Republic of Estonia "Requirements for Waste Water treatment and Waste Water and Storm Water management, Waste Water and Storm Water pollution indicators and verification measures" from common sewerage system storm water overflows can be used only if the dilution rate of wastewater and stormwater is 1:4.

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 overflow of the combined sewer must be designed to work only if the effluent discharged contains one part of the wastewater and at least four parts of the rainwater. The ratio of wastewater and storm water flow rates is determined by the design project. Wastewater treatment limit values shall not apply to rainwater and sewage mixtures discharged through the overflow.

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

Permit for the special use of water for wastewater discharge is issued by the Environmental Board. Concrete conditions for wastewater treatment and discharge are set in this permit for the special use of water. Inspection over the fulfilment of conditions set in permit are made by the Environmental Inspectorate.

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

Requirements are in line with SDG indicator 6.3 and 6.6 by helping to improve water quality by reducing pollution and minimizing release of hazardous chemicals and materials and halving the proportion of untreated wastewater and to protect and restore water-related ecosystems. Also requirements help to achieve SDG 3.3, 3.9, 11.b, 12.4.

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

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.

According to regulation No 99 (29 November 2012) of the Government of the Republic of Estonia “Requirements for Waste Water treatment and Waste Water and Storm Water management, Waste Water and Storm Water pollution indicators and verification measures” all discharged wastewater must meet the quality standards set in the regulation.

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).

Detailed requirement for wastewater treatment are set in regulation No. 99 (29 November 2012) of the Government of the Republic of Estonia “Requirements for Waste Water treatment and Waste Water and Storm Water management, Waste Water and Storm Water pollution indicators and verification measures”. Wastewater shall be treated before discharging into a recipient up to the limits or treatment levels established by the regulation, on the spot, or transported or discharged into a wastewater treatment plant. According to the Water Act a permit for the special use of water is necessary if effluent or other pollutants are discharged into a recipient. Permit for the special use of water is issued by the Environmental Board and meeting the permit requirements are inspected by the Environmental Inspectorate. When discharging effluent into a recipient whose status class is poor or bad, the issuing authority of permits for the special use of water may impose requirements that are up to 30 percent more stringent than those established by the regulation on effluent discharged to the recipient. When discharging effluent into a recipient whose quality indicators deteriorate due to discharging effluent to the recipient and there is a threat that the status class of the water body will deteriorate, the issuing authority of permits for the special use of water may impose requirements that are up to 15 percent more stringent than those established by the regulation.

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

Permit for the special use of water for wastewater discharge is issued by the Environmental Board. Concrete conditions for wastewater treatment and discharge are set in this permit for the special use of water. Inspection over the fulfilment of conditions set in permit are made by the Environmental Inspectorate.

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

Requirements for wastewater treatment are in line with SDG indicator 6.3 and 6.6 by helping to improve water quality by reducing pollution and minimizing release of hazardous chemicals and materials and halving the proportion of untreated wastewater and to protect and restore water-related ecosystems. Wastewater treatment requirements also help to achieve SDG 3.3, 3.9, 12.4

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

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.

Sewage sludge reuse and disposal are regulated by the Waste Act and regulation No 78 (24.05.2004) of the Minister of the Environment “Requirements for using sewage sludge in agriculture, green area creation and recultivation”.

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).

Detailed requirements for sewage sludge reuse and disposal are set in regulation No 78 (24.05.2004) of the Minister of the Environment “Requirements for using sewage sludge in agriculture, green area creation and recultivation”. The regulation regulates the use of sewage sludge in agriculture, landscaping and recultivation to avoid its adverse effects on surface and groundwater, soil, plants, animal and human health. Regulation set limitations on using sewage sludge in agriculture, landscaping and recultivation in the sense of heavy metals and hazardous substances concentrations in sewage sludge. Also there are restrictions to use sewage sludge in the areas where in the soil heavy metals are over set concentrations or where the pH is low or when there is a risk for flooding or erosion. Taking into account accumulative properties of heavy metals there are also set limits for amounts of heavy metals that are carried to soil in 10 years perspective. Only stabilized or stabilized and hygienic sediments may be used for landscaping, re-cultivation and farming of short rotation coppice. The stabilized sediment deposited on the ground must be brought into the soil or covered with soil within two days after the start of application. It is forbidden to use sediment on land where vegetable or berry crops and herbs are grown. The land on which the sewage sludge is laid shall not be used for the production of vegetable crops or herbs for food or feed within one year of application and grazing animals or stocking animals within two months of laying. Regulation foresees also several requirements for the user of sewage sludge.

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

Requirements are set since 1 February 2003. Meeting the requirements are inspected by the Environmental Inspectorate.

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

Requirements are in line with SDG indicator 6.3 and 6.6 by helping to improve water quality by reducing pollution and minimizing release of hazardous chemicals and materials and halving the proportion of untreated wastewater and to protect and restore water-related ecosystems. Requirements also help to achieve SDG 3.3, 3.9, 12.4 and 15.1

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 Estonia wastewater is not used for irrigation and there is also no need as such since alternative sources (ground water, surface water) are available.

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.

In Estonia, approximately 60% of public water supply consumers uses groundwater and 40% uses surface water.

Under the current Water Act a regulation No 1 (2 January 2003) of the Minister of Social Affairs “Quality and control requirements for surface water and ground water to be used or potentially used for production of drinking water” has been established which sets the quality and control requirements for groundwater and surface water used or intended to be used as drinking water. According to this regulation the quality of water sources intended as drinking water need to meet the requirements of at least third quality class. In the absence of other sources of drinking water, the surface water or groundwater exceeding third quality class may be used as a source of drinking water, subject to the written consent of the Health Board or its regional office, if the treatment of water and remedial measures ensure good quality drinking water.

However, taking into account new developments since 2003 in drinking water management, especially focusing on risk based approach and on the fact that water from tap has to be safe for health, there is no need to set special requirements for source water that is used or is intended to be used as drinking water and therefore since 1 of October 2019 there will be no source water quality requirements.

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).

According to the Minister of Social Affairs act No 1 (2 January 2003) of “Quality and control requirements for surface water and ground water to be used or potentially used for production

of drinking water” the groundwater and surface water used or intended to be used as drinking water are divided between three quality classes taken into account concentration of indicators, chemical and microbiological elements.

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

Requirements are set since 2 January 2003. Meeting the requirements are inspected by Health Board.

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

Requirements for quality of waters which are used as for a source for drinking water are in line with SDG indicator 3.9 and 6.3.

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

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.

Requirements for bathing water are set in the regulation of the Government of the Republic of Estonia No 74 “Requirements for bathing water and bathing places” (03.04.2008). The requirements of Directive 2006/7/EC are transposed in Estonian legislation by the Public Health Act, the Water Act, and regulations implementing them in 2008.

According to the Public Health Act the bathing water must be safe for the health. According to regulation No 74, bathing water shall be deemed to conform to the relevant parameters if the bathing water is classified as “sufficient”, “good” or “excellent”. Also Estonia has set national limits for *Escherichia coli* and intestinal enterococci in regulation No 74 for assessing every individual bathing water sample. Limit value for *Escherichia coli* is 1000 cfu/100 ml and for intestinal enterococci is 100 cfu/100ml.

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 requirements of Directive 2006/7/EC are promulgated in Estonian legislation by the Public Health Act, the Water Act, and regulations implementing them in 2008.

Quality and control requirements for bathing water are laid down in the regulation of the Government of the Republic of Estonia No. 74 from 3rd April 2008 “Requirements for bathing waters and bathing sites”.

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

Quality requirements and parameters for bathing water, also assessment of bathing water changed in year 2008.

First time bathing water quality was assessed in accordance to assessment rules of the Directive 2006/7/EC in year 2011. According to year 2011 assessment 39 bathing waters classified as “excellent”, 11 as “good”, 3 as “sufficient” and surprisingly 2 as “poor” quality. Those two bathing waters classified as “poor”, because percentile values for *E.coli* were worse than “sufficient” and “good” values set out in Directive 2006/7/EC Annex I. While

percentile values for intestinal enterococci were better than “excellent” and “good”. Those bathing waters were classified as “poor” because E.coli value in samples ranged from 1 to 750 cfu/100 ml (limit value is 1000 cfu/100 ml) which caused that the standard deviation, what is used in calculation, was high.

Escherichia coli and intestinal enterococci were analysed in 924 times in 462 samples. Intestinal enterococci exceeded limit values in 21 samples and Escherichia coli in 10 samples.

In 2018 33 bathing waters are classified as “excellent”, 8 as “good”, 7 as “sufficient”, 1 as “poor” and 2 are not examined with sufficient frequency. One bathing water was classified as “poor”, because percentile values for intestinal enterococci were worse than “sufficient” and “good” values set out in Directive 2006/7/EC Annex I.

Escherichia coli and intestinal enterococci were analysed 1046 times. Intestinal enterococci exceeded limit values in 30 samples and Escherichia coli in 5 samples.

Non-compliance with the parameters limit values occurred usually once or twice during the bathing season in some bathing places. Non-compliant samples make 3,35% from all the samples.

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

Bathing water requirements are in line with SDG. Requirements help to achieve SDG 11.7 to provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities and 3.9 to substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. Requirements also help to achieve SDG indicator 6.3.

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

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.

According to the Water Act permit for special use of water is necessary when cultivating fish with an annual increment of more than one tonne, or if from there wastewater is discharged. But no quality criteria for waters used for aquaculture or for the production or harvesting of shellfish.

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).

Permit for the special use of water is issued by the Environmental Board. Concrete conditions concerning cultivating aquaculture and discharge are set in this permit for the special use of water. Inspection over the fulfilment of conditions set in permit are made by the Environmental Inspectorate.

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

Regulation is in place since 1 January 2011. Inspection over the fulfilment of conditions set in permit are made by the Environmental Inspectorate.

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

Requirements for wastewater treatment are in line with SDG indicator 6.3 and 6.6 by helping to improve water quality by reducing pollution and minimizing release of hazardous chemicals and materials and halving the proportion of untreated wastewater and to protect and restore water-related ecosystems. Requirements also help to achieve SDG 3.3 and 3.9.

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

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.

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 Estonia there are no enclosed waters generally available for bathing.

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

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.

In order to ensure good groundwater and surface water quality, contaminated sites must be cleaned. In Estonia there are more than 340 sites where polluting activities have taken place. In the Environmental Register there is information of 84 particularly contaminated sites with national importance, inventoried sites beyond them are of local importance. There are shown locations on the map and described hazardousness of the contaminated sites to environment and human in the Environmental Register.

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).

In order to ensure good groundwater and surface water quality there was an investment plan for the years 2009-2015 which was approved by the Government of Estonia to remediate contaminated sites. During that period 16 most important contaminated sites were remediated. All these sites are on the list of 84 particularly contaminated sites.

The Ministry of the Environment continues to use the finances of the European Cohesion Fund (period 2014-2020) for cleaning up former industrial areas. The Ministry implements several projects to remediate the most contaminated watercourses and former industrial sites which have inventoried to be a risk for the waterbodies. One project started in 2016 and will end before 2022. The aim of the project is to clean up more than 30 ha contaminated sites. According to the pre-studies the investment cost will be more than 40 mln euros. Precise costs will be turned out as a result of the public procurements. The project is strongly linked with an integrated water project LIFE IP CleanEST which started in the beginning of 2019. The budget of the LIFE IP CleanEST project is 16.7 mln euros and 10 mln euros of it will be covered by European Commission through the LIFE Programme. LIFE IP CleanEST is bringing together the activities of river basin management plans and nature management plans in the Viru sub-basin of the East-Estonia river basin district, an area of nearly a quarter million hectares.

Besides EU finances, there is also possible to apply finances from Estonian Environment Investment Centre (EIC) to remediate contaminated sites. By the end of 2018 in total of 73 contaminated sites from the 84 particularly contaminated sites had had investments for remediation activities by EIC and EU funds and for that time 57 sites of them were cleaned up to be in totally safe or nearly safe status.

After the remediation process, there will be monitoring programme on the cleaned sites.

According to the Water Act, the status of polluted, or poor or bad, water shall be remediated by the polluter or, if it is not possible to determine the polluter, by the owner of the water body or, in the case of an aquifer, by the state.

Requirements for liquidation of polluted areas and monitoring requirements of these areas are stated in the Environment Liability Act.

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

The Cohesion Fund implementation plan for 2014-2020 is approved by the European Commission. There is an extra focus set on water protection issues in the plan. Contaminated sites are one big issue for protecting waterbodies of Estonia. That's why the implementation plan foresees more than 36 mln euros for cleaning up contaminated sites. According to the plan 5 most important contaminated sites will be cleaned up during 2014-2020. Besides this investment plan, there is also possible to apply finances from EIC to remediate contaminated sites. According to the plan our target is to clean up or make safer at least 58 sites from particularly contaminated sites by the end of the 2022. The Ministry of the Environment is well on track achieving the goal, but besides these particularly sites other sites with residual pollution also have to be remediated.

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

Globally the remediation activities of residually polluted sites support most of the SDG. In Estonian context there are strong links between the remediation works and SDG as follows:

Goal 3. Good health and well-being – Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination – direct link through the reduction of polluted sites;

Goal 6. Clean water and sanitation – Target 6.5: By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate – strong links are being set by the ongoing work in the framework of the integrated water project LIFE IP CleanEST; Also 6.3 and 6.6 will be achieved.

Goal 11. Sustainable cities and communities – Target 11.6: By 2030, reduce the adverse per capita environmental impact of cities... and Target 11.7: By 2030, provide universal access to safe, inclusive and accessible, green and public spaces... – former polluted and abandoned

sites will be cleaned up and taken into use, often as public green areas, parks or as transport land;

Goal 12.4 - Achieve environmentally sound management of chemicals and wastes, and reduce their release to water and soil in order to minimize their adverse impacts on human health and the environment - will be achieved

Goal 14. Life below water – Target 14.1: By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution – several remediation activities have planned to implement on residually polluted rivers (Purtse, Kohtla and Erra rivers). Cleaning up the pollution from these rivers avoids the transfer of oil products into the sea;

Goal 15. Life on land – Target 15.1: By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services... – residually polluted sites, which are considered to be environmental pressure for any water body are foreseen to be remediated in water management plans and appropriate action plans. The link with ecosystem services approach will be further strengthened by the implementation of the integrated water project LIFE IP CleanEST;

Goal 17. Partnerships for the goals – Target 17.17: Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships – direct links with own financings of remediation projects, rules for permitting, stakeholder engagement activities and dissemination of the results of such projects.

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

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.

General framework for the water management is set in the Water Act and detailed requirements are set in regulations under the Water Act. The purpose of the Water Act is to guarantee the purity of inland and transboundary water bodies and groundwater, and ecological balance in water bodies. The Water Act regulates the use and protection of water, relations between landowners and water users and the use of public water bodies and water bodies designated for public use. The discharge of pollutants into surface waters shall be controlled in accordance with the combined approach pursuant to which the discharge of pollutants into surface waters is avoided or restricted at source through the implementation of environmental requirements, including best environmental practices, best available techniques and best available methods, setting and application of emission limit values and environmental quality standards. If it is not possible to achieve the environmental objectives provided in this Act despite the environmental requirements, emission limit values and environmental quality standards, additional measures provided by law, including, where appropriate, more stringent environmental requirements, emission limit values and environmental quality standards, must be applied. The use and protection of surface water and groundwater shall be planned and organised on the basis of catchment areas in terms of river basins, taking into account the hydrological boundaries of catchment areas of water bodies. Water use and protection shall be based on the principle of recovery of the costs of water services, environmental and resource costs and the polluter pays principle. For implementing polluter pays principle natural resource charges and pollution charges are

determined in the Environmental Charges Act. According to the Water Act special use of water needs a permit that is issued by the Environmental Board and controlled by the Environmental Inspectorate. The public uses of a water body are water abstraction until certain amount, bathing, water sports, moving on water or ice and fishing to the extent provided for by law and these activities do not require permit. The provisions of law regulating the stay on the land of another shall not be violated by the public use of a water body. The status of surface water and groundwater shall not be deteriorated. Good status of surface water and groundwater, including good chemical status and good ecological potential of artificial bodies of water and heavily modified bodies of water shall be achieved. The status of surface water is good if both the ecological status and the chemical status of the body of surface water are at least good. The status of groundwater is good if both the chemical status and the quantitative status of the body of groundwater are at least good. To achieve these objectives, measures shall be applied that are foreseen in river basin water management plans. Water Act also regulates hydroenergy and damming issues, lowering of water level and liquidation of damming, water traffic, use of water for firefighting purposes, protection of water against wastewater and effluent pollution etc. It defines rights of water users and protection of rights and obligations of water users.

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).

Modern Water Act is in place since 11.05.1994. Regulations are mainly based on the EU requirements and the HELCOM requirements. Water related obligations are set in permit of special use of water which are controlled by the Environmental Inspectorate.

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

Success can be assessed through several indicators that are described in part III of this report.

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

Water related requirements are in line with SDG. Requirements help to achieve SDG 6.1 to achieve universal and equitable access to safe and affordable drinking water for all and 6.2 to achieve access to adequate and equitable sanitation and hygiene for all. Requirements in the Water Act help to achieve SDG 6.3 to improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and also SDG 6.4 to substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater. Water Act is in line with SDG 6.5 to implement integrated water resources management at all levels, including through transboundary cooperation as appropriate. Water related activities help to achieve SDG 6.6 to protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes. Requirements also help to achieve SDG 3.3, 3.9, 6.6 a, 11.5, 15.1, 17.9.

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

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.

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 additional targets

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).

At the end of year 2018, 87,63% of the total national population was connected to the water supplies, of whom 99,26% used water for which no microbiological, chemical and indicator values were not exceeded (except radiological indicators).

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.

Depending on the sample taken (it can be treatment plant, distribution system or point of consumption), but most often point of consumption.

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.

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 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

National standards are transposed from EU directives 98/83/EC (on the quality of water intended for human consumption) and 2013/51/EURATOM (laying down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption).

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.

Parameter	Area/category	Baseline value (2009)	Value reported in the previous reporting cycle (2015)	Current value (2018)
<i>E. coli</i>	Total	1,5 %	0,08 %	0,13%
	Urban			
	Rural			
Additional parameter 1: Enterococci	Total	3,2 %	0,47 %	1,09%
	Urban			
	Rural			
Additional parameter 2:	Total			
	Urban			
	Rural			
Additional parameter 3:	Total			
	Urban			
	Rural			

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/.

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.

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.

The natural occurrence of fluorides in Estonian drinking water from ground water is fairly high. We have some problems with fluoride levels exceeding the limit value 1,5 mg/l (transposed to national legislation from the drinking water directive 98/83/EC) in drinking water in western part of the country. In these cases, necessary measures are applied (recommendations for public etc) and levels of fluorides in drinking water are decreased (water purification with mainly reverse osmosis).

Natural occurrence of arsenic in Estonia drinking water is never exceeding WHO guideline and drinking water directive limit values (10µg/l).

Natural occurrence of lead in Estonian ground water is also not exceeding WHO values. There are still some problems with old lead pipes, that take time to replace.

<i>Parameter</i>	<i>Area/category</i>	<i>Baseline value (2009)</i>	<i>Value reported in the previous reporting cycle (2015)</i>	<i>Current value (2018)</i>
Arsenic	Total	0%	0%	0%
	Urban			
	Rural			
Fluoride	Total	22,97%	7,33%	5,09%
	Urban			
	Rural			
Lead	Total	0%	2,21%	0%
	Urban			

<i>Parameter</i>	<i>Area/category</i>	<i>Baseline value (2009)</i>	<i>Value reported in the previous reporting cycle (2015)</i>	<i>Current value (2018)</i>
Nitrate	Rural			
	Total	0%	0,87%	1,93%
	Urban			
Additional parameter 1: Iron	Rural			
	Total	37,96%	5,44%	3,46%
	Urban			
Additional parameter 2:	Rural			
	Total			
	Urban			
	Rural			

<i>Parameter</i>	<i>Area/category</i>	<i>Baseline value (2009)</i>	<i>Value reported in the previous reporting cycle (2015)</i>	<i>Current value (2018)</i>
Additional parameter 3:	Total			
	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.

Since 2009, the diagnosis of legionellosis and the advanced system of legionellosis have improved significantly. As a result, the number of cases has been diagnosed with a (continuous) growth trend.

Other disease rates are stable.

<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>Baseline (2009)</i>	<i>Value reported in the previous reporting cycle (2015)</i>	
		<i>Current value (2018)</i>	<i>Current value (2018)</i>		<i>Current value (2018)</i>	<i>Current value (2018)</i>
Shigellosis	3,9	0,9	1,3	0	0	0
Enterohaemorrhagic <i>E. coli</i> infection	1,2	0,6	0,6	0	0	0
Typhoid fever	0,1	0,1	0	0	0	0
Viral hepatitis A	1,4	0,5	1,1	0	0	0

Legionellosis	0,4	0,5	1,4	0	0	0
Cryptosporiosis	0	0,3	0,2	0	0	0
Additional disease 1:	0	0	0	0	0	0
Cholera						
Additional disease 2:						
Additional disease 3:						

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.

<i>Percentage of population with access to drinking water</i>	<i>Baseline value (2009)</i>	<i>Value reported in the previous reporting cycle (2015)</i>	<i>Current value (2018)</i>
Total	100% (JMP) Or 87% (Connected with public water supplies)	100% (JMP) Or 86,15% (Connected with public water supplies)	100% (JMP) Or 87,63% (Connected with public water supplies)
Urban			
Rural			

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

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.

Percentage of population with access to sanitation	Baseline value (2009)	Value reported in the previous reporting cycle (2015)	Current value (2017)
Total	100% (JMP) Or 81 % (Connected with public sewerage system)	100% (JMP) Or 82% (Connected with public sewerage system)	100% (JMP) Or 83% (Connected with public sewerage system)
Urban			
Rural			

- 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

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 water³ falling under each defined class (e.g., for European Union countries and other countries following the European Union Water Framework Directive⁴ classification, the percentage of surface waters of high,

³ Please specify.

⁴ 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.

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.).

(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 (2014)</i>	<i>Current value (2017)</i>
High status	8	10	5
Good status	521	450	384
Moderate status	191	237	294
Poor status	28	49	63
Bad status	0	3	3
Total number/volume of water bodies classified	748	749	749
Total number/volume of water bodies in the country	750	750	750

(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 (2014)</i>	<i>Current value (2017)</i>
Good status	99%	89%	56%
Poor status	1%	11%	44%
Total number/volume of water bodies classified	750	37	18
Total number/volume of water bodies in the country	750	750	750

(iii) Status of groundwaters

<i>Percentage of groundwaters classified as</i>	<i>Baseline value (2009)</i>	<i>Value reported in the previous reporting cycle (2014)</i>	<i>Current value (2017)</i>
Good quantitative status	96%	97%	97%
Good chemical status	96%	79%	79%
Poor quantitative status	4%	3%	3%
Poor chemical status	4%	21%	21%
Total number/volume of groundwater bodies classified	25	39	39
Total number/volume of groundwater bodies in the country	25	39	39

(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 surface water chemical status, figures show as the status is worsening over the years. But this is not actually true. In 2009 chemical status was assessed based just on expert opinion and not for monitoring data, as monitoring was weak. In 2014 assessment was based on real monitoring data, however, not all the required parameters were always monitored. Only those waterbodies were assessed where monitoring data was available. In 2017 assessment was based on more comprehensive monitoring data (all relevant parameters were monitored) and again, assessment was made only for those waterbodies where monitoring data was available.

The characterization of status of groundwater is founded on hydrogeological basic network, which is divided into 39 groundwater bodies. Groundwater level was in 2017 measured at 244 observation wells with monitoring frequency of once a month or is carried out an automatic water level measurements. In order to monitor the changes in groundwater chemical composition, 225 water samples were in 2017 taken for general chemical analysis. During the 2017 weather conditions were favourable for restoration of groundwater resources. The results of monthly and annual average, minimum and maximum groundwater levels of monitoring wells, the results of chemical analysis and field measurements are transferred into groundwater monitoring database of Estonian environmental monitoring.

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.

<i>Water exploitation index</i>	<i>Baseline value (2009)</i>	<i>Value reported in the previous reporting cycle (2014)</i>	<i>Current value (2017)</i>
Agriculture	0,206%	0,0546%	0,0412%
Industry ^a	0,177%	0,513%	0,3334%

<i>Water exploitation index</i>	<i>Value reported in the</i>		
	<i>Baseline value (2009)</i>	<i>previous reporting cycle (2014)</i>	<i>Current value (2017)</i>
Domestic use ^b	0,259%	0,699%	0,3819%

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

Figure does not include cooling water for energy

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

Only public water supply systems with water use permits (>5 m3/d).

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.

Health Board is a Competent Authority in the field of communicable disease control, surveillance, prevention and in epidemiological risk analysis in Estonia.

Health Board Department of Communicable Diseases Surveillance and Control main tasks are the following:

- Surveillance and control of communicable diseases;
- Handling of CD Registry
- Early warning & response activities, including IHR
- Since 2011 HB has been officially nominated as Estonian Coordinating Competent Body (CCB).
- Experts from HB are nominated as contact points for disease specific programmes/networks and public health functions

- Supervision of implementation of immunization schedule, vaccination coverage in the population, forecasting/planning of vaccines
- National stockpile and distribution of vaccines, antiretrovirals for AIDS treatment and antidots
- Supporting activity for field epidemiologists on epidemiological surveillance and outbreak investigations
- Communication with public and professionals
- HCAI & AMR

Health Board has four regional services, which include country divisions. The regional services conduct surveillance and provide enforcement in the following areas: preservation of the cold chain for vaccination coverage in the population, outbreak investigation, drinking water and natural mineral water, swimming pools and natural bathing waters, schools, pre-school establishments, and childrens camps.

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.

In the past years a lot of attention was paid to the diagnosing and registration of legionellosis.

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

Estonia ratified the Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes on 9th September 2003. Starting that date Estonia has been guided by the Protocol. According to Article 6 Estonia has set national targets in order to ensure implementation of the Protocol. Estonia as a member of the European Union must implement the EU water policy. The aim and idea of the Protocol coincide a lot with the water policy in the EU. For several issues targets are set as legal requirements in legal acts. One of the main target is ensuring appropriate sewage collection and treatment for all the residents. During the reporting period a lot of success has been achieved to reach the target. Percentage of people connected with public sewerage system rised to 83% in 2017. 100% of WWTPs are in conformity with the UWWTD requirements in the agglomeration areas more than 2000 pe. And even more, WWTPs fulfill the HELCOM convention requirements, which has much higher treatment standards than is set in UWWTD. New wastewater treatment plants have been built and existing ones have been reconstructed. Huge investments have been done to sanitation systems and therefore, all Estonian cities are covered with public sewerage systems and urban wastewater treatment plants. In future, more attention should be paid to rural areas sanitation systems.

We have made significant investments to comply with drinking water and wastewater directives since 2004. Approximately 1,5 billion euros have been invested using EU funds, Estonian Environmental Investment Centre aid and water companies and municipalities own contribution. What's important to highlight is that more than 50% of the environmental funds

money that have been available in Estonia, have been used to build and upgrade our water infrastructure. This has been possible as we have taken the achievement of compliance with drinking water and wastewater directives very seriously and this has been the priority of our government in the environmental sector since the accession.

The results are obvious – pollution load have been decreased significantly, at the same time the amount of wastewater is relatively constant during this period.

In 2004 Ministry of the Environment of Estonia took the initiative and restructured smaller water companies to regional companies, which serve several municipalities together, altogether 40% of the municipalities are operated by regional water companies. Regional water companies ensure better service quality and lower price of water, ensure efficient management and higher competence of water service. But not all water companies have yet joined into regional companies. Today we are convinced that regional water companies are the right solution for us to ensure sustainable water service in long term. Thus, for instance, when there is a question whether to give financial support to the water company, we always give preference to a regional water company. Thus we are continuing promoting the consolidation of water companies

To help the municipalities to tackle the environmental goals in water management, Ministry of the Environment has prepared guidelines for the municipalities how to regulate the supervision of the individual sewerage systems.

Since 2018 Ministry of the Environment launched a new measure to financing households for connecting to public water and sewerage system in agglomerations over 2000 pe, which turned out to be very popular.

In 2012 the Water and Health Safety Information System (<https://vti.sm.ee/>) was launched. The system was developed and taken into use out by the Ministry of Social Affairs and the Health Board. The system allows water and mineral water producers, pool and bathing water owners to send data about their water quality via internet to the Health Board inspectors. Health Board uses this system to create reports about waterworks. The public and consumers have access to data on their water quality via Health Board's homepage linked to the Water and Health Safety Information System (vtiav.sm.ee). Health Board is using this information system for risk based approach and by the Ministry of Environment for planning financial support for drinking water producers.

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.

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).

In 2016 the Health Board carried out a study

"Conditions for Personal Care in Schools".

The aim of the study was to evaluate the conditions for ensuring personal hygiene in schools and to get an overview of where the children in general are satisfied with showers, toilets and hand washing possibilities in their schools. The study included questionnaires. The on-site observation operation carried out by the Health Board inspector also included the Government of the Republic of Estonia regulation No. 84 "Health Requirements for Schools" requirements for toilets and showers, which were checked during the on-site inspection. In total, 132 schools (25%) of the Estonian general education schools participated. For each school, two classes (8-12 grade children) answered the questionnaire.

A brief summary of the study:

1. Satisfaction with school toilet: 63% of children were satisfied with toilet rooms. 61% of them found the toilet is clean, 32% thought it was not and 6% did not know the state of the toilet. When was asked whether school staff does something to solve a problem when hear complaints about toilets, answered "yes" 37%, and 46% said they have not had problems with toilets. The main disadvantage in toilet rooms is the missing toilet paper. Its was also mentioned that they do not love public toilets because there is no privacy or mentioned broken cab locks.

2. Satisfaction with hand washing opportunities: 84% of children were satisfied with the possibilities of hand washing at school, 16% were not satisfied. The reasons for discontent were mostly the lack of soap or paper towels.

3. Satisfaction with shower rooms: 63% of children were satisfied with shower rooms in school. The others named disadvantages like: too small shower rooms, no time to wash, windows cannot be opened in dressing room, showers do not work or water pressure is too weak, cabs do not have doors, no privacy, no fresh air. 49 % of respondents named that they do not have enough time to use shower rooms - more than half of respondents mentioned they use the shower rooms after school hours.

The summary of the study is available only in Estonian on Health Board website: <https://www.terviseamet.ee/sites/default/files/isiklikuhuegieenitagamisetingimused.pdf>

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.

Estonia has transposed Commission Directive (EU) 2015/1787 06.10.2015 amending Annexes II and III to Council Directive 98/83/EC on the quality of water intended for human consumption that regulates the risk based approach. Risk based approach have been implemented since 2017 and at the moment only one water work have applied risk-based approach. That water work is AS Tallinna Vesi, that supplies drinking water to about 463 000 consumers (which is 35% of the population).

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

According to the amended drinking water directive it is possible to implement risk-based approach.

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

<i>Percentage of population</i>	<i>Current value (2018)</i>
Total	35%

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).

In Estonia there are no disparities between different population groups and the access to drinking water and sanitation is both 100% in Estonia.

According to the Local Government Organisation Act (02.06.1993) the functions of a local authority include the organisation, in the rural municipality or city, the supply of water and sewerage unless such functions are assigned by law to other persons.

According to the Public Water Supply and Sewerage Act (10.02.1999) the prices for water services shall not be discriminatory with regard to different clients or groups of clients.

The Estonian Competition Authority implements price regulation (including approving the prices) and market supervision in the fields of public water supply and sewage. The Competition Authority is in the area of government of the Ministry of Justice. The Competition Authority worked out the recommended principles for calculation of prices for water services and these are prepared and published on its website.

Part seven

Information on the person submitting the report

The following report is submitted on behalf of Merike Jürilo [name of the Party, Signatory or other State] in accordance with article 7 of the Protocol on Water and Health.

Name of officer responsible for submitting the national report: Leena Albreht

E-mail: leena.albreht@terviseamet.ee

Telephone number: +372 794 3525

Name and address of national authority: Health Board, Paldiski road 81, Tallinn 10617

Signature:

Date:

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.

Joint Secretariat to the Protocol on Water and Health

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