

# 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*

In Portugal the target setting process and effective implementation occurred during the previous reporting period. Nevertheless, the official publication only took place in 2021, through the publication of the Portuguese order n. 2064/2021, of 24th of February. The targets were also communicated to the Secretariat in 2021.

This period coincided with the end of the PENSAAR 2020, the Portuguese strategic plan for the water sector. Therefore, in this report, besides evaluation of the evolution of the Protocol's objectives, the achievements of the national strategy for 2020 is also evaluated.

In general, there was a positive evolution for all indicators, considering their respective baselines. However, it was found that, for some of the goals set for 2020, the value of the indicator still fell short of the objective. These may be explained from the very ambitious goals set, also the pandemic situation was one of the factors that contributed to some of the goals not achieving the proposed value.

In addition to the present triennial report, in the order n. 2064/2021, PT established the obligation to carry out the annual monitoring of the objectives of the Protocol, and the public disclosure of a report. This report will constitute the starting point to carry out the review of the objectives and/or indicators that have been established and whose goals have not been achieved yet.

Considering the above mentioned and the fact that deadline to achieve some of the goals was 2020, PT will soon start a review phase of the Protocol objectives, considering the results of PENSAAR 2020, the new strategic plan for 2030 – the PENSAARP 2030, the new generation indicators of quality of service (4th generation) and the new challenges arising from the pandemic situation experienced in the last two years, as well as the recent energetic crisis in Europe. The review will continue to be in line with the SDG targets for 2030.

## Part one General aspects

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

*Please provide detailed information on the target areas in part two.*

YES  NO  IN PROGRESS

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

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

*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.*

Target and target dates were published and made available through the publication of the Portuguese order n. 2064/2021, of 24<sup>th</sup> of February. The targets were also communicated to the Secretariat in 2021.

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.

Under the supervision of the Ministry of Environment and Energy Transition and the Ministry of Health, a working group (WG) for target setting under the Protocol on Water and Health was established and includes members of the Water and Waste Services Regulation Authority (ERSAR), which is the focal point of the Protocol and coordinates its activities, the Portuguese Environment Agency (APA) and the General Health Directorate (DGS). Later in the target setting process, the Águas de Portugal (AdP) group joined the WG. ERSAR is the regulation authority for drinking water supply, wastewater management and municipal waste management services and the national authority for drinking water quality, an independent entity with management, administrative and financial autonomy and regulatory and supervisory functions that aims to ensure that the services it regulates respect the principles of universal access, uninterrupted, efficient, and high-quality service at affordable prices. APA is a public institute within the scope of the Portuguese Ministry of the Environment and Energy Transition, with the mission to propose, develop and monitor, on an integrated and participated manner, the public policies for the environment and sustainable development, in close cooperation with other sectoral policies and public and private entities. DGS is a public organism within the Ministry of Health, and has the mission to regulate, guide and coordinate activities to promote health and disease prevention, defining the technical conditions for providing adequate health care, plan, and program the national policy for quality in the health system and ensure the development and implementation of the National Health Plan and also the coordination of international relations of the Ministry of Health. AdP group plays a structural role in the environment sector in Portugal, operating nationwide and providing services to the municipalities that are simultaneously shareholders in the company's managing the multi-municipal systems ("bulk" systems) and directly serving their populations through municipal level services ("retail" systems) for water supply and sanitation.

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.

With the target setting progress and respective indicators, a full set of measures was identified to implement the Protocol and to achieve the targets. The measures were selected taken to account Portuguese Strategic plans and legislation, where financial considerations are already predicted. Therefore, specifically for the Protocol, there was no need to account for additional financial arrangements.

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?

After the target setting process developed by the WG, the targets and target dates were subject to a public consultation process, which included an online consultation and a public participation session. Invitation to participate in the public consultation was made to all major

stakeholders of the water and health sectors, through direct email contact of the list of ERSAR contacts, which includes all water/wastewater stakeholders in the country, NGO, private sector companies and public institutions on environment and health. Public consultation process was also advertised in the websites of ERSAR, APA and DGS. The same channels were used to publicise the public participation session.

After the public consultation process, a report containing all the suggestions and contributions from the various stakeholders was published in ERSAR's website. Some of the suggestions were included in the final version of the target setting document, and for those that were not accommodated, an explanation was provided.

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.

This report was prepared by the WG public authorities (ERSAR, APA, DGS and AdP) with ERSAR's coordination under the supervision of the Ministry of Environment and Energy Transition and Ministry of Health.

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.

Portugal has a centralized decision-making structure. The information in the report only concerns Portugal mainland therefore excluding the islands of Madeira and Azores.

## **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 a.1: Maintenance of the water quality

Monitoring indicator: % of population served by safe water (which is ERSAR Safe water indicator AA04b);

The indicator "AA04b - Safe water indicator" is defined as the percentage of controlled and good quality water, which is the product of the percentage compliance with the sampling frequency and the percentage compliance with the parametric values established in the legislation on parameters subject to routine control 1, routine control 2 and inspection control, as defined in Annex II of Decree-Law 306/2007, of 27 August, altered by Decree-Law 152/2017, 7th December).

Baseline: 99 % in 2016; Target: Annual target is 99 %

Target a.2: Implementation of risk analysis in water supply systems

Monitoring indicator: % of population served with water that was subjected to a risk analysis;

Baseline: 27 % in 2016; Target: 40% in 2020 and 100 % in 2023

Targets were established according to national (Decree-Law 306/2007, 27th August, altered by Decree-Law 152/2017, 7th December) and EU (Drinking Water Directive) legislation. For target a.2 the Portuguese legislation requires that in 2023 all supply zones should have the water quality programmes based in risk analysis.

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).

Measures to reach the targets:

- a.1.1: Implementation of the water quality programme according to the legislation; Decree-Law 306/2007, 27<sup>th</sup> August, altered by Decree-Law 152/2017, 7<sup>th</sup> December;

- a.2.1: Establishment and implementation of risk analysis evaluation according to the legislation: voluntary risk evaluation in 2020; mandatory risk evaluation for all supply zones in 2023;

- a.2.2: Continuing the training and development of guidance to water utilities on risk analysis. Training sessions and dedicated meetings with the water suppliers concerning drinking water risk analysis were carried out during 2020 and 2021.

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

For target a.1 in 2020 the target value remained 99% (same as baseline), which is consistent with the target itself, which is the maintenance of 99 % of water quality in PT.

Regarding the target a.2, several training sessions for water suppliers were carried out by ERSAR in 2020, in virtual format. The main challenges faced were the lack of awareness concerning risk analysis process, especially for smaller water suppliers. The training sessions were important to raise awareness. Some of the water suppliers are overcoming the lack of knowledge by subcontracting experts on risk analysis and performing a joint work with regional groups of water suppliers and experts. A document was prepared by the General Health Directorate, to support water suppliers on the risk analysis severity scale definition. An online application was also developed by ERSAR, where water suppliers submit their risk analysis process to ERSAR's approval.

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 targets set in this area contribute to fulfilling the national and EU legislation and are in accordance with SDG 6, in particular goal 6.1 Equitable and universal access to safe Drinking Water

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

Not applicable

## **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.

The main purposes are to strengthen the legislative framework for the prevention and control of Legionnaires' Disease and to improve detection and surveillance of waterborne diseases.

Target b.1: Publication of specific legislation regarding Legionnaires' Disease

Baseline: - ; Target: Publication in 2020

Publication of Law No. 52/2018 of August 20, which lays the bases for the Program for Primary Prevention and Control of legionella bacteria.

Defines the main levels of intervention depending on the type of risk associated with equipment that uses water and forms aerosols at evaporative cooling equipment (cooling towers, evaporative condensers), associated with HVAC equipment or industrial cooling water, or those associated with building hot or cold water networks, or sprinkler irrigation systems, ornamental fountains, recreational water (jacuzzi pools), water for therapeutic purposes etc...

Covers all sectors of activities, defines the responsibility of the owners of the equipment and associated systems, defines the penalties and the role of the various entities with responsibility in the supervision.

Target b.2: Improvement of existing epidemiological surveys regarding the notification of waterborne diseases

Baseline: Base models from DGS ; Target: Proposal presentation in 2022

Since 2014, the development of the national system epidemiological surveillance information (called SINAVE), through Ordinance No. 248/2013, of August 6, and later in 2016, the electronic platform for the laboratory notification (SINAVE Lab), allowed to improve the notification of diseases of mandatory declaration, including those in which water can be the means of transmitting.

It was also foreseen the improvement of research models with regard to Mandatory Declaration Diseases, potentially associated with the water component, but there is still some lag in its implementation due to the pandemic situation related to SARS COV 2 with many of the available resources allocated to this problem.

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).

There have been some advances in these last years from a legal framework point of view, with the publication of Ordinance No. 25/2021, of January 29, which establishes the classification of risks and the minimization measures to be adopted by the owners of the equipment provided for in Law No. 52/2018 of August 20, based on the different values defined for the concentration of Legionella spp and on the presence of Legionella pneumophila. In the event of high risk, equipment managers must notify the Health Authorities and submit a report with the minimisation measures implemented.

The publication of Order No. 1547/2022 of 8 February, the Offices of the Assistant Secretary of State and Health and the Secretary of State for the Environment, determines the technical

procedures for carrying out the water quality monitoring and treatment programme, whether associated with the water supply networks of hot and cold water and evaporative cooling equipment. Another step has been taken with the tools that support the legionnaires disease prevention and control programme.

It was also published, in 2018, the 3rd edition of the technical document "Prevention and Control of Legionella in Water Systems" from the Water Sector Commission" CS04 of the Portuguese Institute of Quality, which had the active collaboration of the Directorate General of Health. Soon we are expecting the publication of a new edition, which brings developments in the scope of risk assessment.

Several training actions were carried out in which the Directorate General of Health has participated, both in industrial associations, private sector and even in the public sector, in with the participation of engineers and consultants, and also involving Seminars and Workshops.

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

The main progress is related to the responsibility of the owners of the equipments systems in the implementation of the prevention and control programs for evaporative cooling equipment and sanitary hot water networks, at the level of the hotel and tourism sector, and at the hospital level, with the implementation of Legionella's Operational Intervention and Environmental Prevention Program (Order No. 10285/2017, of September 27, from the Office of the Assistant Secretary of State and Health).

There was also an improvement in the implementation of prevention and control programs in the level of evaporative cooling systems, at industrial sector.

It is also planned to implement the electronic platform for the registration of evaporative cooling equipments, associated with a geographic information system, which some progress are expected by 2023.

Progress is also being made to develop the methodology for the accreditation of auditors by the Portuguese Institute of Accreditation (IPAC).

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 objectives contribute indirectly to the objectives of sustainable development, namely SDG3 "Good Health and Well-Being", SDG 13" Climate Actions, and are in line with WHO Europe policy, which is "Healthy Environments for Healthier People" which develops in 3 lines of action, Living and Working Environments, Water and Climate and Environmental and Health Impact Assessment.

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

Not applicable

### **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.

In Portugal, more than 95% of the population is served by public drinking water supply systems. Presently, it is necessary to gather efforts to enhance the use of the existing facilities,

by promoting the connection to the service of population that has public drinking water supply networks available.

Target c.1: Increasing the level of connection to the water supply system by end users

Monitoring indicator: % of households located in the utility's intervention area with satisfactory<sup>1</sup> evaluation in ERSAR's indicator "AA07b – Connection to the service".

The indicator "AA07b – Connection to the service" is defined as the percentage of the number of households located in the utility's intervention area for which water supply infrastructures are available and have effective service (with a service connection and contract, even if temporarily suspended during part of the year under review).

Baseline: 50% in 2011 ; Target: 80% in 2020

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 legal framework concerning municipal water sector systems (Decree-Law 194/2009, from 20th of august) is under revision. Utilities are continuing the execution of service connections, aiming to increase the level of connection to the water supply system. Every year ERSAR evaluates water suppliers on this indicator, and the results are made public - this benchmarking promotes improvement (sunshine regulation).

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

In 2020, the indicator value was 54 %, which is still lagging far behind the target goal for 2020. This indicator as well as the measures contained in the objectives of the Protocol must be reassessed in the review of the indicators to be carried out during 2022.

The challenge results from the local autonomy of the municipalities, given by the legal framework, which prevents the management entities to apply the fines provided for by law, from not connecting to the water supply system. Only the municipalities are able to enforce the law, which creates a problem when the management utility is not the municipality.

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

The target set in this area is in line with the national strategic plan for the water sector (PENSAAR 2020) and is also in accordance with SDG 6, in particular with the goal 6.1 Equitable and universal access to safe Drinking Water.

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

Not applicable

#### **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.

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<sup>1</sup>By satisfactory evaluation it is meant with good or average service quality evaluation in a certain indicator of the assessment system of the quality of service provided to users by water utilities in Portugal, promoted by ERSAR on an annual basis.

In Portugal, around 82% of the population is served by public wastewater sewerage and treatment systems. Presently, it is considered that the adoption of on-site systems for small settlements in isolated areas can be economically and environmental sustainable.

It is also necessary to gather efforts to enhance the use of the existing facilities, by promoting the connection to the service of population that has sewerage network available.

Target d.1: Increasing the level of service coverage through sewerage networks

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR01ab – Service coverage through sewerage networks"

The indicator "AR01 – Coverage through sewerage networks" is defined as the percentage of the total number of households located in the utility's intervention area for which collection and drainage service infrastructures are available.

Baseline: 67% in 2011; Target: 100% in 2020

Target d.2: Increasing the level of service coverage through sewerage networks and controlled on-site systems

Monitoring indicator: Service coverage through sewerage networks and controlled on-site systems (%)

The indicator "Service coverage through sewerage networks and controlled on-site systems" is defined as the percentage of the total number of households located in the utility's intervention area for which sewerage infrastructures or controlled on-site systems are available.

Baseline: 84% in 2016; Target: 90% in 2020

Target d.3: Increasing the level of connection to the wastewater management system by end users

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR06b – Connection to the service"

The indicator "AR06 – Connection to the service" is defined as the percentage of the total number of households located in the utility's intervention area for which the wastewater service infrastructure is available and is effectively provided (with the existence of a service connection and contract).

Baseline: 48% in 2011; Target: 80% in 2020

Target d.4: Increasing the number of households for which sewerage networks are available and connected to treatment plants

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR11b – Accessibility to the wastewater treatment"

The indicator "AR11b – Accessibility to the wastewater treatment" is defined as the percentage of the number of households located in the utility's intervention area for which sewerage networks are available and connected to a treatment plant.

Baseline: 74% in 2011; Target: 100% in 2020

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).



- d.1.2: Expansion of wastewater management systems as result of demand and economic-financial sustainability studies;
- d.2.1: Development of wastewater management infrastructures register;
- d.2.2: Implementation of management systems for the transport, treatment and final disposal of sludge from on-site systems;
- d.3.1: Revision of the legal framework (Decree-Law 194/2009);
- d.3.3: Execution of service connections to existing sewer networks;
- d.4.1: Connection of retail system infrastructures to bulk system infrastructures, in order to take advantage of the installed capacity in existing plants.

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

In 2020, the indicators values were:

d.1 – 86%, This indicator had a favorable evolution, however the target set for 2020 was not reached.

d.2 – 96 %, This indicator showed a positive evolution, having even exceeded the target set for 2020.

d.3 – 56 %, This indicator has not evolved in the last three years, falling short of the target set for 2020. This is a worrying aspect as it can translate into environmental, public health and sustainability problems for the managing entities, caused by the connection deficit of users.

The challenge is the same already reported on Target c.1. The strategic plan PENSAARP2030, considers that the adoption of on-site systems for small settlements in isolated areas is considered as a service that is being granted, so these systems should be considered on the service coverage indicator for the next years, when on-site systems are economically and environmentally more sustainable.

d.4 – 91 %, In the last three years under analysis, the variation of the indicator was irregular, although it is already close to the target established for 2020.

The above indicators as well as the measures contained in the objectives of the Protocol must be reassessed in the review of the indicators to be carried out during 2022.

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 targets set in this area are in line with the national strategic plan for the water sector (PENSAAR 2020) and are in accordance with SDG 6, in particular with the goal 6.2 "achieve access to adequate and equitable sanitation and hygiene for all".

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

Not applicable

## 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.

Given that the quality of drinking water is analyzed in chapter I, it was considered that the levels of performance of collective water supply systems can be measured by the number of service interruptions.

Target e.1: Decreasing of the number of water supply service interruptions.

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AA03ab – Service interruptions"

The indicator "AA03ab – Service interruptions" is defined as the number of service interruptions per delivery point (bulk systems) or per 1000 service connections (retail systems).

Baseline: 71% in 2011; Target: 100% in 2020

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 reach the target and ensure satisfactory levels of performance, water utilities are implementing the following measures:

- e.1.1: replacement or rehabilitation of mains;
- e.1.2: rehabilitation or installation of pumping systems;
- e.1.3: rehabilitation of water storage tanks or construction of new ones with higher capacity;
- e.1.4: Interconnection of systems in order to reinforce available flows.

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

In 2020, the indicator value was 91%, close to the target established to 2020. In the last three years under analysis, the variation of the indicator was irregular, although it is already close to the target established for 2020.

Rehabilitation is one of the biggest challenges in the sector, considering the investments needed to ensure the minimums recommended by ERSAR. The lack of investment capacity is related to the fact that many water suppliers do not recover their costs.

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

The target set in this area is in line with the national strategic plan for the water sector (PENSAAR 2020) and is in accordance with SDG 6.

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

Not applicable

## **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.

Regarding collective wastewater sanitation systems, it was considered that performance levels should be measured by assessing the compliance with the discharge permit.

Target e.2: Increasing of the number of treatment facilities that comply with the discharge permit.

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR13ab – Compliance with discharge permit"

The indicator "AR13ab – Compliance with discharge permit" is defined as the percentage of the equivalent of the population that is served with treatment plants that ensure compliance with the discharge permit.

Baseline: 30% (bulk service) and 39% (retail service) in 2016; Target: 80% (both bulk and retail services) in 2020

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 reach the target and ensure satisfactory levels of performance, water utilities and national entities are implementing the following measures:

- e.2.1: Water utilities: construction of new wastewater treatment plants (WWTP) or upgrade or rehabilitation of existing plants, in order to increase efficiency or overcome situations of non-compliance with the discharge permit;
- e.2.2: National entities: development of inspection actions to detect situations of non-compliance with the discharge permit.

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

In 2020, the target value was 84% for bulk service and 56% for retail service, still lagging far behind the target set to 2020. This indicator as well as the measures contained in the objectives of the Protocol must be reassessed in the review of the indicators to be carried out during 2022.

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

The target set in this area is in line with the national strategic plan for the water sector (PENSAAR 2020) and is also in accordance with SDG 6, in particular with the goal 6.2 "achieve access to adequate and equitable sanitation and hygiene for all".

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

Not applicable

## **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.

The application of recognized good practices to the management of sanitation services can be assessed by the results achieved regarding energetic efficiency, the application of a tariff that allows the recovery of expenses and the reduction of real water losses. In this sense, the following targets were established:

Target f.1: Increase the knowledge on the number of abstractions with “Water Resources Permit”.

Monitoring indicator: % of the volume of water abstracted known in licensed abstractions.

Baseline: 65 % in 2016; Target: 80 % in 2021 and 100 % in 2027

Target f.1 was established according to national Water Resources Use Regime (Decree-Law no. 226-A/2007, of 31 May). With regard to the protection of the water sources/abstractions used in the water supply services, it is important to promote the request of the “Water Resources Permit” for all abstractions in operation, in order to ensure and verify compliance with the legal requirements.

Target f.2: Increasing of self-produced energy in water supply infrastructures

Monitoring indicator: Ratio "Self-produced energy/Energy consumption"

Baseline: 0,18% in 2011; Target: progress indicator

Target f.5: Sustainable recovery of expenses incurred in the provision of water supply services

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AA06b – Cost recovery ratio"

The indicator "AA06b – Cost recovery ratio" is defined as the ratio between total income and gains and total costs.

Baseline: 46% in 2011; Target: progress indicator

Target f.7: Decreasing of real water losses in the water supply systems.

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AA12b – Real water losses"

The indicator "AA12 – Real Water losses" is defined as the volume of real losses by service connection.

Baseline: 43% in 2011; Target: 80% in 2020

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).

To meet the targets the following measures are being implemented:

- f.1.1: Promotion of law enforcement actions to detect situations of non-compliance with abstraction permit;
- f.2.1: Performance of energy audits to wastewater management systems;
- f.2.2: Development of studies and implementation of projects in order to improve energy efficiency in water supply systems (e.g. installation of turbines instead of pressure reducing valves), or the production of renewable energy in infrastructures (e.g. installation of photovoltaic panels in water storage tanks, buildings, pumping stations);
- f.2.3: Adoption of energy efficiency measures in water supply systems, both infrastructural and optimization of operational procedures;
- f.5.1: The "Tariff recommendation for the water sector" was published by ERSAR on march 2022.
- f.5.2: Limit access to european funding for entities which do not report this indicator to ERSAR under the scope of the annual cycle of quality of service assessment.
- f.7.1: Development of studies regarding water losses in water supply systems and implementation of measurement and control areas;
- f.7.2: Implementation of measures to reduce water losses in water supply systems, including rehabilitation, renovation and replacement of pipes and accessories;
- f.7.3: Implementation of measures to ensure permanent detection and control of water losses through the installation of new equipment and training of responsible teams.
- f.7.4: Notices for funding applications to water suppliers to reduce water losses in the scope of POSEUR - Portuguese program for the allocation of the European Structural and Investment Funds.

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

In 2020, the target values were: f.1 the target value is 78 % in 2019,13 percentage points higher than the baseline; f.2 – 1,87%, 1,69 percentage points higher than in the baseline; f.5 – 61%, 15 percentage points higher than in the baseline; f.7 – 66%, still lagging behind the target established for 2020. This indicator as well as the measures contained in the objectives of the Protocol must be reassessed in the review of the indicators to be carried out during 2022. The main challenge is on the implementation of measures to reduce water losses.

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

Target f.1 contributes to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.4 “substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity, and substantially reduce the number of people suffering from water scarcity”.

Targets f.2, f.5 and f.7 are in line with the national strategic plan for the water sector (PENSAAR 2020) and are also in accordance with SDG 6, in particular with the goal 6.1 Equitable and universal access to safe Drinking Water.

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

Not applicable

## **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.

The application of recognized good practices to the management of sanitation services can be assessed by the results achieved regarding energetic efficiency, the occurrence of sewer collapses and the application of a tariff that allow the recovery of expenses. In this sense, the following targets were established:

Target f.3: Increasing of self-produced energy in wastewater management infrastructures

Monitoring indicator: Ratio "Self-produced energy/Energy consumption"

Baseline: 3.84% in 2011; Target: progress indicator

Target f.4: Decreasing in the number of collapses in sewers

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR08b – Sewer collapses"

The indicator "AR08 – Sewer collapses" is defined as the number of collapses in sewers per 100 km of sewers.

Baseline: 61% in 2011; Target: 80% in 2020

Target f.6: Sustainable recovery of expenses incurred in the provision of wastewater management services

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR05b – Cost recovery ratio"

The indicator "AR05b – Cost recovery ratio" is defined as the ratio between total income and gains and total costs.

Baseline: 38% in 2011; Target: progress indicator

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).

To meet the targets, water utilities are implementing the following measures:

- f.3.1: Performing energy audits to wastewater management systems;
- f.3.2: Conduct studies and implementation of projects in order to improve energy production capacity in wastewater systems (e.g. sludge codigestion in the WWTP), namely through the use of biogas or the production of renewable energy in infrastructures (e.g. photovoltaic panels);
- f.3.3: Adoption of energy efficiency measures in wastewater management systems, both infrastructural and optimization of operational procedures;
- f.4.1: Replacement or rehabilitation of degraded sewers, rehabilitation of manholes, increase of capacity of pumping systems and implementation of sewers' cleaning routines;

- f.6.1: The "Tariff recommendation for the water sector" has just been published by ERSAR.

- f.6.2: Limit access to european funding to entities which do not report this indicator to ERSAR during the quality of service annual evaluation cycle.

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

In 2020, the indicator values were:

- f.3 – 8,45%, 4,61 percentage points higher than in the baseline;

- f.4 – 66%, 5 percentage points higher than in the baseline. This indicator has shown an irregular evolution in the last three years, and despite the fact that in 2019 it was already close to the established target, it was found that in 2020 the value dropped again and the target set for 2020 was not met.

- f.6 – 59%, 21 percentage points higher than in the baseline.

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

The target set in this area is in line with the national strategic plan for the water sector (PENSAAR 2020) and is also in accordance with SDG 6, in particular with the goal 6.3 "improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally".

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

Not applicable

## **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.

The occurrence of discharges of untreated wastewater is assessed by the evaluation of the following target:

Target g.1: Increasing in the number of households for which sewerage networks are available and connected to a treatment plant

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR11b - Accessibility to the wastewater treatment"

The indicator "AR11b – Accessibility to the wastewater treatment" is defined as the percentage of the number of households located in the utility's intervention area for which sewerage networks are available and connected to a treatment plant.

Baseline: 74% in 2011; Target: 100% in 2020

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).

To meet the targets and minimize the occurrence of discharges of untreated wastewater, water utilities are implementing the following measures:

- g.1.1: connection of existing sewerage networks to constructed WWTP or construction of new WWTP in settlements already served by sewerage network;

- g.1.2: execution of remodeling works, improvement and/or construction of new sewerage systems and/or WWTP justified from cause-effect and cost-benefit relationships.

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

In 2020, the indicator value was 91 %. In the last three years under analysis, the variation of the indicator was irregular, although it is already close to the target established for 2020.

The above indicator as well as the measures contained in the objectives of the Protocol must be reassessed in the review of the indicators to be carried out during 2022.

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

The target set in this area is in line with the one established in the national strategic plan for the water sector (PENSAAR 2020) and is also in accordance with SDG 6, in particular with the goal 6.3 "improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally".

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

Not applicable

## **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.

The occurrence of discharges of untreated storm water is assessed by the evaluation of the following target:

Target g.2: Increasing the control of emergency discharges of untreated wastewater to the receiving environment

Monitoring indicator: % of households located in the utility's intervention area with satisfactory evaluation in ERSAR's indicator "AR12 – Control of emergency discharges"

The indicator "AR12 – Control of emergency discharges" is defined as the percentage of weirs with direct discharge into the receiving environment that are monitored and operate satisfactorily.

Baseline: 17% in 2016; Target: Progress indicator

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).

To meet the targets and minimize the occurrence of discharges of untreated storm water, water utilities are implementing the following measures:



- g.2.1: Development of plans and studies regarding I/I [infiltration (groundwater) and inflows (flows through manholes or unauthorized connections)] in sanitation sewer networks in order to define good practices in organizations that tend to reduce I/I;
- g.2.2: Identification of untreated wastewater discharge points on problematic sewer sections, supported by CCTV inspections;
- g.2.3: Repair of sewers and manholes with leakage problems.
- g.2.4: Benchmarking the indicator results nationwide by ERSAR (benchmarking regulation - public annual report), which promotes wastewater management entities to take actions.

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

In 2020, the indicator value was 37%, 20 percentage points higher than in the baseline. This indicator has had a very irregular evolution in the last three years, suggesting an assessment of the indicator objective and definition in the review of the indicators.

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

The target set in this area is in line with the one established in the national strategic plan for the water sector (PENSAAR 2020) and is also in accordance with SDG 6, in particular with the goal 6.3 "improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally".

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

Not applicable

## **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.

Target h.1: Increase in the number of urban wastewater treatment plants complying with the discharge requirements.

Monitoring indicator h.1: % of urban wastewater treatment plants with a population served  $\geq 2000$  e.p. complying with the discharge requirements of the Urban Waste Water Treatment Directive (UWWTD).

Baseline: 84 % in 2016; Target: 95 % in 2021

Target h.1 was established according to Directive 91/271/EEC of the Council of 21 May 1991 (Urban Waste Water Directive) subsequently amended by Directive 98/15/EC of the Commission of 27 February 1998 and by Regulation (EC) 1882/2003 of the European Parliament and of the Council of 29 September 2003, and transposed into national law by Decree-Law no. 152/97, of 19 June 1997 (amended by Decree-Laws no. 149/2004, of 22 June, no. 198/2008, of 8 October, and no. 133/2015, of 13 July) and by Decree-Law no. 348/98, of 9 November. This Directive covers the discharge of urban wastewater from agglomerations with a population equivalent (p.e.) of more than 2 000 in freshwater and estuaries, as well as discharges from agglomerations with a p.e. of more than 10 000 in coastal waters, which must be subjected to secondary treatment if they reject in a normal zone or

more advanced than the secondary if they reject in sensitive zones and have a size  $\geq 10\ 000$  p.e. and establishes the discharge conditions of urban wastewater in the aquatic environments.

Target h.2: Increase in the number of industrial wastewater treatment plants complying with the discharge requirements.

Monitoring indicator h.2: % of industrial wastewater treatment plants complying with the discharge requirements of the Industrial Emissions Directive.

Baseline: – ; Target: 80 % in 2021

Target h.2 was established according to Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) and transposed into national law by Decree-Law no. 127/2013, of 30 August, which establishes the industrial emissions regime applicable to integrated pollution prevention and control, as well as the rules to avoid and/or reduce emissions on air, water and soil and waste generation in order to achieve a high level of protection of the environment as a whole and of water resources in particular.

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).

Measures

- h.1.1 and h.2.1: Promotion of law enforcement actions and inspection actions in order to detect situations of non-compliance with the permit discharge requirements.

- h.1.2 and h.2.2: Interventions to increase the efficiency of wastewater treatment systems through the construction and rehabilitation of wastewater treatment plants.

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

For target h.1 in 2018 the target value is 87 % (please note that the report of the UWWTD is biennial).

For target h.2 in 2018 the target value is 61 %, still somewhat distant from the target established for 2021 (80%).

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 targets set in this area contribute to fulfilling the national and EU legislation and are also in accordance with SDG 6, in particular with the goal 6.3 “improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”.

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

Not applicable

## **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.

Target i.1: Absence of disease cases proven to be related to the reuse of treated urban wastewater and to the application in agriculture of sewage sludge from wastewater treatment plants.

Monitoring indicator i.1: Number of disease cases proven to be related to the reuse of treated urban wastewater and to the application in agriculture of sewage sludge from wastewater treatment plants.

Baseline: there is no systematization of information; Target: 0 in 2027

Target i.1 was established according to national Decree-Law no. 276/2009, of 2 October, that establishes the regime for the use of sewage sludge in agricultural soils, transposing into national law the Directive 86/278/EEC of the Council of 12 June 1986, in order to avoid harmful effects on humans, water, soil, vegetation and animals, by promoting its correct use.

So far, there have been no reported cases of Diseases associated with the reuse of treated wastewater, either in agriculture or for other purposes (watering green spaces or washing streets), and there are still few projects underway.

As for the use of sludge from Wastewater Treatment Stations for agricultural purposes, control is incumbent upon the Ministry of Agriculture bodies and opinions are occasionally requested from the Health Authorities.

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).

Measure

- i.1.2: Revision of the current legal framework and development of specific regulation on the quality of the product and the conditions of exercise of the activity.

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

It was not possible to proceed with this, largely due to the occurrence of the SARS COV2 pandemic situation, since most health professionals were affected by this problem, which became a priority for the Health Sector.

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

The target set in this area contributes to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.3 “improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”.

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

Not applicable

### **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.

Target i.1 – Absence of disease cases proven to be related to the reuse of treated urban wastewater and to the application in agriculture of sewage sludge from wastewater treatment plants.

Monitoring indicator i.1: Number of disease cases proven to be related to the reuse of treated urban wastewater and to the application in agriculture of sewage sludge from wastewater treatment plants.

So far, there have been no reported cases of Diseases associated with the reuse of treated wastewater, either in agriculture or for other purposes (watering green spaces or washing streets), and there are still few projects underway

Baseline: There is no systematization of information; Target: 0 in 2027

Target i.1 takes into consideration the European Commission proposal for a regulation on minimum requirements for water reuse, adopting a “fit-for-purpose” approach (the development of appropriate reuse projects supported by a risk assessment methodology, with the adoption of multi-barrier criteria for risk reduction/minimization to an acceptable level).

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).

Measures

- i.1.1: Definition of specific standards appropriate to the type of use of wastewater treated through the application of a “fit-for-purpose” approach;
- i.1.2: Revision of the current legal framework and development of specific regulations on the quality of the product and the conditions of exercise of the activity.

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

In PT, due to expected reductions in water availability caused by an increase of water use and to the climate change effects, water reuse is becoming an important issue, with a number of studies and projects seeking to move forward.

In 2019, the publication of Decree-Law No. 119/2019, of 21 August, established the new legal regime for the production of water for reuse, obtained from the treatment of wastewater, as well as its use. A Guide for the implementation and management of water reuse projects is also in place.

These documents adopt a “fit-for-purpose” approach, i.e. the development of appropriate reuse projects supported by a risk assessment methodology, with the adoption of multi-barrier criteria for risk reduction/minimization to a level considered acceptable.

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

The target set in this area contributes to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.3 “improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”.

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

Not applicable

#### **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.

Target j.1: Compliance with the specific objectives of protected areas for the water abstraction for human consumption in accordance with the WFD (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000).

Monitoring indicator j.1.1: % of surface water bodies used for the water abstraction for human consumption, designated as protected areas, which fulfil the specific objectives, in accordance with the WFD (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000).

Baseline: 82 % in 2016; Target: 100 % in 2027

Monitoring indicator j.1.2: % of groundwater bodies used for the water abstraction for human consumption, designated as protected areas, which fulfil the specific objectives, in accordance with the WFD (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000).

Baseline: 90 % in 2016; Target: 100 % in 2027

Target was defined according to Decree-Law no. 236/98, of 1 August, that establishes quality standards, criteria and objectives for the purpose of protecting the aquatic environment and improving water quality in relation to its principal uses and determines, in Article 6 (surface water) and in Article 14 (groundwater), that waters intended for the production of drinking water have to be inventoried and classified. According to the WFD and the National Water Law, Portugal “shall identify, within each river basin district, all bodies of water used for the abstraction of water intended for human consumption providing more than 10 m<sup>3</sup> a day as an average or serving more than 50 persons, and also those bodies of water intended for such use in the future.

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).

Measures

- j.1.1: Implementation of measures, in particular those included in the River Basin Management Plans (RBMP), and establish new measures, if necessary, that contribute to the protection of the surface water bodies destined to the water abstraction for human consumption;

- j.1.2: Improvement of the assessment of the quality of surface water and groundwater abstraction for human consumption, within the framework of the implementation of the WFD, including the revision of Decree-Law no. 236/98, of 1 August, regarding to this subject.

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

For target j.1 monitoring indicators j.1.1 (surface water) and j.1.2 (groundwater) the target values are 74 % and 78 %, respectively. These values are lower than those reported in the 4th reporting cycle, mainly due to the increase in monitoring and its frequency (reduction of unknown situations) and could also be a result of the impacts of climate change.

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

The target set in this area contribute to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.1 “achieve universal and equitable access to safe and affordable drinking water for all”.

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

Not applicable

## **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.

Target j.2: High percentage of bathing waters with excellent classification and absence of bathing waters with bad classification.

Monitoring indicator j.2.1: % of bathing waters with bad classification.

Baseline: 1,1 % in 2014; Target: 0 %, annual

Monitoring indicator j.2.2: % of transitional or coastal bathing waters with excellent classification.

Baseline: 87 % in 2014; Target: ≥ 89 %, annual

Monitoring indicator j.2.3: % of inland bathing waters with excellent classification.

Baseline: 53 % in 2014; Target: ≥ 60 %, annual

Target was established according to Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006, regarding the management of bathing water quality, and transposed into national law by Decree-Law no. 135/2009, of 3 June, altered and republished by Decree-Law no. 113/2012, of 23 May (legislation which establishes the legal regime for the identification, management, monitoring and classification of bathing water quality and the provision of information to the public). According to this legislation, bathing waters are to be identified annually and their quality assessed.

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).

Measures

- j.2.1: Promotion of the coordination of relevant entities in the field of bathing waters management, including through the Portuguese Bathing Waters Management Commission;

- j.2.2: Adoption of the necessary actions to ensure the absence of bathing waters with bad classification and to ensure a high percentage of bathing waters with an excellent classification.

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

For target j.2 in 2020, the values of the indicators j.2.1 (bathing waters with bad classification), j.2.2 (transitional or coastal bathing waters with excellent classification) and j.2.3 (inland bathing waters with excellent classification) are, respectively, 0.5 %, 94 % and 77 %.

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

The target set in this area contribute to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.3 “improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally”.

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

Not applicable

## **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.

Target j.3: Compliance with the specific objectives of the protected areas of the WFD (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000) regarding the areas for production of live bivalve molluscs.

Monitoring indicator j.3 – % of surface water bodies designated as protected areas of the WFD regarding the areas for production of live bivalve molluscs which fulfil the specific objectives.

Baseline: 90 % in 2016; Target: 100 % in 2027

Target was established according to Directive 91/492/EEC of the Council of 15 July 1991, and transposed into national law by Decree-Law no. 112/95, of 23 May, that lays down the health conditions for the production and the placing on the market of live bivalve molluscs. Regulation (EC) 854/2004 of the European Parliament and of the Council of 29 April 2004 requires the definition and classification of production areas for live bivalve molluscs, defining “production area”, in accordance with Regulation (EC) 853/2004 of the European Parliament and of the Council of 29 April 2004, as any part of the sea, estuarine or lagoon area, containing either natural beds of bivalve molluscs or sites used for the cultivation of bivalve molluscs, where live bivalve molluscs are harvested.

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).

#### Measures

- j.3.1: Implementation of the measures, in particular those of the River Basin Management Plans (RBMP), and further measures, if necessary, to contribute to the protection of the areas for production of live bivalve molluscs.

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

For target j.3 in 2018 the target value is 82 %. One observes a reduction in the value of this indicator, 8 percentage points lower than the baseline, which can be related to differences in methodology of definition of production zones of shellfish waters.

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

The target set in this area contribute to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.6 “protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes”.

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

Not applicable

## **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.

Public health services have for many years carried out health surveillance programs, applied to coastal bathing areas and inland and transitional bathing areas, and also sanitary surveillance programs focused to public swimming pools

One of the objectives is to review the Health Directorate-General's standard for the sanitary surveillance program for public swimming pools, adapting it to the new scientific and technical knowledge in this area and concerning the emerging risks.

Another important aspect associated with those subjects is the use of natural mineral water and its application for thermal purposes provided for in Decree-Law 142/2004 of June 11.

In this sense, one of the aspects to be highlighted is the elaboration of the Program of Quality Control of the Natural Mineral Water in Thermal establishments, which must be elaborated and published at the beginning of all civil years to be implemented along each civil year in the thermal establishments.

Target k.1: Elaboration and publication of the Program of Quality Control of the Natural Mineral Water in Thermal establishments

Baseline: Decree-Law 142/2000 of 1 of June; Target: Annual publication

Target k.2: Revision of the Health Directorate-General's standard for the sanitary surveillance program for public swimming pools

Baseline: -; Target: Publication in 2019



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 main action was to create a Working Group to review the health surveillance program for public swimming pools, involving professionals from the different Departments of Public Health of the Regional Health Administrations and the General Directorate of Health.

At the level of the Quality Control Program for the natural mineral water in thermal establishments, improvements have been developed in order to safeguard the health of users and to promote health and well-being, the promotion of their dissemination and implementation in articulation with the regional health authorities and the local health authorities.

With regard to the Natural Mineral Water Quality Control Programmes in thermal establishments, slight changes have been published every year, whose monitoring of their implementation to the responsibility of the local health authorities in articulation with the Regional Health Authorities.

This use of water has not been covered for the occurrence of outbreaks or clusters.

Concerning the revision of the Orientation for the health surveillance program of water in swimming pools, there was a delay in its conclusion due the presence of the pandemic situation of SARS COV 2 and given the fact of a part of the resources were allocated to this problem.

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.

These objectives indirectly contribute to the objectives of sustainable development, in particular the SDG3 “ Good Health and Well-Being

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

Not applicable

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

*For each target set in this area:*

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

Target 1.1: Implementation of the corrective measures established in the 2nd planning cycle of the River Basin Management Plans (RBMP 2016-2021).

Monitoring indicator 1.1: Number of corrective measures foreseen in the 2nd planning cycle of the RBMP (2016-2021) implemented in contaminated sites.

Baseline: 0 % in 2015; Target: 40 % in 2018 and 100 % in 2021

Target was established according to WFD, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000, transposed into national law by Water Law no. 58/2005, of 29 December (amended and republished by Decree-Law no. 130/2012, of 22 June). The qualitative pressures responsible for point pollution on water bodies are generally related to the rejection of wastewater from a variety of activities, including urban, industrial and livestock sources. On the other hand, the qualitative pressures responsible for diffuse

pollution result from the entrainment of natural and anthropogenic pollutants by surface runoff to surface water bodies or by leaching to groundwater bodies. The RBMP of the 2nd planning cycle (2016-2021) include an assessment, among other aspects, of point and diffuse pressures on the quality of water bodies, identifying contaminated sites that negatively affect the quality of surface and groundwater bodies, and specify measures to achieve the environmental objectives of Good Status of water bodies.

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).

Measures

- 1.1.1: Implementation of the corrective measures foreseen in the 2nd planning cycle of the RBMP (2016-2021) for contaminated sites;

- 1.1.2: Establishment of new measures, if necessary, based on cause-and-effect evaluation studies between pressures and impacts.

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

For target 1.1, the current value is 38 % (average percentage of physical implementation of corrective measures foreseen in the RBMP of the 2nd planning cycle, during the period 2016-2019 in contaminated sites), higher than the 13 % reported in the 4th Reporting Cycle.

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

The target set in this area contribute to fulfilling the national and EU legislation and is also in accordance with SDG 6, in particular with the goal 6.3 “improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

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

Not applicable

## **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.

Target m.1: Fulfilment of the environmental objectives of the WFD to achieve the Good Status of the water bodies.

Monitoring indicator m.1: % of water bodies in Good Status according to the WFD.

Baseline: 54 % in 2015; Target: 77 % in 2021 and 100 % in 2027

Target m.2: Implementation of the measures included in the RBMP of the 2nd planning cycle (2016-2021).

Monitoring indicator m.2: Executed / Not Executed / Ongoing.

Baseline: 0 % in 2015; Target: 30 % in 2018 and 90 % in 2021

Targets were established according to WFD, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000, transposed into national law by Water Law no. 58/2005, of 29 December (amended and republished by Decree-Law no. 130/2012 of 22 June). This legislation sets as environmental objectives the Good Status, or Good Potential, of water bodies, which must be achieved through the application of the programs of measures specified in the RBMP. In the context of the elaboration of the RBMP of the 2nd planning cycle (2016-2021), the regional specificities were taken into account, namely the spatial and temporal variability of the quantity and quality of the water, pressure distribution, while guaranteeing a harmonization of planning and management procedures applied in the development of the different themes which compose them.

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).

#### Measures

- m.1.1: Implementation of the measures established in the RBMP of the 2nd planning cycle (2016-2021);

- m.1.2: Development of geographic information systems with the objective of systematizing and updating information on water pressures;

- m.1.3: Improving knowledge of the Status of water bodies through monitoring and/or modelling;

- m.1.4: Promotion of law enforcement actions;

- m.1.5: Establishment of new measures in the RBMP of the 3rd planning cycle (2022-2027), based on cause-and-effect evaluation studies between pressures and impacts, to fulfil environmental objectives;

- m.2.1: Implementation of the measures established in the RBMP of the 2nd planning cycle (2016-2021).

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

For target m.1 the target value is 46 %. There is a reduction in the value of this indicator, from 54% in 2015 (baseline) to 46% in 2019, which is mainly due to the increase in monitoring and its frequency (reduction of unknown situations) and, in parallel, in this period the classification systems were complemented and were also adjusted some the existing limits and classification criteria. These aspects, in articulation with the existing pressures, may have contributed to this reduction in the status of water bodies over time. The impacts of climate change may also have contributed, once there were dry years and forest fires during this period.

For target m.2 in 2019 the situation of the measures is as follows:

Situation	%	Description
Executed	23 %	Measures executed until the end of 2019.
Ongoing	35 %	Measures started until the end of 2019, whose execution takes place during the 2nd planning cycle but can be extended to the 3rd planning cycle of the RBMP.
Executed continuously	7 %	Measures executed until the end of 2019, but whose execution is continuous.

Situation	%	Description
Yet to be executed	12 %	Measures start execution after 2019.
Postponed	4 %	Measures start before the end of 2019, and which schedule has been postponed but will be executed during the 2nd planning cycle of the RBMP.
Not executed in this planning cycle	16 %	Measures that will not be executed in the 2nd planning cycle but will be executed in the 3rd planning cycle of the RBMP.
Not executed	4 %	Measures that will not be executed.

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 targets set in this area contribute to fulfilling the national and EU legislation and are also in accordance with SDG 6, in particular with the goal 6.5 “implement integrated water resources management at all levels, including through transboundary cooperation as appropriate”.

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

Not applicable

## **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.

Not applicable

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).

Not applicable

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

Not applicable

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

Not applicable

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

Not applicable

## Part three

### Common indicators<sup>2</sup>

#### 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).*

The population estimates from the National Institute of Statistics in 2020 was 10.298.252 inhabitants. The percentage of the total population covered by a public drinking water supply is 96 %. The source of the water quality data is from ERSAR, since it is the national drinking water authority and regulator.

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.*

In Portugal, following the EU rule (EU Drinking Water Directive - 98/83/EC), the samples are taken at the 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.

*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.<sup>3</sup>*

The national standards in Portugal (Decree-Law 306/2007, 27th August, altered by Decree-Law 152/2017, 7th December) derive from the transposition of the EU Drinking Water Directive (98/83/EC).

##### 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.

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<sup>2</sup> 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.

<sup>3</sup> 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/](http://www.who.int/water_sanitation_health/publications/dwq-guidelines-4/en/).

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 (2005)	Value reported in the previous reporting cycle (2017)	Current value (2020)
<i>E. coli</i>	<b>Total</b>	<b>2.26 %</b>	<b>0.56 %</b>	<b>0.39 %</b>
	Urban		0.10 %	0.05 %
			0.24 % (Medium urban)	0.17 %
	Rural		0.91 %	0.64 %
Enterococci	<b>Total</b>	<b>3.75 %</b>	<b>0.77 %</b>	<b>0.51 %</b>
	Urban		0.41 %	0.21 %
			0.13 % (Medium urban)	0.20 %
	Rural		0.94 %	0.80 %

Non-compliances in microbiological parameters show a decreasing trend. This is mainly due to a continuous improvement of disinfection systems. Increasing in the installation of automatic disinfection systems and improving monitoring control have progressively reduced those non-compliances.

### 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.

Parameter	Area/category	Baseline value (2005)	Value reported in the previous reporting cycle	
			(2017)	Current value (2020)
Arsenic	<b>Total</b>	<b>2.83 %</b>	<b>2.09 %</b>	<b>1.61 %</b>
	Urban		1.00 %	0.00 %
				0.00 % (Medium urban)
	Rural		2.49 %	1.72 %
Fluoride	<b>Total</b>	<b>1.14 %</b>	<b>0.21 %</b>	<b>0.40 %</b>
	Urban		0.13 %	0.00 %
				0.00 % (Medium urban)
	Rural		0.24 %	0.54 %
Lead	<b>Total</b>	<b>0.28 %</b>	<b>1.92 %</b>	<b>2.14 %</b>
	Urban		0.83 %	0.43 %
				2.12 % (Medium urban)
	Rural		1.96 %	2.47 %
Nitrate	<b>Total</b>	<b>0.67 %</b>	<b>0.11 %</b>	<b>0.20 %</b>
	Urban		0.03 %	0.00 %
				0.00 % (Medium urban)
	Rural		0.18 %	0.25 %

Arsenic show a decrease of non-compliances compared with the previous cycle. This may be due to the increasing installation of arsenic removal systems and using alternative water sources when possible.

For Fluoride a slight increasing of non-compliances is observed compared with the previous reporting cycle. This appear in rural areas where those substances are naturally occurring in groundwater and may arise in higher concentrations depending on water depth and under certain weather-related conditions.

The slight increase of Lead non-compliances occurred in the rural areas where domestic distribution systems are usually older and have Lead in its composition.

## 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.

Disease	Incidence rate per 100,000 population (all exposure routes)			Number of outbreaks (confirmed water-borne outbreaks)		
	Baseline (2005)	Value reported in the		Baseline (2005)	Value reported in	
		previous reporting cycle (2018)	Current value (2020)		the previous reporting cycle (2018)	Current value (2020)
Shigellosis	0.02	0.25	0.05	Unk	2	0
Enterohaemorrhagic <i>E. coli</i> infection	NS	0.02	0.05	NS	0	0
Typhoid fever	0.88	0.20	0.12	Unk	0	0
Viral hepatitis A	2.66	0.79	0.19	Unk	0	0
Legionellosis	0.52	2.05	2.98	Unk	3	1
Cryptosporiosis	NS	0.04	0.01	NS	0	0
Giardiasis	NS	0.37	0.30	NS	0	0
Other Salmonellosis	4.89	3.11	2.54	Unk	3	1

We used the population estimates for the 2020 (INE) to calculate the incidence rate.

Unk – Unknown; NS – No Surveillance exists

### III. Access to drinking water

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



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

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

Percentage of population with access to drinking water	Baseline value (2006)	Value reported in the previous reporting cycle (2017)	Current value (2020)
<b>Total</b>	91 %	96 %	96 %
Urban		99 %	99 %
		95 % (Medium urban)	96 %
Rural		92 %	94 %

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

The access is defined as the percentage of the total number housing located in the area of intervention of the water supplier for which the infrastructure of the service distribution systems are available, i.e. is in a distance of less than 20 meters.

#### IV. Access to sanitation

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

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

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

<i>Percentage of population with access to sanitation</i>	<i>Baseline value (2006)</i>	<i>Value reported in the previous reporting cycle (2017)</i>	<i>Current value (2020)</i>
<b>Total</b>	77 %	84 %	86 %
Urban		97 %	97 %
		82 % (Medium urban)	86 %
Rural		70 %	72 %

- 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

The indicator is defined as the percentage of the total number housing located in the area of intervention of the management entity for which the infrastructure of the service collection and drainage systems through fixed networks are available, i.e. is in a distance of less than 20 meters. The increasing trend in the service coverage is in accordance with the national strategic plan PENSAAR 2020, which predicted a target value of 90 % coverage in 2020.

## **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 water<sup>4</sup> falling under each defined class (e.g., for European Union countries and other countries following the European Union Water Framework Directive<sup>5</sup> classification, the percentage of surface waters of high, good, moderate, poor and bad ecological status, and the percentage of groundwaters/surface waters of good or poor chemical status; for other countries, in classes I, II, III, etc.).

<sup>4</sup> Please specify.

<sup>5</sup> Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy.

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

(i) *Ecological status of surface water bodies*

<i>Percentage of surface water classified as:</i>	<i>Baseline value (2016)</i>	<i>Value reported in the previous reporting cycle (2016)</i>	<i>Current value (2022)</i>
High status	2 %	2 %	1 %
Good status	51 %	51 %	46 %
Moderate status	30 %	30 %	35 %
Poor status	11 %	11 %	12 %
Bad status	4 %	4 %	6 %
<b>Total number/volume of water bodies classified</b>	1792	1792	1833
<b>Total number/volume of water bodies in the country</b>	1832	1832	1835

(ii) *Chemical status of surface water bodies*

<i>Percentage of surface water bodies classified as</i>	<i>Baseline value (2016)</i>	<i>Value reported in the previous reporting cycle (2016)</i>	<i>Current value (2022)</i>
Good status	24 %	24 %	69 %
Poor status	1 %	1 %	9 %
<b>Total number/volume of water bodies classified</b>	462	462	1425
<b>Total number/volume of water bodies in the country</b>	1832	1832	1835

(iii) *Status of groundwaters*

<i>Percentage of groundwaters classified as</i>	<i>Baseline value (2016)</i>	<i>Value reported in the previous reporting cycle (2016)</i>	<i>Current value (2022)</i>
Good quantitative status	96 %	96 %	87 %
Good chemical status	88 %	88 %	72 %
Poor quantitative status	4 %	4 %	13 %
Poor chemical status	12 %	12 %	28 %
<b>Total number/volume of groundwater bodies classified</b>	93	93	93
<b>Total number/volume of groundwater bodies in the country</b>	93	93	93

(b) **For other countries**

(i) *Status of surface waters*

<i>Percentage of surface water falling under class<sup>a</sup></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			

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

<sup>a</sup> Rename and modify the number of rows to reflect the national classification system.x

(ii) *Status of groundwaters*

<i>Percentage of groundwaters falling under class<sup>a</sup></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			
<b>Total number/volume of groundwater bodies classified</b>			
<b>Total number/volume of groundwater bodies in the country</b>			

<sup>a</sup> 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).

**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 (per river basin district)</i>	<i>Baseline value (2016)</i>	<i>Value reported in the previous reporting cycle (2016)</i>	<i>Current value (2022)</i>
Total RBD RH 1 – Minho and Lima	4 %	4 %	3 %
Total RBD RH 2 – Cávado, Ave and Leça	13 %	13 %	47 %
Total RBD RH 3 – Douro	8 %	8 %	37 %
Total RBD RH 4 – Vouga, Mondego and Lis	9 %	9 %	49 %
Total RBD RH 5 – Tejo and Ribeiras do Oeste	20 %	20 %	38 %
Total RBD RH 6 – Sado and Mira	38 %	38 %	79 %
Total RBD RH 7 – Guadiana	25 %	25 %	54 %
Total RBD RH8 – Ribeiras do Algarve	27 %	27 %	65 %
Total PORTUGAL (mainland)	14 %	14 %	28 %

<i>Water exploitation index (per setor of activity)</i>	<i>Baseline value (2016)</i>	<i>Value reported in the previous reporting cycle (2016)</i>	<i>Current value (2022)</i>
Agriculture	10.2 %	10.2 %	18.3 %
Industry <sup>a</sup> <i>(includes freshwater abstraction for manufacturing industry (consumptive); excludes water for energy cooling)</i>	0.5 %	0.5 %	2.6 %
Domestic use <sup>b</sup> <i>(refers to public water supply systems and also to individual supply systems)</i>	2.6 %	2.6 %	3.4 %
Tourism	0.1 %	0.1 %	0.1 %

<sup>a</sup> Please specify whether the figure includes both water abstraction for manufacturing industry and for energy cooling.

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

#### Brief note on PT WEI+ calculation methodology:

The Water Exploitation Index+ (WEI+) is defined as the ratio between the total volume of water abstracted and renewable water availability.

The WEI+ scarcity index arises from the follow-up of the WEI, which corresponds to the ratio between the average annual demand for water and the average resources available in the long term and allows as well as assessing the water stress to which a territory is subject. The WEI+ complements the objective of the WEI, incorporating the calculation of the vulnerability to situations of scarcity, the returns of water to the environment, as well as the ecological environmental flows. The WEI+ is therefore defined as the ratio between the total volume of water abstracted and the renewable water availability.

The water availability in the natural regime refers to the volume available for surface runoff immediate to precipitation and for aquifer recharge, and can be defined as the difference between precipitation and real evapotranspiration. On an annual scale, it can be considered that the natural water availability is equal to the runoff once, in general, the aquifers do not have the capacity for inter-annual runoff regulation.

The transfer of volume of water between periods of time, or regularization of inflows, allows to standardize water availability, considering in this case the availability in modified regime. These last ones are, by that reason, indissociated from the distribution of the consumption and from the scheme of operation of the reservoirs. The evaluation of the surface water availability in the natural regime was carried out by hydrological modeling to produce monthly estimation series from the precipitation and potential evapotranspiration series.

The potential availability of water in the modified regime was estimated using the Mike Hydro Basin model, which takes into account the storage capacity installed upstream of each section. This model aggregates in a single reservoir all the storage capacity installed upstream of the section of interest and considers that the inflows of water generated in the natural regime in that river basin converge, in its entirety, to that reservoir. The WEI+ scarcity index was then calculated from the results of the Mike Hydro Basin model.

The reference period considered was 1989-2015, in order to better observe the effects of climate change on water availability.

Please note that it is not possible to calculate water availabilities by activity sector, since the same sources of water may be used in multiple sectors.

## 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

3. 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.

The Law 81/2009 created a surveillance system in Public Health, related to communicable diseases and other Public Health threats – SINAVE (National Epidemiological Surveillance System). This system dematerialises the notifiable communicable diseases and other Public Health threats, allowing medical doctors and laboratories to notify in real-time the occurrence of a notifiable disease to the local Public Health Authority for the implementation of preventive and control measures, limiting the spread of the disease and the occurrence of additional cases. Clinical notifications are mandatory since 1 January 2015 and laboratory notifications are mandatory since 1 January 2017. This notification-based surveillance includes waterborne diseases.

4. 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.

Portugal implemented a new platform to support the national surveillance system. COVID-19 limited Portugal's action in this area. Nevertheless, following the need for a better surveillance system identified with the COVID-19 pandemic, a new integrated system is currently being discussed, including the integration of different sources from the case-based surveillance, such as syndromic surveillance in hospital emergencies (e.g. gastroenteritis), or environmental data (e.g. cooling tower water analysis for the prevention of the Legionnaires' Disease).

## **Part five**

### **Progress achieved in implementing other articles of the Protocol**

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

*Suggested length: up to two pages*

The implementation of articles 9 to 14 of the Protocol, particularly in the area of water and sanitation, is partly reflected in national strategic plans, such as the PENSAAR 2020 – "A new strategy for the water supply and sanitation". This plan was designed for the period 2014 to 2020 and has defined as one of its main axes the "Optimization and efficient management of resources", and the allocation and efficient use of water resources was defined with an operational objective. With the objective of promoting water efficiency and disseminating the best performances, PENSAAR provides a measure that corresponds to the attribution of a seal to the water suppliers that promote water efficiency. ERSAR has developed a model for the annual allocation to the management utilities of the "Efficiency Seals for Water Efficiency". In addition to the relevant information obtained through the water services quality assessment system (quantitative information, given by these system indicators results), it should also consider additional information that shows the actions taken by the management entity (qualitative). These actions include operational aspects aimed at rationalizing water use, monitoring and reporting a set of indicators that reflect such rationalization, promotion, and awareness-raising initiatives for that purpose.

Since 2014, ERSAR made available one application for mobile devices. With the ERSAR App, all interested parties have easy access to relevant information about water supply, wastewater sanitation and urban waste management services in Portugal. Information is available on the quality of the services provided, the quality of water for human consumption, news, tips, and practical advice on the use of services, among others. The "ERSAR" application can be installed for free on iOS and Android mobile devices, and was recently updated, with new functionalities.

In 2020, Portugal started the development of a new strategic plan for the water sector, PENSAARP 2030, that will be approved shortly and will be in place till 2030. This new plan will continue to address the main issues that are still to be resolved and will seek to respond to emerging issues such as circular economy, cybersecurity, and digitalization. On the other hand, this plan will pay more attention to rainwater management.

In 2021, ERSAR revised the quality of service assessment system (for water, sanitation and waste), whose new indicators (4<sup>th</sup> generation) will be applied from 2022. This process was subjected to public participation and the new indicators were disclosed to the public.

ERSAR is also coordinating the work on transposing into national law the new Drinking Water Directive. This new diploma will require that PT will provide even more information to the consumers.

Other important actions, particularly included within articles 9 to 14 of the Protocol include the work developed by the AdP group. AdP ranks among the leading management entities worldwide for the implementation of Water Safety Plans in accordance with the 2004 methodology proposed by the World Health Organisation for the monitoring and management of the risks associated with the public supply of water. The majority of AdP's utilities have also developed contingency plans.

In the regional context of the AdP Group's utilities and their activity, AdP has developed some communication and awareness campaigns for the efficient use of water.



At the same time, in order to promote the circular economy and the use of alternative water sources for non-potable uses, supporting adaptation to climate change and contributing to an integrated and sustainable water management, the AdP Group has developed and disseminated some pilot projects for water reuse, with the aim of developing systems that guarantee the safety of reclaimed water, ensuring a high level of protection of the environment and human and animal health.

These campaigns and communication projects have contributed to an increase in knowledge of water services, enhancing understanding of the importance of efficient water management and its value to the environment and public health.

The Convention on the Protection and Use of Transboundary Watercourses and International Lakes (commonly referred to as the “Water Convention”), signed in 1992 and ratified in 1994 by Portugal, is of great importance to the prevention, control and reduction of transboundary impacts. The Convention is based on the principle that cooperation between bordering states on transboundary watercourses and international lakes contributes to peace, security and sustainable water management. The Protocol on Water and Health, a Protocol to this Convention, introduces a social component into cooperation on water management. We strongly support that water resources management should link social and economic development to the protection of water resources and associated natural ecosystems.

Portugal believes that one of the main ways to promote effective water cooperation in order to strive for peace in transboundary basins, especially those affected by tensions and conflicts, is to try to bring those involved in dispute to become Parties to the Water Convention or, at first, to approach their envisaged principles and instruments of cooperation. We also believe that the implementation of the Water Convention at the global level would be crucial for international peace and the prevention of conflicts, as the situation of water resources is projected to aggravate in the coming decades, mainly due to the effects of climate change.

Regarding cooperation in relation to transboundary waters, Portugal and Spain signed in 1998 the Convention on Cooperation for the Protection and Sustainable Use of Waters in the Portuguese-Spanish River Basins and, in 2008, the additional Protocol.

The official websites of ERSAR, APA, DGS and AdP, and other such as the Water Portal (<https://www.portaldaagua.pt/>), also disseminate relevant information to the public regarding water and health issues.

## **Part six ERSAR**

### **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 (2021)</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 Portugal the Decree-Law No. 243/86 requires that access to water and sanitation services be provided in schools, health facilities, prison facilities and, in general, all public buildings. It specifically requires that sanitary facilities possess at least one fixed toilet (or Turkish squat style for men) per floor or per 25 male workers and 15 female workers. It further requires that sanitary facilities must have running water and be connected to a sewerage system or adequate septic tank and be equipped with non-irritant soap and, ideally, automatic hand-dryers or paper towels.

For schools data are available at "Drinking water, sanitation and hygiene in schools: global baseline report 2018. New York: United Nations Children's Fund (UNICEF) and World Health Organization, 2018".

## 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.

Decree-Law 306/2007, 27th August, altered by Decree-Law 152/2017, 7th December

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

The water suppliers provide information to ERSAR on the number of supply zones and population served with drinking water under WSP approach.

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

<i>Percentage of population</i>	<i>Current value (2020)</i>
<b>Total</b>	39 %

### 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).

ERSAR published the Recommendation no.2/2018 (in addition of the tariff Recommendations no.1 and 2/2009) to harmonise pricing schemes and to attain clear and affordable prices. Apart from establishing a recommended tariff structure, it also established social tariffs as a broad mechanism to ensure affordability for households with a lower income. Additionally, it provided guidelines to abolish connection costs to public networks when these are available nearby properties, whose costs are then reflected in the monthly tariffs of the service.

The 2017 State Budget Law No. 42/2016, authorizes the Government to establish a legal regime for the automatic attribution of a social tariff for the provision of water services to lower income consumers, namely to persons benefiting from old-age social pensions, solidarity supplements for the elderly, social integration incomes, unemployment social benefits, family allowance and disability social pensions. Consumers with an annual income under €5,808 are also eligible to benefit from the social tariff.

In addition, a new "tariff recommendation for the water sector" has just been published by ERSAR. This recommendation upgrades the previous ones bearing in mind the importance of promoting the economic accessibility of water services to domestic users in a situation of economic need (reiterated in ERSAR recommendation n.º 02/2018), towards universal adoption of tariffs without prejudice to recognizing the need to promote greater discussion with the municipalities about possible alternatives for the structure of the social tariff model.

## **Part seven**

### **Information on the person submitting the report**

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

Name of officer responsible for submitting the national report: Helena Costa

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Telephone number: +351 210 052 200

Name and address of national authority: The Water and Waste Services Regulation Authority (ERSAR)

Signature:

(Vera Eiró)

President of the Board

Date: 19 April 2022

### **Submission**

1. Parties are required to submit their summary reports to the joint secretariat, using the present template and in accordance with the adopted guidelines on reporting, 210 days before the next session of the Meeting of the Parties. Submission of the reports ahead of this deadline is encouraged, as this will facilitate the preparation of analyses and syntheses to be made available to the Meeting of the Parties.

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

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