



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

**AFRICA UTILITY LEADERS FORUM**  
***Catalysing Collaboration to accelerate  
achievement of WATSAN SDGs in Africa***

*June 27-28, 2016, NWSC International Resource Centre - Kampala Uganda*

**Policy and regulation: new  
pathways for sector reform  
tailored to national conditions**

***Jaime Melo Baptista (Portugal)***

*Principal Research Officer at National Engineering Laboratory (LNEC)*

*Member of the Board of IWA*

*Former Chairman of the Portuguese Water Regulator (ERSAR)*

*President of the Strategic Council of Portuguese Water Partnership (PPA)*



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

**What is the  
international context  
on water services?**

## International context on water services



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

**Why people  
have so  
different water  
supply and  
sanitation  
conditions  
around the  
world?**



## International context on water services



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

**Goal 6: Ensure availability and sustainable management of water and sanitation for all, with the following targets:**

WASH

- 6.1: Safe and affordable drinking water.
- 6.2: Adequate and equitable sanitation and hygiene.

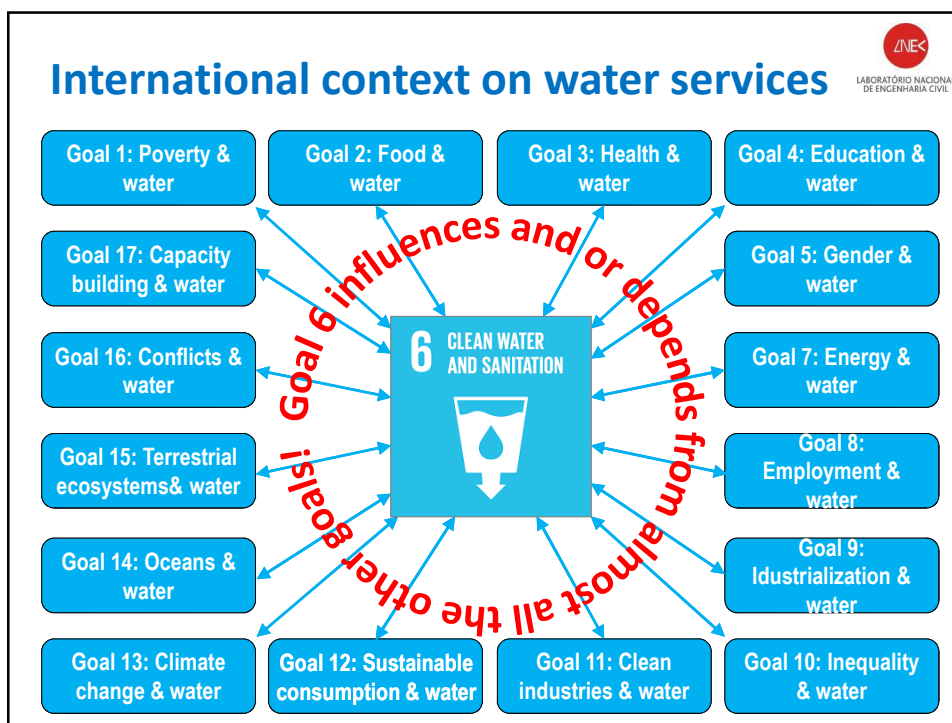
IWRM

- 6.3: Improve water quality by reducing pollution.
- 6.4: increase water-use efficiency.
- 6.5: Implement water resources management.
- 6.6: Protect and restore water-related ecosystems.

Governance

- 6.a: Cooperation & capacity-building.
- 6.b: Participation of local communities.





### International context on water services

LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL

- Other key international policy initiatives are relevant:**
  - Resolution declaring access to safe drinking water and sanitation as essential human rights, United Nations 2010.
  - Paris Agreement under the United Nations Framework Convention on Climate Change, United Nations 2015.
  - Twelve principles of water governance, OECD 2015.





## International context on water services



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

- **Lisbon Charter for Guiding the Public Policy and Regulation of Drinking Water Supply, Sanitation and Wastewater Management Services, IWA 2015.**
- **With the principles for good public policy and effective regulation of water services;**
- **Declaring the respective rights, duties and responsibilities of the:**
  - **Governments**
  - **Regulatory authorities**
  - **Public administration**
  - **Water utilities**
  - **Users.**



## International context on water services



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

- **How the different countries around the world can comply with the new SDG and other international policy frameworks?**
- **With a sound “public policy” for water reform.**
- **With an “effective independent regulation” of the water services.**
- **With “accountability and transparency” on water services.**
- **Let´s analyse each one.**



# How to implement sound public policies for water services?

## Public policies for water services

- Public policies for water must in general include the following **building blocks**:
  - Strategic plans.
  - Legislative framework.
  - Institutional framework.
  - Governance models.
  - Service access targets.
  - Quality of service goals.
  - Tariff policy.
  - Tax policy.
  - Financial resources.



Public policy as a set of blocks

## Public policies for water services



- Construction of infrastructures.
  - Operation of infrastructures.
  - Human resources.
  - Research and innovation.
  - Entrepreneurship.
  - Competition.
  - Consumers protection.
  - Social engagement.
  - Ethics and integrity.
  - Data and information.
- **Adequate approach + tools + skilled staff!**



Public policy as a set of blocks

## How to implement independent regulation of water services?



## Regulation of water services



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

### Regulators have an important role:

- Regulation should be seen as one block of public policies on water services, one out various.
- But it has a very important role given the fact that it **promotes** and or **controls** the remaining blocks.
- Regulation provides also monitoring, accountability and transparency.
- It is increasing the number of countries with regulators:
  - 180 regulators?



Public policy as a set of sprocket-wheels

## Regulation of water services



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

### Regulatory model:

- **Structural regulation** of the water sector:
  - Contribution to the **organisation** of the sector.
  - Contribution to the **legislation** of the sector.
  - Contribution to the **information** of the sector.
  - Contribution to the **capacity building** of the sector.
- **Behavioural regulation** of the water utilities:
  - **Legal and contractual** regulation.
  - **Economic** regulation.
  - **Quality of service** regulation.
  - **Drinking water quality** regulation.
  - **Consumers** interface regulation.



# Accountability and transparency on water services

## Accountability and transparency

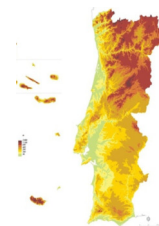
- Water supply and sanitation are **public, essential and monopolistic** services.
- Effective service provision relies upon the actions of **different stakeholders (mainly government, administration and utilities)**.
- The provision of water services should preserve **accountability and transparency** of those different stakeholders.
- The **regulatory authority** has the main responsibility to accomplish that target, based on continuous monitoring.



# Monitoring of water services in Portugal

## The situation in Portugal

- Portugal is an good “case study”:
  - A new and sound public policy was implemented in the last two decades (1993-2015).
  - One strong regulator (ERSAR) was created (1999).
  - ERSAR regulates 400 State, municipal and private utilities.
  - 10 000 000 000 euros invested.
  - 12 years of detailed monitoring.
  - Many successes have been achieved but also some mistakes was made.



### Portugal

Area: 92,000 km<sup>2</sup>  
 Population: 10,000,000  
 PIB p/capita: US\$26,000  
 Gini index: 36

## The situation in Portugal

### Quality of service indicators for the **water supply** services

Environ- mental sustainability	Service management sustainability	Social sustainability
--------------------------------------	---	--------------------------

- Physical accessibility of the service
- Economic accessibility of the service
- Occurrence of supply interruptions
- Quality of supplied water
- Reply to written suggestions and complaints
- Coverage of total expenses
- Effective connection to the service
- Non-revenue water
- Adequacy treatment capacity
- Mains rehabilitation
- Mains failures
- Adequacy of human resources
- Water losses
- Fulfilment of the water intake licensing
- Energy efficiency of pumping installations
- Disposal of sludge from the water treatment



LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL



## The situation in Portugal

### Quality of service indicators for the **waste water** services

Environ- mental sustainability	Service management sustainability	Social sustainability
--------------------------------------	---	--------------------------

- Physical accessibility of the service
- Economic accessibility of the service
- Flooding occurrence
- Reply to written suggestions and complaints
- Coverage of total expenses
- Effective connection to the service
- Adequacy of treatment capacity
- Sewerage rehabilitation
- Sewer collapses
- Adequacy of human resources
- Energy efficiency of pumping installations
- Appropriate disposal of collected wastewater
- Emergency control discharges
- Wastewater analysis
- Compliance with discharge parameters
- Disposal of sludge from the wastewater treatment

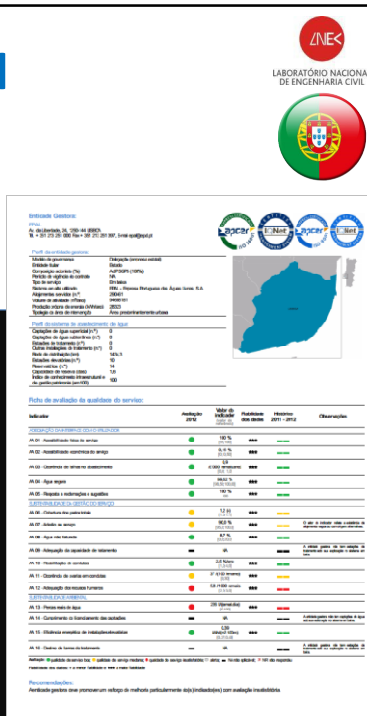


LABORATÓRIO NACIONAL DE ENGENHARIA CIVIL



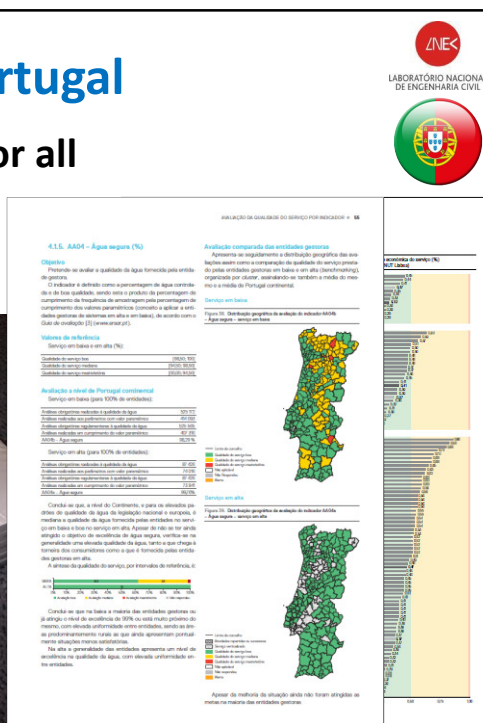
## The situation in Portugal

**Annual assessment of the performance for all the utilities (400) for (2x16) KPI:**



## The situation in Portugal

## Annual benchmarking for all the utilities & each KPI (2 x 16), with 9 clusters.

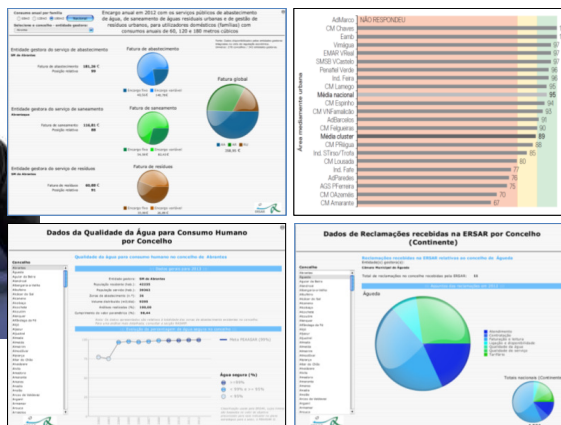


## The situation in Portugal

- The citizens have full access to this information available in Internet ([www.ersar.pt](http://www.ersar.pt)):



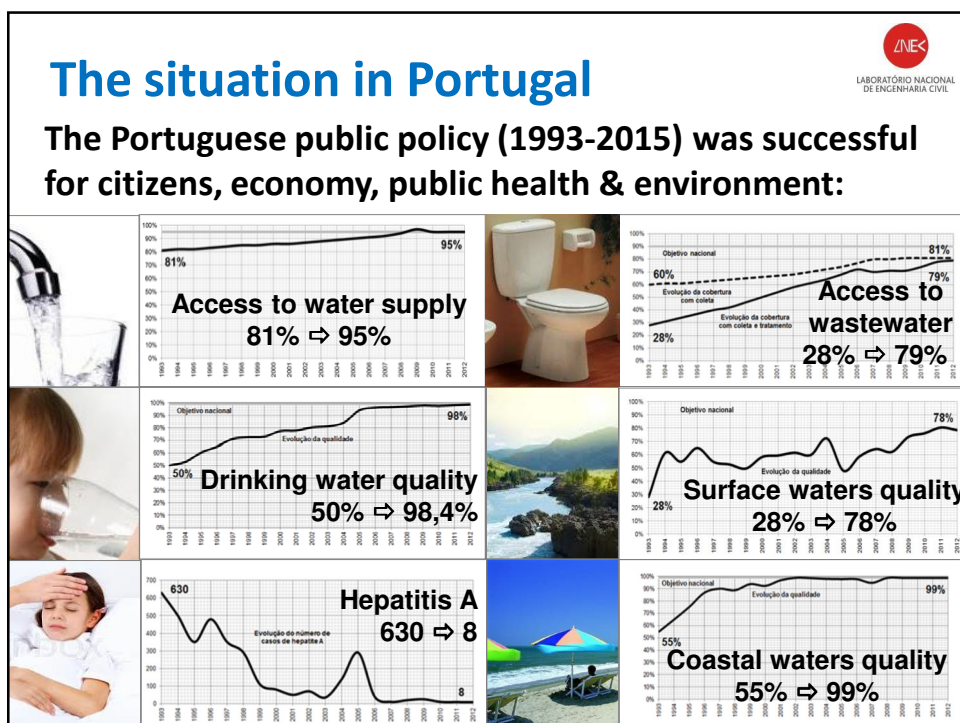
[www.ersar.pt](http://www.ersar.pt)



## The situation in Portugal

- Example of information available: **Information available in the smartphone (App ERSAR):**





**LNEC**  
LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

# Monitoring of water services in Cabo Verde

## The situation in Cabo Verde

- Cape Vert is an interesting “case study” for SDG:
  - Starting to promote a public policy for the water services.
  - Regulators exists to deal with that public policy.
  - Utilities can be State, municipal and private owned.
  - The components of the public policy are being implemented.
  - Intensive capacity building is being done.



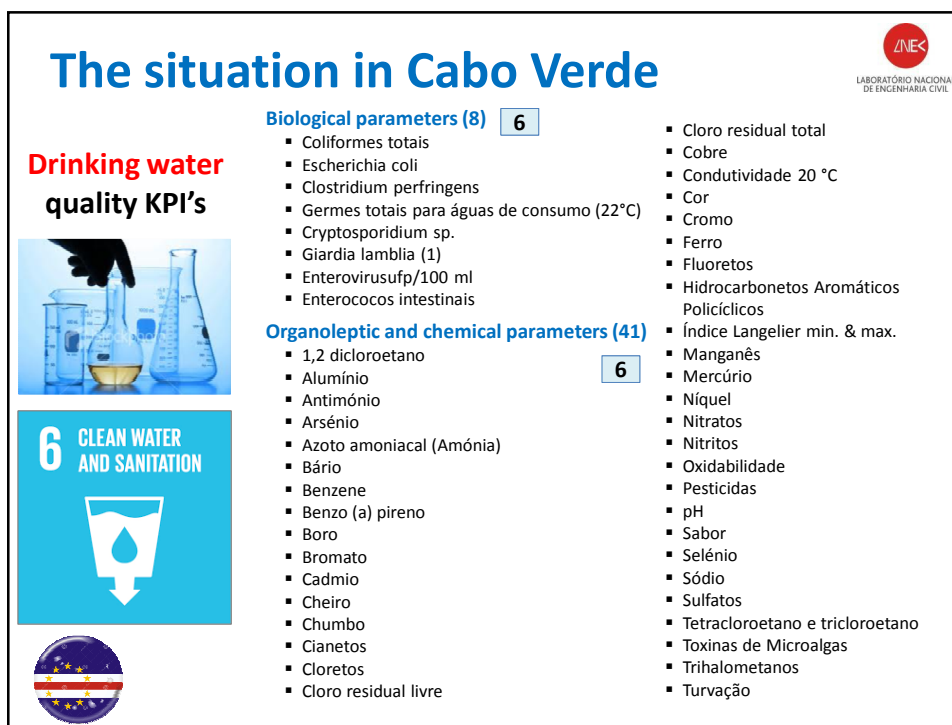
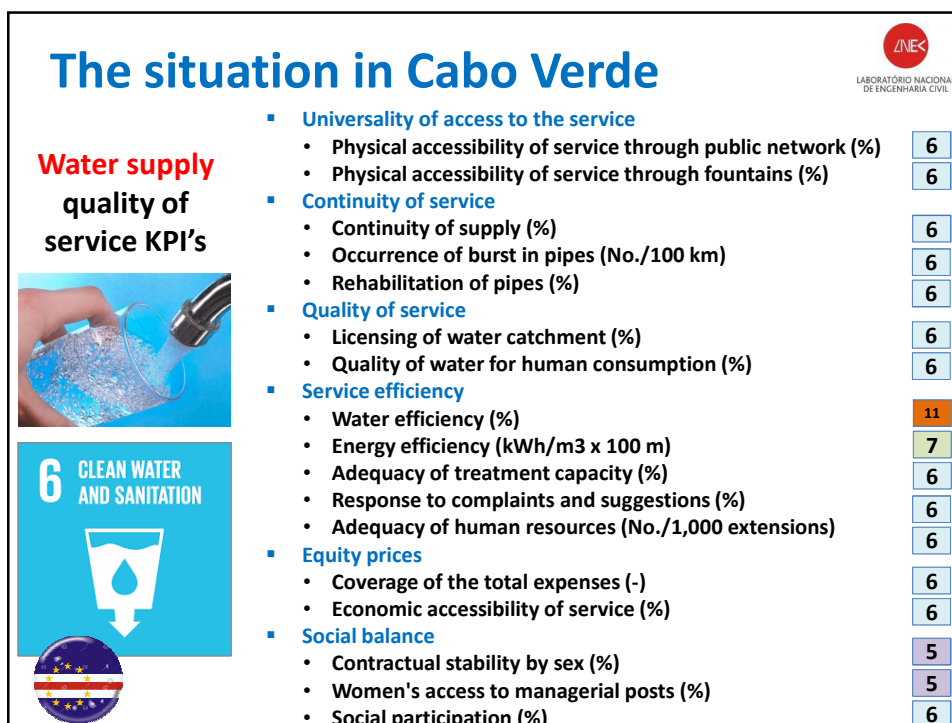
**Cape Vert**  
 Area: 4,000 km<sup>2</sup>  
 Population: 531,000  
 PIB p/capita: US\$ 6,311  
 Gini index: 50 ????

## The situation in Cabo Verde


- Cape Verde has now available a comprehensive and sound monitoring and evaluation system:
  - Water supply quality of service KPI's (17);
  - Drinking water quality KPI's (48);
  - Waste water quality of service KPI's (17);
  - Economic and financial KPI's (12);
  - Externalities KPI's (17).
- Those KPIs are complemented with:
  - Data necessary for KPI's;
  - Profile of the drinking water supply utility;
  - Profile of the waste water management utility;
  - Profile of the water utility system;
  - Profile of the waste water management utility system;
  - Contextual factors.









# The situation in Cabo Verde





**Waste water quality of service KPI's**





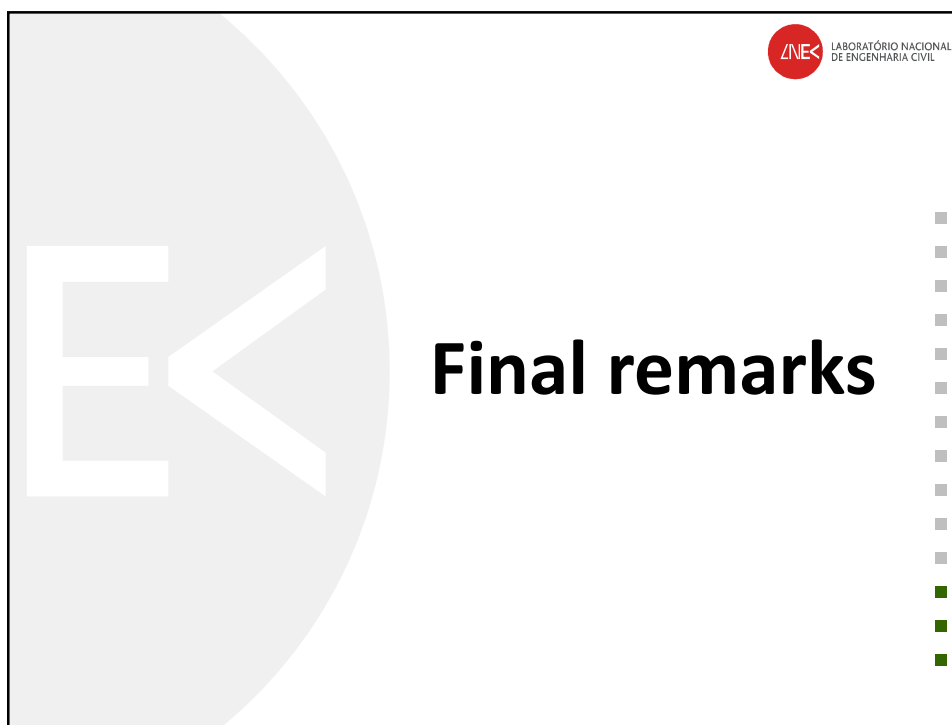
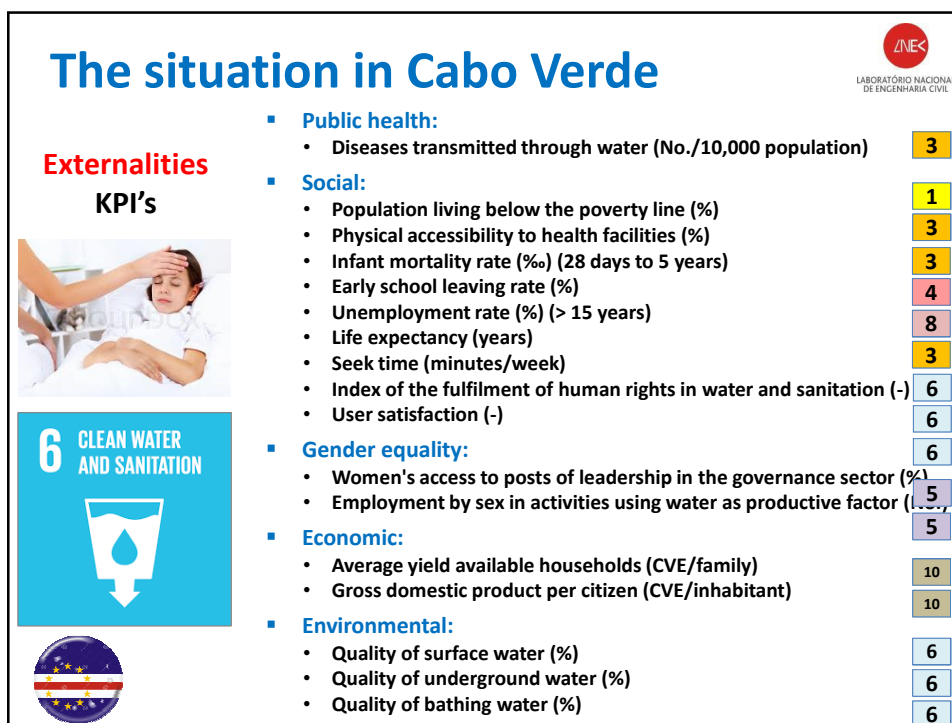
**6 CLEAN WATER AND SANITATION**

Category	Indicator	Value
Universality of access to the service	Physical accessibility of service through public network (%)	6
	Physical accessibility of service through individual solution (%)	6
Continuity of service	Occurrence of structural collapses in collectors (No./100 km)	6
	Rehabilitation of collectors (%)	6
Quality of service	Licensing of discharges of waste water (%)	6
	Appropriate destination of sewage collected (%)	6
	Wastewater analysis performed (%)	6
	Compliance with the discharge parameters (%)	6
	Service efficiency	7
Service efficiency	Energy efficiency (kWh/m <sup>3</sup> x 100 m)	6
	Response to complaints and suggestions (%)	6
	Adequacy of human resources (No./100 km)	6
	Use of treated waste water (%)	6
Equity prices	Coverage of the total expenses (-)	6
	Economic accessibility of service (%)	6
Social balance	Contractual stability by sex (%)	5
	Women's access to managerial posts (%)	5
	Social participation (%)	6

[illegible]





## Final remarks

- If you implement a sound “public policy” for water reform, tailored to specific conditions of the country ...
- If you create an “effective independent regulation” of the water services ...
- If you introduce “accountability and transparency” on water services ...
- ... then you pave the way to comply with the new SDG and other international policy frameworks!



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL



LABORATÓRIO NACIONAL  
DE ENGENHARIA CIVIL

**Thanks for  
your  
attention!**

[jmbaptista@lnec.pt](mailto:jmbaptista@lnec.pt)  
Portugal

