Regulation as an instrument for improving effectiveness and efficiency in public water and waste services



Regulation of water and waste management services

Performance indicator benchmarking: its role in the regulation of Portuguese
Water services

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Regulated entities

The size and diversity of the regulated community are vast, spanning state owned companies and numerous municipalities, and includes a diverse range of governance models:

ERSAR

Universe of

498

entities

... State owned and municipalities ... in direct management model, by delegation or concession ... operating bulk or retails systems or

both

393 water supply entities

281 wastewater management services entities

277 municipal solid waste management entities

Ten million consumers



The rationale for regulation

 Improving consumer water services needs an holistic approach: Susta

Environmental sustainability:

- Uses of environmental resources
- Prevention of pollution

Sustainability of the sector:

- National strategy
- Legal framework
- Information
- Innovation (R&D)





Water supply services

Utilities

Consumers

Wastewater services

Sustainability of the utilities:

- Economic
- Infrastructural
- Human resources

Consumer service:

- Physical access
- Economic affordability
- Quality of service
- Water quality for human consumption



The role of the water services regulation. Why, what and how?



Need for regulation

- When a public service is a monopoly, we find:
 - Lower incentives for utilities to increase efficiency
 - Risk of lower quality of service and higher than necessary prices
 - Risk of dominance of utility over consumer interests
- This means there is an increased need for explicit regulation!
- What is regulation?
 - It is a modern form of public intervention aimed to guarantee a better balance between utility and consumer interests in the provision of these services under more transparent processes.





Consume



Regulatory model

Structural regulation of the sector:

Contribution to national strategy formulation for the sector

Contribution to the clarification and improvement of rules and legislation governing the sector

Regulation of utility behaviour:

Consumer complaint assessment

Economic regulation of the utilities

Quality of service regulation of the utilities

Water quality regulation of the utilities

Legal and contractual monitoring of the utilities

Auxiliary regulatory activities:

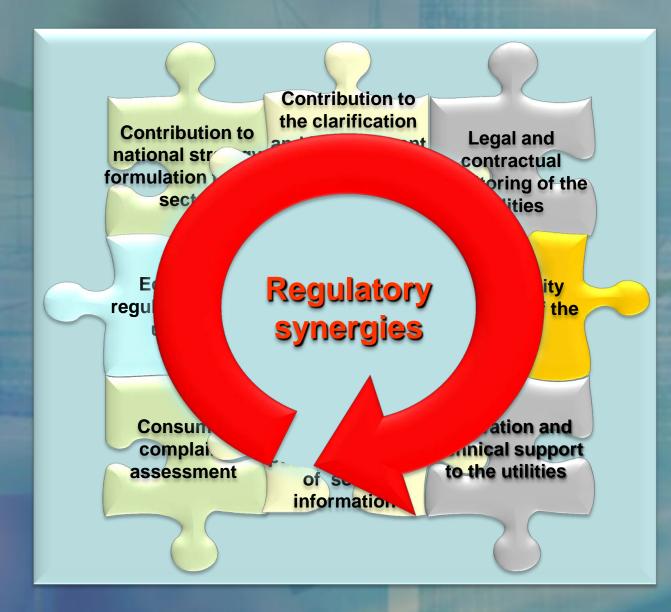
Collection, validation, processing and public disclosure of sound information

Innovation and technical support to the utilities



Regulatory synergies

 Strong regulatory synergies between the components of the regulatory model





The water services quality assessment





- Protect the interests of users regarding the quality of service provided
- Constrain the behavior of entities about the quality of service they provide to users
- Compare results between entities (benchmarking)
- Encourage entities towards efficiency and effectiveness
- Consolidating a concise, credible and easy to interpret by all information culture



Quality of service assessment

- Based on a set of 16 quality service indicators for each regulated service (2nd generation), assessing:
 - Interface with the consumers
 - Utility sustainability
 - Environmental sustainability
- Some basic principles have been established to define a rating scale for each indicator:
 - Establish realistic goals to be achieved by operators
 - Define reliable procedures for implementing the assessment system
 - Process the data and disseminate the results
- The results are presented in terms of good, average or poor performance, flagged with a green, yellow or red ball, as appropriate.



Water supply performance indicators

	ENSAN	
	Protection of the user interests	User service accessibility AA 01 - Service coverage AA 02 - Average water charges Quality of service supplied to users AA 03 - Service interruptions AA 04 - Water tests performed AA 05 - Quality of supplied water AA 06 - Response to written complaints
	Sustainability of the utility	Operator's economical and financial sustainability AA 07 - Operating cost coverage ratio AA 08 - Unit running costs AA 09 - Debt equity ratio AA 10 - Non-revenue water Operator's infrastructural sustainability AA 11 - Fulfilment of the water intake licensing AA 12 - Treatment utilisation AA 13 - Transmission and distribution storage capacity AA 14 - Mains rehabilitation AA 15 - Service connection rehabilitation Operator's operational sustainability AA 16 - Mains failures Operator's human resources sustainability AA 17 - Personnel
	Environmental sustainability	AA 18 - Inefficiency of use of water resources AA 19 - Standardised energy consumption AA 20 - Disposal of sludge from the water treatment



Wastewater services performance indicators

Protection of the user interests	User service accessibility AR 01 - Service coverage AR 02 - Average water charges Quality of service supplied to users AR 03 - Flooding occurrence AR 04 - Response to written complaints
Sustainability of the utility	Operator's economical and financial sustainability AR 05 - Operating cost coverage ratio AR 06 - Unit running costs AR 07 - Debt equity ratio Operator's infrastructural sustainability AR 08 - Treatment utilisation AR 09 - Treatment of collected wastewater AR 10 - Wastewater pumping capacity AR 11 - Sewer rehabilitation AR 12 - Service connection rehabilitation Operator's operational sustainability AR 13 - Sewer blockages AR 14 - Pump failures AR 15 - Sewer collapses Operator's human resources sustainability AR 16 - Personnel
Environmental sustainability	AR 17 - Wastewater tests performed AR 18 - Fulfilment of the wastewater discharge parameters AR 19 - Energy resources efficiency use AR 20 - Sludge disposal



Water supply performance indicators (2nd generation)

	Protection of user interests	Accessibility of service for users AA01 - Physical accessibility of the service AA02 - Affordability of the service Quality of service provided to users AA03 - Service interruptions AA04 - Safe water AA05 - Reply to written suggestions and complaints
WATER INDICATORS	Operator sustainability	Economic sustainability AA06 – Cost recovery ratio AA07 - Connection to the service AA08 - Non-revenue water Infrastructural sustainability AA09 - Adequacy of treatment capacity AA10 - Mains rehabilitation AA11 - Mains failures Physical productivity of human resources AA12 - Adequacy of human resources
	Environmental sustainability	Efficient use of environmental resources AA13 – Real water losses AA14 - Fulfilment of the water abstraction licensing AA15 – Standardised energy consumption Efficiency in pollution prevention AA16 - Sludge disposal



Wastewater supply performance indicators (2nd generation)

	Protection of users interests	Accessibility of service for users AR01 - Physical accessibility of the service AR02 - Affordability of the service Quality of service provided to users AR03 - Flooding occurrences AR04 - Reply to written suggestions and complaints
WASTEWATER INDICATORS	Operator sustainability	Economic sustainability AR05 – Cost recovery ratio AR06 - Connection to the service Infrastructural sustainability AR07 - Adequacy of treatment capacity AR08 - Sewer rehabilitation AR09 - Sewer collapses Physical productivity of human resources AR10 - Adequacy of human resources
WAS	Environmental sustainability	Efficient use of environmental resources AR11 – Standardised energy consumption Efficiency in pollution prevention AR12 – Proper treatment of collected wastewater AR13 - Emergency control discharges AR14 - Wastewater analysis AR15 - Compliance of discharge parameters AR16 - Sludge disposal



Quality of service assessment

- For example, as an indicator of the user interface, consider the indicator of economic affordability.
- National strategy with clear targets to serve 95% of the population with water supply and 90% with treated wastewater.
 - National strategy to achieve tariffs sustainability but also affordability based on a new indicator of affordability:

Economic accessibility indicator

Annual water bill for a typical family (120 m³)

Annual income for a typical family in the region

 Subsidisation can be used when necessary but in a rational and transparent context

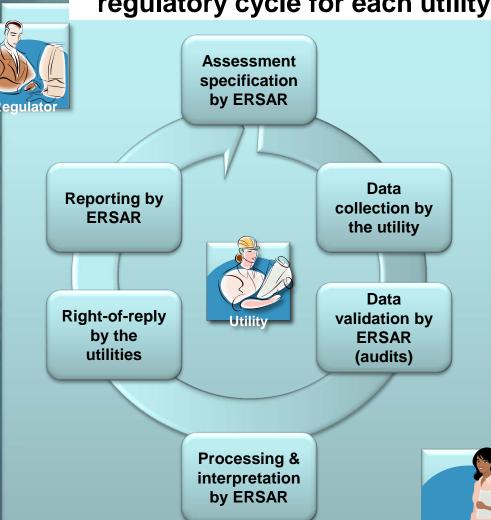


Quality of service regulation:

- Promotion of an improved quality of service
- Quality of service
 assessment based on
 a set of 16
 performance
 indicators
- Benchmarking between utilities for each performance indicator

Regulation cycle

Annual quality of service regulatory cycle for each utility





Regulation cycle

Annual assessment of the quality of service for each utility

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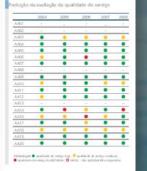
Avenda de Liberdada, 24, 1250-144 Libbos Tel. +351 213 251 000 Fax + 351 213 251 397

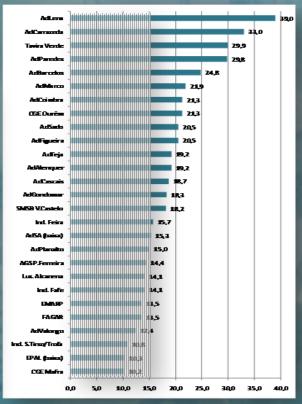
Ficha de avaliação da qualidad ede serviç

Esta ficha apresenta a avaliação da qualidade de serviço, de acordo com o "Guía de Avaliação" [1] que pode ser consultado em www.ensar.pt.

Indicador	Valor (Mor de referência)	Avaliação	Observações
D SFESA DOS INTERRES SES DOS UTELE ADI	900		
AA DI - Cabetura do cesigo	(= 100%)	-	licte indicador rato é aplicáes porque a entidade gextos noto tem responsibilidad contactual sobrea espensio discidente.
AA 02 - Preço médio discorniço	6,40 G/m²	-	No cetter este indicador aperenta penertic 26 e 26 de respectionmente, 0,68 o 0,664;n'.
AA IB - Falhac noa lastwirnetto	0,01/ponto de entrega/ano (e 0,00/p. entrega)	•	
AA 56 - Anii looc de água melizada c	100,00% (100,00%)	•	
AA (K - Qualidade de água fortweida	99,93 % (100,00%)	•	
AA tii – lisquata a redarm gisc e strite s	990 % (+109%)	•	
SUST BYTABLED ADE DA SHT EDADE GEST	9RA		
AA IF - Ni do de cabeltura dos costos operacionais	2,88 (= 1,50)	•	
AA 98 - Custos operacionais unitários	E17 6W ¹	-	No cettar este indicadar aperenta penentic 26 e 76 de respectivamente, 0,38 e 0,664;n/.
AA 19 - 16 cio de schobilde de	1,83 (x 0,20)	•	
AA 10 - Água rato factora de	5.5 % (8 5.0%)		
AA 11 - Cumplimento do Somciamento de captagões de água	190 % (101%)	•	
AA 12 - Litilização das esta ções de Extramento	82 % In 70 o 6 90%	•	
AA 18 - Capacida de de avorsa de água Totada	R.6 das Dr.1,0 e 4.2,0 das	-	É da exponsibilidade dos tribulidados adaptar a sua capacidade de exerca, quando necescido, na coma contrepondentes a cada um dissportos de entrega.
AA 16 - Neubil Itagli ode condutus	0,1 %/ans (a.1,0 e < 2,0%)	•	Apecardo salar no ano em aní lice esta rabalació do internalo de referência, foi estendió ndo asala reite indicador uma ser que a estádele gestara realizou em média bjilho di realistação onos diferencisanos.
AA 15 - Neubil lagt oderamak	() (+3,0%)	-	licte indica dorndo é a plicá el a entida des gestoros em alta.
AA tii - Aurius ern condutus	2,/100 lenglane (#15/100km)	•	
AA 17 - Recursis humanos	1,6/10"e/Jave (9:1,6:41,7/10"e/)	•	
S LUTT BYTARILED ACE AWARE NYAL			
AA 18 - Ineliátrica da stilização de e cursos tátilo ox	5,3 % (e.4,0 %)	•	
AA 16 - Widhola energhica de incalações elea tidas	0,816WeW/100H (60,4016We/W7100H)	•	
AA 30 - Decl no final de la mais do Estamento	190 % (100%)	•	A entidale gestra informar que durante opelado de referência elimino agradualmente as lamas arma tera des en atento espodirion de cita de et aglo de tra tamento.







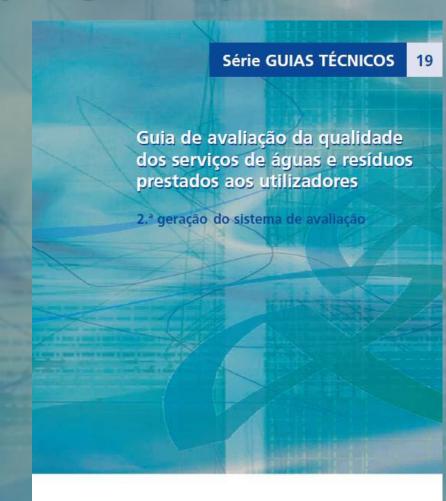
Annual benchmarking between utilities regarding the quality of service





Auxiliary regulatory activities

- Technical support to the utilities:
 - The large number, diversity of size and capabilities of utilities drives ERSAR to promote technical support.
 - To support entities was distributed a technical guide and held more than 20 training actions.









Final remarks





The Portuguese water regulator:

- Operates at national level (mainland)
- Regulates all the utilities, regardless the governance model (State-owned, municipal-owned and private utilities)
- Regulates with an holistic approach, based on a global and integrated regulatory model
- Guaranties articulation with other relevant authorities without overlapping:
 - Water resources
 - Public health
 - Competition
- Guaranties transparency and stakeholders participation (ex. consumers and utilities)











- Fulfil functional, organic and financial independence from Government
 - Regulation develops State functions, not Government functions
- Guaranties technical and organizational capabilities
- Has a small structure (74 employees)
- Has a small budget (7 800 000 €year)
- Has a small impact on the tariffs (0,5-1%)
- Apply regulatory taxes based on the volume of activity of the utilities (m³) but not their income (€)
- Do not benefit from economic penalties to the utilities







Regulation as a tool to promote efficiency and effectiveness in water and waste public services

The end

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