FORMAT FOR SUMMARY REPORTS UNDER THE PROTOCOL ON WATER AND HEALTH

PART ONE: GENERAL ASPECTS

1. Provide brief information on the process of target-setting in your country, e.g. which public authority (ies) took the leadership and coordinating role, which public authorities were involved, how coordination was ensured, which existing national and international strategies and legislations were taken into account, how cost-benefit analysis of target sets was performed.

Prior to 1993, the water and waste sectors in Portugal were managed in an unsustainable way and had difficulties responding to new challenges which followed the entry to the European Union. The Portuguese Government reorganised the sector in 1993 in order to more effectively ensure universal access to continuous services, guarantee a high quality of service (particularly water quality), guarantee affordable prices, and promote environmental sustainability.

As such, two legal documents of the utmost importance were published, namely the Decree-Law n.º 372/93, of 29 October and Decree-Law n.º 379/93, of 5 November. The main goals of this legal reframing were assign the responsibility of water distribution and sanitation of municipal waste to the municipalities, assigning the central Government with further investments in the wholesale activities through the creation of multimunicipal systems following a business management model; introduce the possibility of indirect management of these activities by the municipalities, through concession to private enterprises specialized in the operation and management of these systems; create, in the multimunicipal systems, the conditions for shared management with the municipalities and opening this sector to the participation of capital and know-how from the private enterprises. At this time the public company Águas de Portugal – AdP SGPS, SA, was created for water services.

The main purpose of the creation of the multimunicipal systems was to ensure the implementation of integrated solutions involving several municipalities (especially when the investments to be made in the "wholesale", given the complexity of the environmental situations in need of resolution, exceeded the technical, financial and management capabilities of the municipalities involved), in order to create scale economies, both in regards to investment and operation, with a consequent positive reflex in the tariffs of these services.

More information on the way in which governmental policy and objectives are integrated into the water sector is available in one key publication: the Strategic Plan for Water Supply and Wastewater Services in 2000 (PEAASAR).

The strategic plan for water and wastewater services, PEAASAR I, was approved in 2000 for the period 2000-2006, with the objective of achieving socially, environmentally and economically sustainable solutions for the sector. This strategic plan fulfilled an essential role in structuring water supply and wastewater management services, particularly at the level of territorial integration of the systems. However, some fundamental issues remained which prolongation of existing PEAASAR objectives would not have resolved. It was therefore decided that several fundamental aspects of management of the sector should be reconsidered, the results of which were presented in PEAASAR II for the period 2007-2013.

The strategy outlined in PEAASAR II defines objectives and proposes means to optimize the management of wholesale and retail services. This includes the optimization of environmental performance in the sector, clarification of the role of private enterprises, and the creation of conditions for sustainable entrepreneurial activity adjusted to the Portuguese reality. It is intended

in this way to minimize the inefficiencies in the system and the level of costs which are directly supported by the general public.

The plan defines a tariff policy reformulation and a revision of the legal and regulatory framework in order to promote efficiency in the sector. Partnership proposals between the central government and the municipalities, envisage the integration of municipal and regional systems, with specific regulation for the management of municipal systems, and advocating an expansion of the range of institutional solutions available. It is also intended that the reorganization of the regional concessions through mergers with neighbouring systems will allow further economies of scale and scope and environmental gains.

Unlike the first version of PEAASAR I, whose orientation was centered on the development of the wholesale systems, PEAASAR II is focused primarily on the resolution of situations arising from the organization of the retail systems, with a particular emphasis on investment to improve the connection of the wholesale and retail systems as well as on the reduction of water losses in the supply system. To this end the PEAASAR II proposes the elaboration of partnerships between State and municipalities aiming at the integration of existing or future end-users systems, as well as to regulate the management of municipal systems and the creation of legislation that defines the regulation of municipal concessions.

Within the optimization of management models, the plan defines that the range of institutional solutions for business management should be enlarged. Also in this area is recommended the reconfiguration of some multimunicipal concessions through mergers between neighbouring concessions that configure economies of scale and scope or environmental gains.

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

The PEAASAR I and II were elaborated by a team with representatives of all the stakeholders involved, namely the public administration, the environment sector companies, the national association of Portuguese municipalities, the utilities associations, the water management associations, the nongovernmental organizations, universities and research centers.

These two strategic plans were broadly discussed in several fora (workshops, seminars, debates) and they were made available to the public and press to be discussed before approval by the Ministry of Environment.

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

The public authorities involved in the preparation of this report were ERSAR (The Water and Waste Services Regulation Authority), INAG (The National Institute of Water) and DGS (Portuguese Health Authority).

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

There are no particular circumstances.

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

In the definition of the PEAASAR strategic plans, Portugal took into account aspects like universality, continuity and quality of service, sector sustainability and protection of the environmental values.

Taking into account these aspects we want to guarantee almost everyone can have access to water and sanitation, with a good service quality and at an affordable cost, without forgetting that we should keep in mind the importance to increase efficacy and efficiency, recover the costs and protect the environment.

PART TWO: COMMON INDICATORS[1]

I. QUALITY OF THE DRINKING WATER SUPPLIED

A. Context of the data

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

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

The population covered by the public water supplies is, according to the data of the drinking water companies, 10.848.709 inhabitants. It is important to stress out that this number includes the seasonal population (holidays, for instance).

In percentage it is estimated that about 92% of the Portuguese population is served by the public drinking water supplies.

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

This report includes all the rural and urban public water supplies. The number of water supply zones (definition of European drinking water directive 98/83/EC) increased from 4.300 in 2005 to 4.582 in 2009.

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

The Portuguese standards for drinking water quality are the ones defined in the European drinking water directive 98/83/EC.

B. Bacteriological quality

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

WatSan_S2	Baseline value (2005)	Current value (2009)
E. coli	2,26%	2,19%
Enterococci	3,74%	2,42%

C. Chemical quality

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

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

- Fluoride,
- Nitrate and nitrite[2],
- Arsenic,
- Lead
- Iron.

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

Substance	Baseline value (2005)	Current value (2009)
Fluoride	1,14%	0,46%
Nitrate and nitrite	0,67% (nitrate) 0,04% (nitrite)	0,39% (nitrate) 0,02% (nitrite)
Arsenic[3]	2,83%	2,39%
Lead	0,28%	0,80%
Iron	5,61%	7,16%
Additional chemical[4] **parameter 1:** **_____**		
Additional chemical parameter 2: **_____**		
Additional chemical parameter 3: **_____**		
Additional chemical parameter 4: **_____**		
Additional chemical parameter 5: **_____**		

If your country calculates an integrated value reflecting overall compliance with chemical quality of drinking water, please report it below:

[2] As defined in the WHO Guidelines**.**
[3] If relevant for the country.
[4] It is recommended to take into account new and emerging pressures such as climate change, or agriculture practices.

	Baseline value (please specify the year)	Current value (please specify the year)
Integrative chemical failure rate		

II. REDUCTION OF THE SCALE OF OUTBREAKS AND INCIDENCE OF INFECTIOUS DISEASES POTENTIALLY RELATED TO WATER

For incidence, please report the total number of cases per year from all exposure routes.
For the number of outbreaks, please report cases that could be potentially related to water.

	Incidence		Number of outbreaks	
	Baseline (2005)	Current value (2008)	Baseline (2005)	Current value (2008)
Cholera	0	0		
Bacillary dysentery (shigellosis)	2	7	Unknown	Unknown
EHEC[5]	No surveillance system exists	No surveillance system exists	No surveillance system exists	No surveillance system exists
Viral hepatitis A	280	21	Unknown	Unknown
Typhoid fever	90	23	Unknown	Unknown

Portugal has a Diseases Mandatory Notification System (DDO System) which includes some of the infectious diseases present here, but the notification does not indicate the exposure route.

For typhoid fever, the numbers presented here are the sum of cases of paratyphoid and typhoid fever, because these two diseases are reported together.

III. ACCESS TO DRINKING WATER

Percentage of population with access to improved drinking water	Baseline value (2006)	Current value (2007)
Total	91%	92%
Urban		
Rural		

The Joint Monitoring Programme (JMP) defines access to water supply in terms of the types of technology and levels of service afforded. Access to water-supply services is defined as the availability of at least 20 liters per person per day from an "improved" source within 1 kilometer of

[5] Enterohaemorrhagic *E. coli*.

the user's dwelling. An "improved" source is one that is likely to provide "safe" water, such as a household connection, a borehole, a public standpipe or a protected dug well.

If your definition of access to "improved" drinking water from which the above percentages are calculated differs from the JMP, please provide the definition and describe your means of calculation.

The percentage of population with access to improved drinking water only takes into account the public network systems, which means that the percentage according to JMP is much higher.

IV. ACCESS TO SANITATION

Percentage of the population with access to improved sanitation, including small decentralized sewerage systems, septic tanks and safe excreta disposal.

Percentage of population with access to improved sanitation	Baseline value (2006)	Current value (2007)
Total	77% / 72%	80% / 70%
Urban		
Rural		

If your definition of access to "improved" drinking water from which the above percentages are calculated differs from the JMP, please provide the definition and describe your means of calculation.

The first percentage is related to population with access to wastewater drainage and the second one is the population with access to wastewater treatment..

V. EFFECTIVENESS OF MANAGEMENT, PROTECTION AND USE OF FRESHWATER RESOURCES

Water quality

On the basis of national systems of water classifications, the percentage of the number of water bodies or the percentage of the volume (preferably) of water[6] falling into each defined class (e.g. in classes I, II, III, etc. for non-EU countries; for EU countries, the percentage of surface waters of high, good, moderate, poor and bad ecological status, and the percentage of groundwaters/surface waters of good or poor chemical status).

For non-European Union countries:

Status of surface waters

Percentage of surface water falling into class[7]	Baseline value (specify the year)	Current value (specify the year)
I		
II		
III		

[6] Please specify.
[7] Rename and modify the number of rows as requested by the national classification system.

IV		
V		

Status of groundwaters

Percentage of groundwaters falling into class[8]	**Baseline value (specify the year)**	**Current value (specify the year)**
I		
II		
… to be completed in accordance with national groundwaters classification systems		

For European Union countries:

Ecological status of surface water

Percentage of surface water classified as of	**Baseline value (specify the year)**	**Current value (specify the year)**
High status		
Good status		
Moderate status		
Poor status		
Bad status		

Chemical status of surface water

Percentage of surface water classified as of	**Baseline value (specify the year)**	**Current value (specify the year)**
Good status		
Poor status		

Status of groundwaters

Percentage of ground-waters classified as of	**Baseline value (specify the year)**	**Current value (specify the year)**
Good status		
Poor status		

The river basins planning activity in Portugal, according to the Water Framework Directive, is delayed and still underway, so these data are not yet fully available.

Please provide any needed information that will help put into context and aid understanding of the information provided above (e.g. coverage of information provided if no related to all water resources).

Water use

[8] Rename and modify the number of rows as requested by the national classification system

Water exploitation index at the national and river basin levels for each sector (agriculture, industry, domestic): mean annual abstraction of freshwater by sector divided by the mean annual total renewable freshwater resource at the country level, expressed in percentage terms.

Water exploitation index	**Baseline value (specify the year)**	**Current value (specify the year)**
Agriculture		
Industry[9]		
Domestic use[10]		

[9] Please specify whether the figure includes both water abstraction for manufacturing industry and for energy cooling.
[10] Please specify whether the figure only refers to public water supply systems or also individual supply systems (e.g. wells).

PART THREE: TARGETS AND TARGET DATES SET AND ASSESSMENT OF PROGRESS

I. QUALITY OF THE DRINKING WATER SUPPLIED, (ARTICLE 6, PARAGRAPH 2 (a))

For each target set in this area:

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

The target defined for Portugal in the PEAASAR 2007-2013 for drinking water quality is to achieve in 2013 a percentage equal or superior to 99% of drinking water controlled and complying with the national standards.

This is a national standard and it was defined taking into account the level of compliance that the European Commission considers adequate for the fulfillment of the Directive 98/83/EC.

In 2005, the baseline value of quality of the drinking water supplied is 94%.

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

Since 2004, several actions were taken by ERSAR to improve drinking water quality:

- *Definition of a clear drinking water quality regulatory model, based on the approval by ERSAR of Drinking Water Quality Control Programme made by the utilities, the inspection of its implementation and the collection of data to prepare annual technical reports.*
- *Mandatory accreditation for all the laboratories (ISO 17025) controlling drinking water quality since 1st January of 2010. Before, ERSAR evaluated the laboratories technical competence for those parameters that were not accredited.*
- *List of recognized laboratories in ERSAR website to be chosen by the utilities.*
- *System of non-compliance communication from water utilities to ERSAR in no more than 24 hours, making possible to react quickly to drinking water quality problems.*
- *Revision of the Portuguese national law making disinfection, laboratories accreditation and operational monitoring mandatory.*
- *Promotion of the use of Water Safety Plans.*
- *Establishment of a National Approval Scheme for Products in contact with Drinking Water.*
- *Elaboration by ERSAR of several technical documents with the goal to improve the knowledge between the utilities operators.*
- *Establishment of a web based information management system, which allows a more efficient communication between ERSAR and all the utilities and a better data management.*

- *Increase cooperation with other entities involved, namely the health authorities, the water authorities, the agriculture authorities, the safety food authorities, the laboratories sector and the national accreditation body.*
- *Regular participation in international meetings and tight cooperation with universities and research centres.*

3. Briefly assess the progress achieved towards the target.

In 2005, the indicator was 94% and in 2009 Portugal achieved 98%. That progress means that the actions taken are giving the expected results. Nevertheless, it is important to refer that this progress was also possible because there is a strong cooperation between all the stakeholders.

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

Until now, we think that it is not necessary to revise this target.

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

II. REDUCTION OF THE SCALE OF OUTBREAKS AND INCIDENTS OF WATER-RELATED DISEASE (ARTICLE 6, PARAGRAPH 2 (b))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

III. ACCESS TO DRINKING WATER (ARTICLE 6, PARAGRAPH 2 (c))

For each target set in this area:

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

The last statistics available states that from 2006 to 2007 the access to drinking water increased 1% (91 to 92%).

The target defined in PEAASAR II 2007-2013 is to achieve in 2013 a national value of 95% with local variations between 80 and 100%.

This target was defined considering a compromise between the universality of drinking water access and the financial investments to achieve it.

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

To achieve this target the actions taken include a better articulation between wholesale and retail systems, the definition of the criteria to have access to national and European funding to expand the existing networks, the merge of existing water distribution systems to increase their scale, the reinforcement of private investment and, to guarantee the balance between the sustainability of the utilities and the affordability of this service, also the reinforcement of the sector regulation and inspection procedures.

All these actions should be complemented with the revision of legal, institutional, technical, economical and financial framework of the multimunicipal systems as well the enlargement of business management institutional solutions.

The PEAASAR II defines a tariff policy reformulation and a revision of the legal and regulatory framework in order to promote efficiency in the sector. Partnership proposals between the central government and the municipalities, envisage the integration of municipal and regional systems, with specific regulation for the management of municipal systems, and advocating an expansion of the range of institutional solutions available. It is also intended that the reorganisation of the regional concessions through mergers with neighbouring systems will allow further economies of scale and scope and environmental gains.

To this end the PEAASAR II proposes the elaboration of partnerships between State and municipalities aiming at the integration of existing or future end-users systems, as well as to regulate the management of municipal systems and the creation of legislation that defines the regulation of municipal concessions.

PEAASAR II is focused primarily on the resolution of situations arising from the organisation of the retail systems, with a particular emphasis on investment to improve the connection of the wholesale and retail systems as well as on the reduction of water losses in the supply system.

3. Briefly assess the progress achieved towards the target.

Since the strategic plan PEAASAR 2007-2013 is just starting the progress is not so great, but it is expected to reach the defined target.

If we consider the previous PEAASAR, between 2002 and 2006, the progress was 87 to 91% population with access to drinking water.

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

Until now, we think that it is not necessary to revise this target.

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

IV. ACCESS TO SANITATION (ARTICLE 6, PARAGRAPH 2 (d))

For each target set in this area:

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

The last statistics available states that from 2006 to 2007 the access to wastewater drainage increased 3% (77 to 80%) and the access to wastewater treatment decreased from 72 to 70%.

The target defined in PEAASAR II 2007-2013 is to achieve in 2013 a national value of 90% of households with sanitation, with local variations between 70 and 100%.

This target was defined considering a compromise between the universality of sanitation access and the financial investments to achieve it.

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

To achieve this target the actions taken include a better articulation between wholesale and retail systems, the definition of the criteria to have access to national and European funding to expand the existing networks, the merge of existing water distribution systems to increase their scale, the reinforcement of private investment and, to guarantee the balance between the sustainability of the utilities and the affordability of this service, also the reinforcement of the sector regulation and inspection procedures.

All these actions should be complemented with the revision of legal, institutional, technical, economical and financial framework of the multimunicipal systems as well the enlargement of business management institutional solutions.

The PEAASAR II defines a tariff policy reformulation and a revision of the legal and regulatory framework in order to promote efficiency in the sector. Partnership proposals between the central government and the municipalities, envisage the integration of municipal and regional systems, with specific regulation for the management of municipal systems, and advocating an expansion of the range of institutional solutions available. It is also intended that the reorganisation of the regional concessions through mergers with neighbouring systems will allow further economies of scale and scope and environmental gains.

To this end the PEAASAR II proposes the elaboration of partnerships between State and municipalities aiming at the integration of existing or future end-users systems, as well as to regulate the management of municipal systems and the creation of legislation that defines the regulation of municipal concessions.

PEAASAR II is focused primarily on the resolution of situations arising from the organisation of the retail systems, with a particular emphasis on investment to improve the connection of the wholesale and retail systems.

3. Briefly assess the progress achieved towards the target.

Since the strategic plan PEAASAR 2007-2013 is just starting the progress is not so great, but it is expected to reach the defined target.

If we consider the previous PEAASAR, between 2002 and 2006, the progress for drainage wastewater was 68 to 77% of population with access to wastewater drainage and 58 to 72% of population with access to wastewater treatment.

It seems the progress is being made towards the target defined for 2013.

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

Until now, we think that it is not necessary to revise this target.

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

V. LEVELS OF PERFORMANCE OF COLLECTIVE SYSTEMS AND OTHER SYSTEMS FOR WATER SUPPLY (ARTICLE 6, PARAGRAPH 2 (e))

Since 2004, Portugal has been running a benchmarking system for public water supply and wastewater management services that covers areas V to XII of the Protocol of Water & Health. This means that we are going to present you the combined results of the evaluation of the quality of services provided to users, now in its fifth year of implementation and presented in detail in Volume 3 of "Annual Report on Water and Waste Services in Portugal, 2008".

This is the result of the fifth year of implementation of evaluation of the quality of service provided to users by all concessions of drinking water supply, wastewater management and municipal waste management services subject to regulation, as well as all non regulated operators which submitted applications to "Water and Waste Service Quality Awards" and so were evaluated.

This system constitutes a fundamental part of the regulation model that has been implemented since 2004, specifically in regards to the regulation of the quality of services provided by operators, so as to make possible a quantitative evaluation.

Its importance lies not only in providing an important instrument for operators in the sector to improve quality of service, but also in allowing users the fundamental right of access to reliable and easy to understand information on the quality of service provided.

The results presented still do not include all the drinking water and wastewater operators, but in two years time this will be in force, which means that in the next report we'll be able to give results of all of them.

Nevertheless, this results covers 72% of the Portuguese population for the wholesale service water systems and 24% is covered by end-users service systems under this benchmarking system.

In what concerns to wastewater management, we are talking about 67% of the Portuguese population served by wholesale wastewater service systems and 6% is covered by the end-users service.

The model of the evaluation system places objectives for operators at the highest level corresponding to a "phase of excellence", including several indicators which aim to reflect the quality of service provided to users, indicators which evaluate the sustainability of operators and finally a last group of indicators which seek to quantify environmental sustainability.

This is an ambitious approach in its fifth year of application to the sector in Portugal, and one of the first to be applied on an international level.

Multimunicipal and municipal concessions who participate in this evaluation represent approximately 20% of the total number of operators in Portugal, but a lot more in terms of population served.

These entities have the merit of being pioneers in this endeavor of a high level of excellency in terms of the quality of services provided to users. They belong to a first generation of operators that have decisively waged on a service of excellence in an explicit and transparent manner.

We can say that the target for areas V to XII of the Protocol of Water and Health is, in two years time, having all the drinking water and wastewater operators evaluated in this benchmarking system to have a broader picture of Portuguese quality of these two services.

The main difficulties to achieve this target will be the changing of procedures in several hundreds operators to collect the data for indicators calculation and creating in ERSAR the mechanisms to deal with the increasing amount of information.

As baseline information and progress achieved, we are going to include in this report the national results of 2007 and 2008 for all the 20 indicators established in this benchmarking system.

In 2007, 38 operators providing water supply services and 34 providing wastewater services were evaluated. The evaluation tables presented below represent the weighted averages for the concessionary companies. In 2008, 42 operators providing water supply services and 36 providing wastewater services were evaluated. The evaluation tables presented below represent the weighted averages for the concessionary companies. The data presented is divided into wholesale and retail in the cases of water supply and wastewater management. It is generally the case that wholesale services are provided by regional concessions while retail services are provided by municipal operators.

Indicator	Weighted Average (Reference value)	Evaluation	Observations
PROTECTION OF USER INTERESTS			
AA01 - Service coverage	**73%** (≈100%)	🔴	There are clear opportunities for improvement, and it is necessary for utility operators to continue making effort to invest in infrastructures and the agreed municipal infrastructures in their systems..
AA02 - Average water charges	**0.39 €/m^3** (-)	-	The 25th and 75th percentile are, respectively, 0.40 and 0.53 €/m^3.
AA03 - Service interruptions	**0.00 n.º/delivery point/year** (≈ 0,00 /delivery point/year)	🟢	-
AA04 - Water tests performed	**99.78%** (100,00%)	🟡	There are opportunities for improvement and it is important that utility operators make an effort to conduct all required analyses.
AA05 - Quality of supplied water	**99.75%** (100,00%)	🟢	-
AA06 - Response to written complaints	**85%** (≈100%)	🟡	There are opportunities for improvement, and it is important that operators initiate internal processes in such a manner that they ensure a written response to all written complaints received from users.
OPERATOR SUSTAINABILITY			
AA07 - Operating cost coverage ratio	**1.98** (>1,50)	🟢	-
AA08 - Unit running costs	**0.21 €/m^3** (-)	-	In this sector the indicators for the 25 and 75th percentile respectively are 0.22 and 0.43 €/m^3. The utility operators should make an effort to improve efficiency in such a way to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of services.
AA09 - Debt equity ratio	**0.52** (≥0,20)	⚠	The value of this indicator is strongly influenced by the results of the two utility operators EPAL and Aguas do Vouga. There are clear opportunities for improvement and it is important that the utility operators take measures to control bank debt, especially when incurred for current running costs and for difficulties covering the debt of users.
AA10 - Non-revenue water	**5.0%** (≤5,0%)	⚠	A significant number of utility operators have a high percentage of non-revenue water. There are clear opportunities for improvement, and it is important that utility operators make use of abstracted water.
AA11 - Fulfilment of the water intake licensing	**64%** (100%)	⚠	There are opportunities for improvement. Utility operators should continue to present requests for licenses where these are lacking, and in conjunction with the relevant authorities, make efforts to accelerate the process.
AA12 - Treatment utilisation	**64%** (≥70 and ≤90%)	🟡	There are opportunities for improvement, and utility operators should promote a more effective use of treatment capacities which are available through the investment plans foreseen in the concession contracts as a way to increase the volume of this activity.
AA13 - Transmission and distribution storage capacity	**0.8 days** (≥1,0 and ≤2,0 days)	-	This indicator is not evaluated, as it is the responsibility of the municipalities to adapt water storage capacity according to the expected volume of water at each delivery point.
AA14 - Mains rehabilitation	**0.6 %/year** (≥1,0 and ≤2,0%)	-	Even though the value for the year in consideration is less than the reference figure, it was intended that this indicator should not be evaluated yet, because many operators have new networks, and therefore the rehabilitation levels are likely to be low.
AA15 - Service connection rehabilitation	**n.a** (≈ 2,0%)	-	This indicator is not applicable to wholesale utility operators.
AA16 - Mains failures	**11 n.º/100 km/year** (≤ 15/100km)	🟢	-
AA17 - Personnel	**2.3 n.º/10^6 m^3/year** (≥1,0 and ≤1,7 / 10^6 m^3)	🟡	Despite the fact that a number of utility operators are in a phase of system implementation, with a reduced level of activity, there are opportunities for improvement. It is important that the utility operators continually adapt human resources to the level of activity of the systems, considering also the level of outsourcing.
ENVIRONMENTAL SUSTAINABILITY			
AA18 - Water use inefficiencies	**4.1%** (≤4,0 %)	🟡	There are opportunities for improvement. Utility operators should maintain efforts to reduce water loss through leakage, since this usually implies economic losses and low environmental performance.
AA19 - Standardised energy consumption	**0.4 kWh/m^3/100m** (≤ 0,40 kWh/m^3/100m)	🟢	-
AA20 - Disposal of sludge from the water treatment	**105%** (100%)	🟢	The value of this indicator is influenced by the results of one operator, EPAL (wholesale), which disposed sludge from previous years

Key: 🟢 good service quality; 🟡 acceptable service quality; 🔴 unsatisfactory service quality; ⚠ alert; n.a.: not applicable.

Figure 1 – Benchmarking evaluation of the wholesale water supply service in 2007

Indicator	Weighted Average (Reference value)	Evaluation	Observations
PROTECTION OF THE USER INTERESTS			
AA 01 - Service coverage	**80%** (=100%)	🔴	There are opportunities for improvement. Concessionaires must maintain efforts to invest in infrastructure.
AA 02 - Average water charges	**0,42 €/m3** (-)	-	The 25th and 75th percentiles are, respectively, 0.43 and 0.55 €/m3.
AA 03 - Service interruptions	**0,01 n.º/connections/year** (=0,00 /p. connection)	🟢	-
AA 04 - Water tests performed	**100,00%** (100,00%)	🟢	-
AA 05 - Quality of supplied water	**99,74%** (100,00%)	🟢	-
AA 06 - Reply to written complaints	**93%** (=100%)	🟡	There are opportunities for improvement. It is important that operators develop internal procedures to ensure a written reply to all complaints received.
OPERATOR SUSTAINABILITY			
AA 07 - Operating cost coverage ratio	**2,01** (>150)	🟢	-
AA 08 - Unit running costs	**0,22€/m3** (-)	-	In this sector, the indicators for the 25 and 75th percentiles are 0.23 and 0.45 €/m3 respectively, Utility operators should make an effort to continue to improve efficiency in a way to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of the service.
AA 09 - Debt equity ratio	**0,40** (?0,20)	⚠	The value of this indicator is strongly influenced by the operational results of the operators EPAL (wholesale) and Águas do Vouga. There are clear opportunities for improvement. It is important that operators take measures which aim controlling bank debts, mainly if their are applied in financing the current activity, due to difficulties in charging debts from the users.
AA 10 - Non-revenue water	**4,6%** (?5,0%)	⚠	There are opportunities for improvement. Operators must make an effort to invest in rehabilitation of pipelines and branches, reducing the economic losses resulting from water which is lost without billing.
AA 11 - Fulfilment of the water intake licensing	**60%** (100%)	⚠	There are opportunities for improvement. Utility operators should continue to present requests for licenses where these are lacking, and in conjunction with the relevant authorities, make efforts to accelerate the process.
AA 12 - Treatment utilisation	**67%** (?70 e ?90%)	🟡	There are opportunities for improvement. It is important that the concessionaires, along with the municipalities, promote the connection of users, so infrastructural sustainability of the system and quality of life of citizens and public health is guaranteed.
AA 13 - Transmission and distribution storage capacity	**0,8 dias** (?1,0 e ?2,0 dias)	-	This indicator is not evaluated as it is the responsibility of the municipalities to adapt its storage capacity, when necessary, according to each delivery point.
AA 14 - Mains rehabilitation	**0,4 %/year** (?1,0 e ?2,0%)	-	In spite of the value referring to the year is below the reference interval, it was chosen not to evaluate this indicator, since many operators manage recent systems and have conducted rehabilitation measure within the last 5 years.
AA 15 - Service connection rehabilitation	**n.a.** (=2,0%)	-	This indicator is not applicable to wholesaler operators.
AA 16 - Mains failures	**8 n.º/100 km/year** (? 15/100km)	🟢	-
AA 17 - Personnel	**2,5 n.º/10^6 m^3/ano** (?1,0 e ?1,7 / 10^6 m^3)	🟡	Despite the fact that a number of utility operators are in a phase of system implementation, with a reduced level of activity, there are opportunities for improvement. It is important that the utility operators continually adapt human resources to the level of activity of the systems, considering also the outsourcing level.
ENVIRONMENTAL SUSTAINABILITY			
AA 18 - Water use efficiency	**4,1%** (?4,0 %)	🟡	There are opportunities for improvement. Concessionaires should maintain efforts to reduce water loss through leakage, since this represents economic losses and poor environmental performance.
AA 19 - Standardised energy consumption	**0,4 kWh/m^3/100m** (? 0,40 kWh/m^3/100m)	🟢	-
AA 20 - Disposal of sludge from the water treatment	**129%** (100%)	🟢	The value of this indicator is influence by the turnover of the operator (EPAL - bulk supplier) that has disposed sludge from the water treatment relating to previous years.

Key: 🟢 good service quality; 🟡 acceptable service quality; 🔴 unsatisfactory service quality; ⚠ alert; n.a.: not applicable; n.r.: no response

Figure 2 – Benchmarking evaluation of the wholesale water supply service in 2008

Indicator	Weighted Average (Reference value)	Evaluation	Observations
PROTECTION OF THE USER INTERESTS			
AA01 - Service coverage	**84%** (≈100%)	🔴	There are opportunities for improvement. Concessionaires must maintain efforts to invest in infrastructure and promotion of effective accession of users, in conjunction with the municipal grantors, in a manner that not only guarantees sustainability of the system, but also effective use of the service to improve the quality of life of citizens and public health.
AA02 - Average water charges	**1.28 €/m^3** (-)	-	The 25th and 75th percentile are, respectively, 1.17 and 1.54 €/m^3.
AA03 - Service interruptions	**0.40 n.º/1000 connections/year** (≈0,00/1000 connections/year)	🟢	-
AA04 - Water tests performed	**99.99%** (100,00%)	🟢	-
AA05 - Quality of supplied water	**99.09%** (100,00%)	🟢	-
AA06 - Response to written complaints	**87%** (≈100%)	🟡	There are opportunities for improvement. It is important that operators develop internal procedures to ensure written response to all complaints received.
OPERATOR SUSTAINABILITY			
AA07 - Operating cost coverage ratio	**1.28** (>1,50)	🟡	There are opportunities for improvement. It is important that operators take measures which aim at controlling costs and that they create conditions so that the systems are in full operation within the deadlines which have been set.
AA08 - Unit running costs	**0.88 €/m^3** (-)	-	In this sector the indicators for the 25 and 75th percentile respectively are 0.99 and 1.41 €/m^3. The utility operators should make an effort to continue to improve efficiency in such a way as to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of the service.
AA09 - Debt equity ratio	**0.23** (≥0,20)	🟢	-
AA10 - Non-revenue water	**22.3%** (≤20,0%)	🟡	There are opportunities for improvement. It is necessary that operators make an effort to invest in the rehabilitation of pipelines and branches, in this way reducing the economic losses resulting from water which is lost without billing.
AA11 - Fulfilment of the water intake licensing	**10%** (100%)	ⓘ	There are opportunities for improvement. Utility operators should continue to present requests for licenses where these are lacking, and in conjunction with the relevant authorities, make efforts to accelerate the process.
AA12 - Treatment utilisation	**63%** (≥70 and ≤90%)	🟡	There are opportunities for improvement. It is important that the concessionaires, along with the municipalities, promote the connection of users in a way which guarantees infrastructural sustainability of the system and quality of life of citizens and public health.
AA13 - Transmission and distribution storage capacity	**1.4 days** (≥1,0 and ≤2,0 days)	🟢	-
AA14 - Mains rehabilitation	**0.8 %/year** (≥1,0 and ≤2,0%)	🟡	There are opportunities for improvement. It is important that utility operators evaluate the necessity of implementing programs of rehabilitation of pipelines, in many cases in conjunction with municipal grantors.
AA15 - Service connection rehabilitation	**2.3 %/year** (≈ 2,0%)	🟢	Even though the value for this indicator in the year in question is within the bounds set as reference, there are opportunities for improvement on the part of a significant number of utility operators who should evaluate the necessity for rehabilitation of pipeline connections.
AA16 - Mains failures	**63 n.º/100 km/year** (≤30/100km)	🔴	There are clear opportunities for improvement. It is important that utility operators, in conjunction with grantors, increase efforts to invest in the rehabilitation of pipelines, thereby reducing the number of failures and improving the operational sustainability of the system.
AA17 - Personnel	**3.9 n.º/1000 connections/year** (≥2,0 and ≤5,0/1000 connections/year)	🟢	-
ENVIRONMENTAL SUSTAINABILITY			
AA18 - Water use efficiency	**15.2%** (≤15,0 %)	🟡	There are opportunities for improvement. Concessionaires, in conjunction with grantor municipalities, should maintain efforts to reduce water loss through leakage, since this represents economic losses and poor environmental performance
AA19 - Standardised energy consumption	**0.4 kWh/m^3/100m** (≤ 0,40 kWh/m^3/100m)	🟢	-
AA20 - Disposal of sludge from the water treatment	**92%** (100%)	🟡	Even though this indicator is not applicable to the majority of utility operators in this category, there are opportunities for improvement for those to whom it is applicable. Effort should be made to provide treatment stations with lines for sludge treatment and to ensure an adequate final destination for sludge.

Key: 🟢 good service quality; 🟡 acceptable service quality; 🔴 unsatisfactory service quality; ⓘ alert; n.a.: not applicable.

Figure 3 – Benchmarking evaluation of the end-users water supply service in 2007

Indicator	Weighted Average (Reference value)	Evaluation	Observations
PROTECTION OF USER INTERESTS			
AA 01 - Service coverage	**86%** (=100%)	🟡	There are opportunities for improvement. Concessionaires must maintain efforts to invest in infrastructure and promotion of effective accession of users, in conjunction with the municipal grantors, in a manner that not only guarantees sustainability of the system, but also effective use of the service to improve the quality of life of citizens and public health.
AA 02 - Average water charges	**1,33 €/m3** (-)	-	In this sector, the 25th and 75th percentiles are, respectively, 1.17 and 1.54 €/m³.
AA 03 - Service interruptions	**0,55 n.º/1000** (=0,00/1000 connections)	🟢	-
AA 04 - Water tests performed	**99,95%** (100,00%)	🟡	There are opportunities for improvement. It is important that all utility operators maintain a continuous effort in performing all the required drinking water tests.
AA 05 - Quality of supplied water	**99,44%** (100,00%)	🟢	-
AA 06 - Reply to written complaints	**93%** (=100%)	🟡	There are opportunities for improvement. Utility operators should institute internal procedures in order to ensure a written reply to all complaints.
OPERATOR SUSTAINABILITY			
AA 07 - Operating cost coverage ratio	**1,34** (>1,50)	🟡	There are opportunities for improvement. It is important that operators take measures which aim controlling costs and creating conditions so that the systems are in full operation within the deadlines that have been set.
AA 08 - Unit running costs	**0,87 €/m3** (-)	-	In this sector, the indicators for the 25th and 75th percentiles are 0.94 and 1.32 €/m3 respectively. Utility operators should make an effort to continue to improve efficiency in a way to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of services.
AA 09 - Debt equity ratio	**0,25** (?0,20)	🟢	-
AA 10 - Non-revenue water	**19,9%** (?20,0%)	⚠	There are opportunities for improvement. Operators must make an effort to reduce the economic losses resulting from water which is lost without billing.
AA 11 - Fulfilment of the water intake licensing	**0%** (100%)	⚠	There are opportunities for improvement. Utility operators should continue to present requests for licenses where these are lacking, and in conjunction with the relevant authorities, make efforts to accelerate the process
AA 12 - Treatment utilisation	**49%** (?70 e ?90%)	🔴	There are opportunities for improvement. It is important that the concessionaires, along with the municipalities, promote the connection of users so infrastructural sustainability of the system and quality of life of citizens and public health is guaranteed.
AA 13 - Transmission and distribution storage capacity	**1,5 days** (?1,0 e ?2,0 dias)	🟢	-
AA 14 - Mains rehabilitation	**0,9 %/year** (?1,0 e ?2,0%)	🟡	There are opportunities for improvement. It is important that utility operators evaluate the necessity of implementing pipeline rehabilitation programmes, in many cases in conjunction with municipal grantors.
AA 15 - Service connection rehabilitation	**2,0 %/year** (=2,0%)	🟢	Even though the value for this indicator in the year in question is within the bounds set as reference, there are opportunities for improvement on the part of a significant number of utility operators who should evaluate the necessity for rehabilitation of pipeline connections.
AA 16 - Mains failures	**55 n.º/100 km/year** (?30/100km)	🟡	There are clear opportunities for improvement. It is important that utility operators, in conjunction with grantors, increase efforts to invest in the rehabilitation of pipelines, thereby reducing the number of failures and improving the operational sustainability of the system.
AA 17 - Personnel	**3,7 n.º/1000** (?2,0 e ?5,0/1000 connections)	🟢	-
ENVIRONMENTAL SUSTAINABILITY			
AA 18 - Water use efficiency	**15,2%** (?15,0 %)	🟡	There are clear opportunities for improvement. Concessionaires, in conjunction with grantor municipalities, should maintain efforts to reduce water loss through leakage, since this represents economic losses and poor environmental performance
AA 19 - Standardised energy consumption	**0,4 kWh/m^3/100m** (? 0,40 kWh/m³/100m)	🟢	-
AA 20 - Disposal of sludge from the water treatment	**100%** (100%)	🟢	-

Key: ˜ good service quality; ˜ acceptable service quality; ˜ unsatisfactory service quality; ⚠ alert; n.a.: not applicable; n.r.: no response

Figure 4 – Benchmarking evaluation of the end-users water supply service in 2008

Indicator	Weighted Average	Evaluation	Observations

	(Reference value)		
PROTECTION OF USER INTERESTS			
AR01 - Service coverage	**69%** (≈100%)	●	There are clear opportunities for improvement. It is necessary for utility operators to make efforts to invest in infrastructure and integrate the agreed municipal infrastructures in their systems.
AR02 - Average water charges	**0.38 €/m^3** (-)	-	In this sector the 25th and 75th percentile are, respectively, 0.33 and 0.50 €/m^3.
AR03 - Flooding occurrence	**127 m^2/100 km collector/year** (≈0 m^2/100 km/year)	●	There are opportunities for improvement. Utility operators should make an effort to minimise or end occurrences of flooding.
AR04 - Response to written complaints	**89%** (≈100 %)	●	There are opportunities for improvement. Utility operators should institute internal procedures in order to ensure a written response to all complaints.
OPERATOR SUSTAINABILITY			
AR05 - Operating cost coverage ratio	**1.69** (>1,50)	●	-
AR06 - Unit running costs	**0.26 €/m^3** (-)	-	In this sector the indicators for the 25 and 75th percentile respectively are 0.25 and 0.39 €/m^3. The utility operators should make an effort to continue to improve efficiency in such a way as to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of services.
AR07 - Debt equity ratio	**0.23** (≥0,20)	ⓘ	Although this figure could correspond to a generally satisfactory overall performance, in fact most of the utility operators submitted values lower than the reference figure, indicating a high level of debt. The average was distorted by one value which was considerably higher. There are clear opportunities for improvement and it is important that utility operators take measures to control bank indebtedness, particularly in relation to current activities, because of difficulties covering the debts of users.
AR08 - Treatment utilisation	**63%** (≥70 and ≤90 %)	ⓘ	Although this figure could correspond to an average performance overall, most of the utility operators submitted either higher or lower levels than the reference figure, indicating respectively over or under utilisation of treatment plants. There are clear opportunities for improvement, and it is important that utility operators take measures to minimise undue influxes in the cases of overutilization of treatment plants, and in cases of underutilisation to improve the waste water collecting by connecting to the existing sewer networks.
AR09 - Treatment of collected wastewater	**84%** (≈100 %)	ⓘ	This indicator takes into account previous treated industrial waste water that is collected and disposed.
AR10 - Wastewater pumping capacity	**8.5%** (-)	-	It is important to maintain efforts to match the pumping capacity with the wastewater volume to be elevated.
AR11 - Sewer rehabilitation	**0.2 %/year** (≥1,0 and ≤ 2,0 %)	-	Although the value for the year in analysis is lower than the reference figure, it was not evaluated since many utility operators manage recent systems and have seen some rehabilitation in the past four years.
AR12 - Service connection rehabilitation	**n.a.** (≈2,0 %)	-	-
AR13 - Sewer blockages	**9 n.º/100 km/year** (≤15/100 km)	●	-
AR14 - Pump failures	**68 hours/pumping station/year** (≤48 hours /pumping station)	●	It is considered that there are clear opportunities for improvement; it is important that the utility operators aim to reduce the number of failures in pumping stations.
AR15 - Sewer collapses	**1.7 n.º/100 km collector/year** (≈0,0/100 km)	●	It is considered that there are opportunities for improvement. It is important that the utility operators reduce the number of structural collapses, in order to contribute to the operational sustainability of the system.
AR16 - Personnel	**4.2 n.º/10^6 m^3/year** (>3,0 and <4,0 /10^6 m^3)	●	Despite the fact that a number of utility operators are in a phase of system implementation, with a reduced level of activity, there are opportunities for improvement. It is important that the utility operators continually adapt human resources to the level of activity of the systems, considering also the level of outsourcing.
ENVIRONMENTAL SUSTAINABILITY			
AR17 - Wastewater tests performed	**99%** (100%)	●	-
AR18 - Fulfilment of the wastewater discharge parameters	**69%** (100%)	●	There are clear opportunities for improvement. It is important that most utility operators take measures, in terms of operation and expansion of treatment stations, in such a way, that there are adequate levels of treatment.
AR19 Energy efficient use of resources	**0.31 kWh/m^3** (-)	-	It is important to continue to promote the efficient use of energy in terms of an adequate conception of the systems, through optimal operation and eventually by introducing energy production devices..
AR20 - Sludge disposal	**80%** (100%)		Even though there are a significant number of situations in which operators are waiting for the requested approval for waste disposal, there exist a number of situations in which operators need to improve attempts to ensure adequate final disposal of waste.

Key: ● good service quality; ● acceptable service quality; ● unsatisfactory service quality; ⓘ alert; n.a.: not applicable.

Figure 5 – Benchmarking evaluation of the wholesale wastewater service in 2007

Indicator	Weighted Average (Reference value)	Evaluation	Observations
PROTECTION OF USER INTERESTS			
AR 01 - Service coverage	**69%** (=100%)	🔴	There are clear opportunities for improvement. It is necessary for utility operators to make efforts to invest in infrastructure and integrate the agreed municipal infrastructures in their systems.
AR 02 - Average water charges	**0,40 €/m³** (-)	-	In this sector, the 25th and 75th percentiles are, respectively, 0.36 and 0.52 €/m³.
AR 03 - Flooding occurrence	**125 m2/100 km collector/year** (=0 m²/100 km)	🟡	There are opportunities for improvement. Utility operators should make an effort to minimise or end occurrences of flooding, thus effectively ensuring the defence of the consumer interests in terms of service quality.
AR 04 - Reply to written complaints	**95%** (=100 %)	🟢	-
OPERATOR SUSTAINABILITY			
AR 05 - Operating cost coverage ratio	**1,72** (>1,50)	🟢	-
AR 06 - Unit running costs	**0,26 €/m3** (-)	-	In this sector, the indicators for the 25th and 75th percentiles are 0.23 and 0.42 €/m3 respectively. Utility operators should make an effort to continue to improve efficiency in a way to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of services.
AR 07 - Debt equity ratio	**0,21** (?0,20)	ⓘ	Although this figure could correspond to a generally satisfactory overall performance, in fact most of the utility operators submitted values lower than the reference figure, indicating a high level of debt. There are clear opportunities for improvement and it is important that utility operators take measures to control bank debt, particularly in relation to current activities, due to difficulties covering the debts of users.
AR 08 - Treatment utilisation	**65%** (?70 e ?90 %)	ⓘ	Although this figure could correspond to an average performance overall, most of the utility operators submitted either higher or lower levels than the reference figure, indicating respectively over or under utilisation of treatment plants. There are clear opportunities for improvement, and it is important that utility operators take measures to minimise undue influxes in the cases of over utilization of treatment plants, and in cases of under-utilisation to improve collection of waste water by connecting to the existing sewer networks.
AR 09 - Treatment of collected wastewater	**96%** (=100 %)	ⓘ	This indicator takes into account previously treated industrial waste water that is collected and disposed of.
AR 10 - Wastewater pumping capacity	**8,3%** (-)	-	It is important to maintain efforts to match the pumping capacity with the wastewater volume to be pumped.
AR 11 - Sewer rehabilitation	**0,3 %/year** (?1,0 e ? 2,0 %)	-	Although the value for the analized year is lower than the reference figure, it was not evaluated since many utility operators manage recent systems and have seen some rehabilitation in the past 5 years.
AR 12 - Service connection rehabilitation	**(-)** (=2,0 %)	-	This indicator is not applicable to wholesale utility operators.
AR 13 - Sewer blockages	**9 n.º/100 km/year** (?15/100 km)	🟢	-
AR 14 - Pump failures	**50 hours/pumping station/year** (?48 hours /pumping station)	🟡	It is considered that there are clear opportunities for improvement; it is important that utility operators aim the reduction of the number of failures in pumping stations.
AR 15 - Sewer collapses	**1,5 n.º/100 km collector/year** (=0,0/100 km)	🟡	It is considered that there are opportunities for improvement. It is important that the utility operators reduce the number of structural collapses, in order to contribute to the operational sustainability of the system
AR 16 - Personnel	**4,0 n.º/10^6 m^3/year** (>3,0 e <4,0 /10⁶ m³)	ⓘ	Despite the fact that a number of utility operators are in a phase of system implementation, with a reduced level of activity, there are opportunities for improvement. It is important that the utility operators continually adapt human resources to the level of activity of the systems,
ENVIRONMENTAL SUSTAINABILITY			
AR 17 - Wastewater tests performed	**92%** (100%)	🔴	There are clear opportunities for improvement. It is important that most utility operators take measures to perform all the wastewater tests required by the legislation in force.
AR 18 - Fulfilment of the wastewater discharge parameters	**75%** (100%)	🔴	There are clear opportunities for improvement. It is important that most utility operators take measures, in terms of operation and expansion of treatment stations, in a way of adequate treatment levels .
AR 19 - Energy efficient use of resources	**0,43 kWh/m^3** (-)	-	It is important to continue to promote the efficient use of energy in terms of adequate system design, through optimal operation and eventually by introducing energy production devices.
AR 20 - Sludge disposal	**93%** (100%)	ⓘ	There are opportunities for improvement. The utility operators should continuously promote the adequate final disposal of waste. This value does not yet reflect the delivery for final disposal to an utility operator that was not licensed in the year under analysis, in accordance to Decree Law 178/2006.

Key: ˜ good quality of service; ˜ acceptable service quality; ˜ unsatisfactory service quality; ⓘ alert; n.a.: not applicable; n.r.: no response

Figure 6 – Benchmarking evaluation of the wholesale wastewater service in 2008

	(Reference value)		
PROTECTION OF USER INTERESTS			
AR 01 - Service coverage	**69%** (≈100%)	●	There are opportunities for improvement. Concessionaires should make an effort to invest in infrastructures an promote effective accession of users, in conjunction with the municipal grantors, in a manner that not only guarantees sustainability of the system, but also effective use of the service to improve the quality of life of citizens and public health.
AR 02 - Average water charges	**0.69 €/m^3** (-)	-	In this sector the 25th and 75th percentile are, respectively, 0.56 and 0.96 €/m^3.
AR 03 - Flooding occurrence	**0.4 n.º/100 km collector/year** (≈ 0,0 prop./100 km)	●	-
AR 04 - Response to written complaints	**76%** (≈100%)	●	There are clear opportunities for improvement. It is important that utility operators take action to establish internal procedures in order to ensure a written response to all the complaints received.
OPERATOR SUSTAINABILITY			
AR 05 - Operating cost coverage ratio	**1.16** (>1,50)	●	There are opportunities for improvement. Utility operators should take measures to control costs and to create conditions so that systems enter in full exploitation within the defined deadlines.
AR 06 - Unit running costs	**0.74 €/m^3** (-)	-	In this sector the indicators for the 25 and 75th percentile respectively are 0.60 and 0.93 €/m^3. The utility operators should make an effort to continue to improve efficiency in such a way as to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of the service.
AR 07 - Debt equity ratio	**0.09** (≥0,20)	●	There are clear opportunities for improvement. Concessionaires should adopt methods for the full compliance with the concession contract, namely in the development of investment plans. In this way they can, along with grantors, promote investment in infrastructure and the connection of users of the system.
AR 08 - Treatment station utilisation	**87%** (≥70 and ≤90%)	ⓘ	Although this figure could correspond to an average performance overall, most of the utility operators submitted lower levels than the reference figure, indicating the under utilisation of treatment plants. There are clear opportunities for improvement in cases of underutilisation by connecting to the existing sewer networks and the users to the sewer networks.
AR 09 - Treatment of collected wastewater	**93%** (≈100%)	●	There are opportunities for improvement. It is important that the utility operators take measures to undertake work on the network connections to the treatment plants, if necessary in conjunction with the municipal grantors.
AR 10 - Wastewater pumping capacity	**10.9%** (-)	-	It is important to maintain efforts to match the pumping capacity with the wastewater volume to be elevated.
AR 11 - Sewer rehabilitation	**0.2 %/year** (≥1,0 and ≤2,0%)	●	There are clear opportunities for improvement. It is important that concessionaires evaluate the necessity of implementing programs of rehabilitation of sewers, in many cases in conjunction with the municipal grantors.
AR 12 - Service connection rehabilitation	**0.3 %/year** (≈2,0%)	●	There are clear opportunities for improvement. It is important that utility operators evaluate the necessity of implementing programs of rehabilitation of pipelines, in many cases in conjunction with the grantors.
AR 13 - Sewer blockages	**99 n.º/100 km/year** (≤30/100km)	●	There are clear opportunities for improvement. It is important that the utility operators put adequate effort into maintaining, and where necessary, in conjunction with the grantors, to increase the investment in this area, contributing to a reduction in blockages, which will prevent the further deterioration of the service.
AR 14 - Pump failures	**2 hours/pumping station/year** (<48hours/pumping station/year)	●	-
AR 15 - Structural collapse in sewers	**1.8 n.º/100 km collector/year** (≈ 0,0/100km/year)	●	There are opportunities for improvement. It is important that concessionaires, if necessary in conjunction with municipal grantors, reduce the number of structural collapses in sewers in order to contribute to the operational sustainability of the system.
AR 16 - Personnel	**4.2 n.º/100 km colector/year** (>5,0 and <10,0 / 100km)	●	There are opportunities for improvement. A significant number of utility operators need to re-evaluate, along with the grantors, the size of their organisations with the aim of guaranteeing the user efficient service provision.
ENVIRONMENTAL SUSTAINABILITY			
AR 17 - Wastewater tests performed	**100 %** (100%)	●	-
AR 18 - Fulfilment of wastewater discharge parameters	**85%** (100%)	●	There are clear opportunities for improvement. It is important that most utility operators take measures, in terms of operation and expansion of treatment plants, in such a way that there are adequate levels of treatment.
AR 19 - Energy efficient use of resources	**0.36 kWh/m^3** (-)	-	It is important to continue to promote the efficient use of energy in terms of an adequate conception of the systems, through optimal operation and eventually by introducing energy production devices.
AR 20 - Sludge disposal	**26%** (100%)	ⓘ	Even though there are a significant number of situations in which operators are waiting for the requested approval for waste disposal, there exist a number of situations in which operators need to improve attempts to ensure adequate final disposal for waste.

Key: ● good service quality; ● acceptable service quality; ● unsatisfactory service quality; ⓘ alert; n.a.: not applicable.

Figure 7 – Benchmarking evaluation of the end-users wastewater service in 2007

Indicator	Weighted Average (Reference value)	Evaluation	Observations
PROTECTION OF USER INTERESTS			
AR 01 - Service coverage	**71%** (=100%)	🔴	There are opportunities for improvement. Concessionaires should make an effort to invest in infrastructures and promote effective accession of users, in conjunction with the municipal grantors, in a manner that not only guarantees sustainability of the system, but also effective use of the service to improve the quality of life of citizens and public health.
AR 02 - Average water charges	**0,71 €/m3** (-)	-	In this sector the 25th and 75th percentiles are, respectively, 0.58 and 0.98 €/m^3.
AR 03 - Flooding occurrence	**0,5 n.º/100 km** (= 0,0 prop./100 km)	🟢	-
AR 04 - Reply to written complaints	**86%** (=100%)	🟡	There are clear opportunities for improvement. It is important that utility operators take action to establish internal procedures in order to ensure a written reply to all complaints received.
OPERATOR SUSTAINABILITY			
AR 05 - Operating cost coverage ratio	**1,18** (>1,50)	🟡	There are opportunities for improvement. Utility operators should take measures to control costs and to create conditions so that systems enter in full operation within the defined deadlines.
AR 06 - Unit running costs	**0,78 €/m3** (-)	-	In this sector the indicators for the 25 the and 75th percentiles are 0.63 and 0.98 €/m3 respectively. The utility operators should make an effort to continue to improve efficiency in a way to reduce costs for users. They should also differentiate between the costs incurred for different activities so that the overall pricing is transparent, reflecting only the cost of the service.
AR 07 - Debt equity ratio	**0,07** (≥0,20)	🔴	There are clear opportunities for improvement. Concessionaires should adopt methods for full compliance with the concession contract, namely in the development of investment plans. In this way they can, along with grantors, promote investment in infrastructure and the connection of users of the system, in order to ensure the sustainability of the concession.
AR 08 - Treatment station utilisation	**89%** (≥70 e ≤90%)	ⓘ	Although this figure could correspond to an average performance overall, most of the utility operators submitted lower levels than the reference figure, indicating the under utilisation of treatment plants. There are clear opportunities for improvement in cases of under-utilisation by connecting the existing sewer networks and the users to the sewer networks.
AR 09 - Treatment of collected wastewater	**96%** (=100%)	🟡	There are opportunities for improvement. It is important that the utility operators take measures to undertake work on the network connections to the treatment plants, if necessary in conjunction with the municipal grantors.
AR 10 - Wastewater pumping capacity	**9,7%** (-)	-	It is important to maintain efforts to match the pumping capacity to the wastewater volume to be pumped.
AR 11 - Sewer rehabilitation	**0,2 %/year** (≥1,0 e ≤2,0%)	🔴	There are clear opportunities for improvement. It is important that concessionaires evaluate the necessity to implement sewer rehabilitation programmes, in many cases in conjunction with the municipal grantors.
AR 12 - Service connection rehabilitation	**0,5 %/year** (=2,0%)	🔴	There are clear opportunities for improvement. It is important that utility operators evaluate the necessity of pipeline rehabilitation programmes, in many cases in conjunction with the grantors.
AR 13 - Sewer blockages	**91 n.º/100 km/year** (≤30/100km)	🔴	There are clear opportunities for improvement. It is important that the utility operators put adequate effort into maintaining, and where necessary, in conjunction with the grantors, to increase the investment in this area, contributing to a reduction in blockages, which will prevent the further deterioration of the service.
AR 14 - Pump failures	**5 hours/pumping station/year** (<48hours/pumping station)	🟢	-
AR 15 - Structural collapse in sewers	**2,0 n.º/100 km collector/year** (= 0,0/100km)	🟢	-
AR 16 - Personnel	**9,3 n.º/100 km collector/year** (>5,0 e <10,0 / 100km)	🟢	-
ENVIRONMENTAL SUSTAINABILITY			
AR 17 - Wastewater tests performed	**98%** (100%)	🟡	There are clear opportunities for improvement. It is important that most utility operators take measures to perform all the wastewater tests required by the legislation in force.
AR 18 - Fulfilment of wastewater discharge parameters	**90%** (100%)	🔴	There are clear opportunities for improvement. It is important that most utility operators take measures, in terms of operation and expansion of treatment plants, in a way that there are adequate levels of treatment.
AR 19 - Energy efficient use of resources	**0,33 kWh/m^3** (-)	-	It is important to continue to promote the efficient use of energy in terms of adequate system design, through optimal operation and eventually by introducing energy production devices
AR 20 - Sludge disposal	**19%** (100%)	ⓘ	There are clear opportunities for improvement. Operators need to improve attempts to ensure adequate final disposal for waste. This value does not reflect, as yet, the delivery for final disposal of waste to an operator who waste not licensed in the year under analysis, in accordance to Decree Law 178/2006 and 118/2006.

Key: 🟢 good quality of service; 🟡 acceptable quality of service; 🔴 unsatisfactory quality of service; ⓘ alert; n.a.: not applicable; n.r.: no response

Figure 8 – Benchmarking evaluation of the end-users wastewater service in 2008

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

VI. LEVELS OF PERFORMANCE OF COLLECTIVE SYSTEMS AND OTHER SYSTEMS FOR SANITATION (ART. 6 (2) (e) continued)

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

VII. APPLICATION OF RECOGNIZED GOOD PRACTICES TO THE MANAGEMENT OF WATER SUPPLY, (ARTICLE 6, PARAGRAPH 2 (f))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

VIII. APPLICATION OF RECOGNIZED GOOD PRACTICE TO THE MANAGEMENT OF SANITATION (ART. 6, PARAGRAPH 2 (f)) continued)

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

IX. OCCURRENCE OF DISCHARGES OF UNTREATED WASTEWATER (ART. 6, PARAGRAPH 2(g) (i))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

X. OCCURRENCE OF DISCHARGES OF UNTREATED STORM WATER OVERFLOWS FROM WASTEWATER COLLECTION SYSTEMS TO WATERS WITHIN THE SCOPE OF THE PROTOCOL (ART. 6, PARAGRAPH 2 (g) (ii))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XI. QUALITY OF DISCHARGES OF WASTEWATER FROM WASTEWATER TREATMENT INSTALLATIONS TO WATERS WITHIN THE SCOPE OF THE PROTOCOL (ART. 6, PARAGRAPH 2 (h))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XII. DISPOSAL OR REUSE OF SEWAGE SLUDGE FROM COLLECTIVE SYSTEMS OF SANITATION OR OTHER SANITATION INSTALLATIONS (ART. 6, PARAGRAPH 2 (i), first part)

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XIII. QUALITY OF WASTEWATER USED FOR IRRIGATION PURPOSES (ART. 6, PARAGRAPH 2 (i), second part)

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XIV. QUALITY OF WATERS USED AS SOURCES FOR DRINKING WATER (ART. 6, PARAGRAPH 2 (j), first part)

These waters, formerly under directive 75/440/EEC, are since 2007 under WFD where this type of targeted analysis should have been made.

However the planning activity in Portugal is delayed for at least one year and the global country's picture has not yet been released.

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XV. QUALITY OF WATERS USED FOR BATHING (ART. 6, PARAGRAPH 2 (j), second part)

As regards the coastal waters, Portugal has since 1993 been reducing the percentage of non-compliant bathing areas, having reached in 2009 the highest rate of compliance (96.8%).

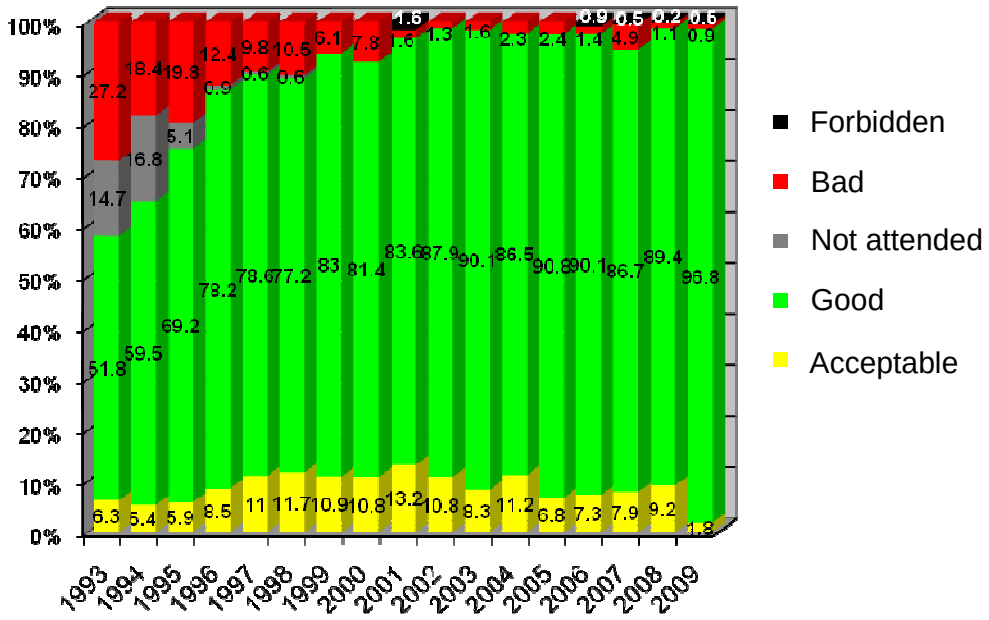

Figure 9 – Percentage of compliant bathing waters in each year

These results are very much representative since the number of designated bathing areas have increased permanently

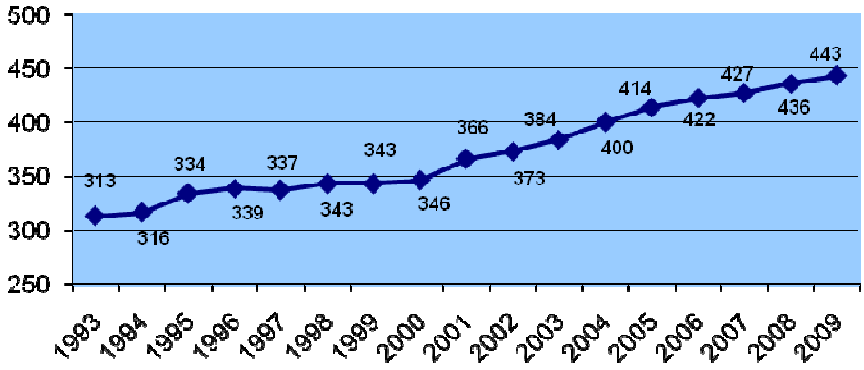

Figure 10 – Number of designated coastal bathing areas according to the year

As regards the inland waters Portugal has since 1993 been reducing the percentage of non-compliant bathing areas, having reached in 2009 89.7% of compliant waters.

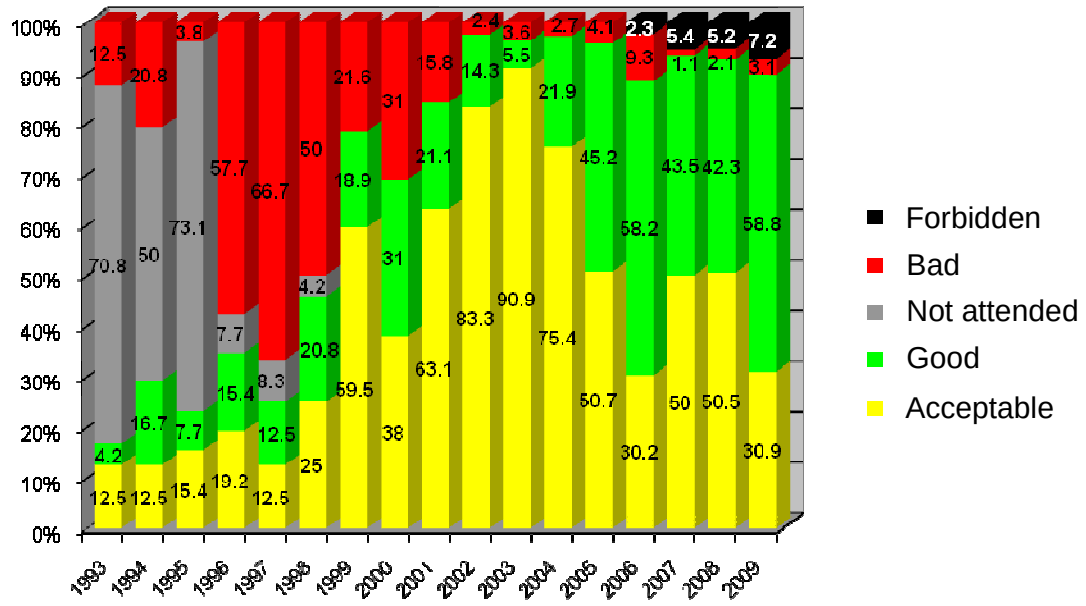

Figure 11 – Percentage of compliant bathing waters in each year

Again these results are highly representative since the number of designated bathing areas have increased permanently

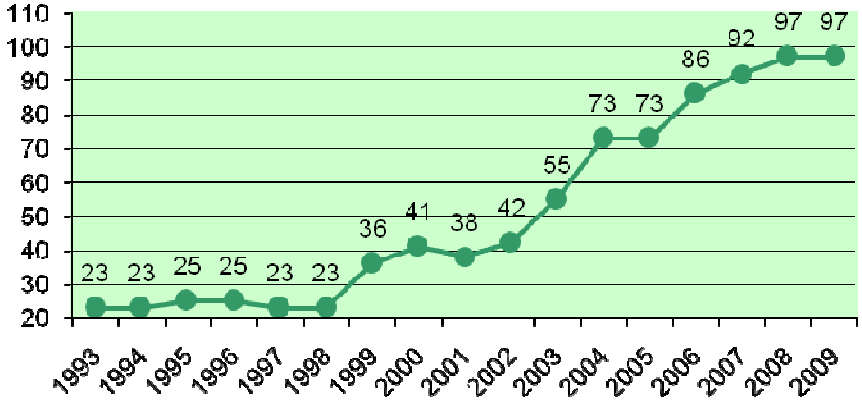

Figure 12 – Number of designated inland bathing areas according to the year

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XVI. QUALITY OF WATERS USED FOR AQUACULTURE OR FOR THE PRODUCTION OR HARVESTING SHELLFISH (ART. 6, PARAGRAPH 2 (j), third part)

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XVII. APPLICATION OF RECOGNIZED GOOD PRACTICE IN THE MANAGEMENT OF ENCLOSED WATERS GENERALLY AVAILABLE FOR BATHING (ART. 6, PARAGRAPH 2 (k))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XVIII. IDENTIFICATION AND REMEDIATION OF PARTICULARLY CONTAMINATED SITES (ART. 6, PARAGRAPH 2 (l))

For each target set in this area:

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

Portugal does not have a specific inventory of potentially contaminated soils. Data is collected by several public authorities. This data is disperse and clustered by economic sectors such as agriculture and forestry, mining and other industrial activities. Site contamination is identified where intervention is planned or has already taken place.

Aveiro University identified 854 potentially contaminated sites situated in Natural Reserves or Special Natural Sites. This study (Locais potencialmente contaminados. Relatório Preliminar, 2006), based on enquiries undertaken by 5 Universities from different regions - Universities of Minho, Aveiro, Algarve, Porto and Nova de Lisboa - classified the sites according to whether the contaminants were hazardous or non hazardous wastes.

There are occurrences of soil contamination in Portugal, geographically limited but dispersed over the territory, resulting from industrial and urban activities which have since eroded to a present situation of de-activation or abandonment. These are important environmental liabilities, carrying risks both to public health and to ecosystems.

Remediation of environmental liabilities is a cornerstone of the economic recovery of regions where, in many cases, the activities which led to the environmental liabilities resulted also in job creation. The improvement of areas promotes the creation of value intrinsic to the territory and cities, not only in terms of environment but also economically. This ensures environmental benefits while reducing risks and contributes positively to the maintenance of biodiversity and offering better conditions for the future use of the soils.

Contaminated areas may present potential risks to public health, to the ecological diversity of natural ecosystems and to the contamination of aquifers. They can also be socially and economically depreciating for the surrounding region. Abandoned mines and contaminated soils are particularly concerning due to their specificity.

Examples of such sites include Estarreja industrial zone, the grounds of the National Steelworks (Siderurgia Nacional) in Seixal, the former industrial zone at Barreiro, the Sines complex and the Alcanena tanneries. In 2003 were also identified 172 mining sites, 66 of which could potentially contaminate soils and be considered as cases for intervention.

The most critical situations involving abandoned mining zones are to be found in the North, particularly in the Northwest; in the Central region, especially the interior Districts; and the Alentejo region, where the environmental recovery of the degraded former uranium mining areas are the high priority.

Soil decontamination operations and the monitoring of disposal sites after the decommissioning of the respective installations is addressed in Article 2 of Decree-Law n.º 178/2006, of 5 September. This Ordinance establishes the general regime for waste management, transposing to the national legislation Directive 2006/12/EC of the European Parliament and of the Council of 5 April on waste, and the Council Directive 91/689/EEC of 12 December 1991 on hazardous waste. Article 24 b) of the Decree-Law establishes that the licensing entity for soil decontamination operations is the

Regional Coordination and Development Commission which is competent as Regional Waste Authority.

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

The National Programme for Spatial Planning Policy is a foundation for measures under the National Strategic Reference Framework (Portuguese acronym QREN) with regard to the Enhancement of the Territory Thematic Priority. It identifies soil degradation as one of the main challenges the country faces. Under this legal and institutional framework, and through Decree Law 28176/2007 of August 24, a Work Group was established to carry out necessary tasks for the preparation of a framing and guiding document of the aforementioned programme of investments.

Environmental liabilities are covered under the Programme for Planning and Enhancement of the Territory (Portuguese acronym POVT), 2007-2012), as well as by Regional Operational Programmes in the frame of QREN.

Objectives under the scope of action for "Recuperation of Environmental Liabilities" include the prevention of risks and the environmental and socio-economic enhancement of the territory. This offers better conditions for soil use in future, through the remediation of contaminated areas and mines where there are risks to aquifers, ecosystems or human health and, simultaneously, where the application of the polluter pays principle or the principle of responsibility are not viable, or the capacity to internalize costs of remediation is proven not to exist.

Contaminated sites or soils where intervention is considered to be of national priority are: Siderurgia Nacional (steelworks) sites, Estarreja, Sines, Seixal and old industrial sites at Barreiro, as well as the Alviela basin in the Alcanena region. Radioactive mine sites were also considered priorities for intervention.

Measures foreseen for continental Portugal include the following:

a) Corrective action to reduce and eliminate contamination sources in degraded areas connected to extractive industries or in contaminated sites or soils where intervention is considered to be of national priority;

b) Corrective action in degraded areas connected to extractive industries or in contaminated sites or soils where intervention is considered to be of national priority, involving the erecting of physical barriers to impede the leakage of contaminants;

c) Actions to enhance or regenerate degraded areas connected to extractive industries or in contaminated sites or soils where intervention is considered to be of national priority;

d) Studies, plans, and national projects required to implement actions of a physical nature to be co-financed by the Programme;

e) Actions involving the monitoring of contaminants in contaminated sites or soils where intervention is considered to be of national priority

Decree Law 150/2008, of 30 July, approves the Regulation of Environmental Intervention Fund which has the mission to finance projects, among others, regarding "Recuperation of Environmental Liabilities".

The Portuguese Environment Agency has been developing studies in order to publish in 2010, the following documents:

- *Legislation on soil protection~*
- *Standards for assessment of contaminated soils*

3. Briefly assess the progress achieved towards the target.

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

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

XIX. EFFECTIVENESS OF SYSTEMS FOR THE MANAGEMENT, DEVELOPMENT, PROTECTION AND USE OF WATER RESOURCES (ART. 6, PARAGRAPH 2 (m))

For each target set in this area:

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

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

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

XX. ADDITIONAL NATIONAL OR LOCAL SPECIFIC TARGETS

In case additional targets have been set, for each target:

1. Describe the target, target date and baseline conditions. Please include information on whether target is national or local, and intermediate targets as relevant.

2. Briefly describe the actions taken (e.g. legal/regulatory, financial/economic and informational/ educational and management measures) to reach the target and, if applicable, the difficulties and challenges encountered.

3. Briefly assess the progress achieved towards the target.

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

PART FOUR: OVERALL EVALUATION OF PROGRESS ACHIEVED IN IMPLEMENTING THE PROTOCOL

This part of the summary report shall provide an analysis and synthesis of the status of implementation of the Protocol. Such an overall evaluation should not only be based on the issues touched upon in the previous parts, but should also include, as far as is possible, a succinct overview of implementation of: article 9 on public awareness, education, training, research and development and information; article 10 on public participation; article 11 on international cooperation; article 12 on joint and coordinated international action; article 13 on cooperation in relation to transboundary waters; and article 14 on international support for national action.

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

As we stated in the beginning of this report, in 1993 Portugal decided to organize the water sector with the aim to provide universal access to drinking water and sanitation with proper quality. For this goal Portugal defined strategic plans (PEAASAR I e II) where most of the topics of the Protocol on Water and Health were included.

It was also a great aid to be a member of the European Community, not only because Portugal have the opportunity to have access to structural funds, but also the duty to implement European directives. In fact, the obligation of complying with the European legal framework it is a driving force for acquiring good levels of development.

This means that the Protocol on Water and Health is an additional tool aid to achieve our goals, namely to provide to all Portuguese citizens proper drinking water and sanitation.

However, we cannot say yet that we have implemented fully this protocol. Actually, there is still a lot of work to do, particularly in improving the coordination between the different public entities that must be involved in the implementation of this protocol, specifically in the definition of some targets and the compilation of the data that are crucial for making progress evaluations and, if necessary, adjustments to the strategies to achieve the defined targets or even the redefinition of the targets itself.

We included the information that we have available for the different chapters of this report and we are going to make the right efforts to give a more positive contribute to the aim of this protocol in the next reporting exercise.

We consider that will be quite helpful for Portugal, together with its membership in the European Union, the full implementation of the Protocol on Water and Health. In reality, the information exchanged between the parties is crucial for us to achieve the goals of our strategic plans.

PART FIVE: 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:

Jaime Melo Baptista

E-mail:

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Telephone number:

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Name and address of national authority:

The Water and Waste Services Regulation Authority (ERSAR)
Centro Empresarial Torres de Lisboa
Rua Tomás da Fonseca, Torre G – 8.º
1600-209 LISBOA
PORTUGAL

Signature:

Date:

Submission

Parties are required to submit their summary reports to the joint secretariat, using the format outlined in these guidelines, by **31 March 2010**. Submission of the reports ahead of this deadline is encouraged, as this would help facilitate the preparation of analyses and syntheses to be made available to the second meeting of the Parties.

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

Joint secretariat to the Protocol on Water and Health

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