Water Supply and Sanitation Sector in Portugal

PPPs – Private Concessions

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(President of the Association of Portuguese companies in the environmental sector)
01 MANAGEMENT MODELS

02 OVERVIEW OF THE MUNICIPAL CONCESSION SETOR

  - Key Features
  - Geographic Distribution
  - Main Numbers
  - Tenders
  - Economic Regulation Model
  - Concessions Performance

03 PENSAAR 2020 – PROGRESS OF PERFORMANCE INDICATORS
Operators may adopt 3 different management models – direct management, delegation and concession – in both State-owned systems and Municipal or Intermunicipal owned systems. The private sector only intervenes through 2 models.

### State-owned systems

<table>
<thead>
<tr>
<th>Management Model</th>
<th>Operator</th>
<th>Description</th>
<th>Private Sector participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct management</td>
<td>State</td>
<td>State is the operator itself (there is currently no case).</td>
<td>✗</td>
</tr>
<tr>
<td>Delegation</td>
<td>State-owned company</td>
<td>State is the owner but the entity has an independent management (EPAL is the only example).</td>
<td>✗</td>
</tr>
<tr>
<td>Concession</td>
<td>Multimunicipal concessionaire</td>
<td>State and municipalities participate in the capital of the concession.</td>
<td>✗</td>
</tr>
</tbody>
</table>

### Municipal or Intermunicipal owned systems

<table>
<thead>
<tr>
<th>Management Model</th>
<th>Operator</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct management</td>
<td>Municipal services</td>
<td>Services are directly managed by the Municipalities, having noadministrative and financial autonomy.</td>
</tr>
<tr>
<td></td>
<td>Municipalized services</td>
<td>Services have administrative and financial autonomy and are managed by its Board of Directors but have no legal personality.</td>
</tr>
<tr>
<td></td>
<td>Association of municipalities (intermunicipalized services)</td>
<td>Collaborative public management body in which several municipalities take part.</td>
</tr>
<tr>
<td>Delegation</td>
<td>State/ Municipality partnership</td>
<td>State and municipalities participate in the capital of the company.</td>
</tr>
<tr>
<td></td>
<td>Municipal owned company</td>
<td>One or several municipalities participate in the capital of the company (privates can have up to 49% - PPP model).</td>
</tr>
<tr>
<td>Concession</td>
<td>Municipal concessionaire</td>
<td>Concession by the Municipality to a third party, public or private, through a concession contract.</td>
</tr>
</tbody>
</table>

Source: ERSAR.
### Typical features of Concession Contracts

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td>25 to 50 years.</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>Development of networks. Manage Water supply and Wastewater collection.</td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td>Expansion investments, reinvestment (upgrades) and operation efficiency.</td>
</tr>
<tr>
<td><strong>Concession fee</strong></td>
<td>Annual rent.</td>
</tr>
<tr>
<td><strong>Performance security</strong></td>
<td>Bank guarantee and shareholders guarantee.</td>
</tr>
<tr>
<td><strong>Concessionaire compensation</strong></td>
<td>Through tariff collection to the clients.</td>
</tr>
<tr>
<td><strong>Financial rebalancing</strong></td>
<td>Trigger events (significant deviations from Base Case):</td>
</tr>
<tr>
<td></td>
<td>- Water consumption volume</td>
</tr>
<tr>
<td></td>
<td>-- Investment plan</td>
</tr>
<tr>
<td></td>
<td>-- Legal and regulatory changes</td>
</tr>
<tr>
<td></td>
<td>-- Others</td>
</tr>
<tr>
<td></td>
<td>Rebalancing through:</td>
</tr>
<tr>
<td></td>
<td>- Tariffs;</td>
</tr>
<tr>
<td></td>
<td>- Concession fee;</td>
</tr>
<tr>
<td></td>
<td>- Length of concession;</td>
</tr>
<tr>
<td></td>
<td>- Direct financial compensation;</td>
</tr>
<tr>
<td></td>
<td>- A combination of the above.</td>
</tr>
</tbody>
</table>
Currently, water and sanitation concessions cover, more or less, 20% of the population, being dispersed throughout the national continental territory.
It is noted that the national impact of private municipal concessions, socially and financially, is significant.

<table>
<thead>
<tr>
<th>Investments</th>
<th>Population covered by water supply</th>
<th>Population covered by wastewater sanitation</th>
<th>Water supply staff</th>
<th>Wastewater sanitation staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.200 M€</td>
<td>20%</td>
<td>17%</td>
<td>1.250</td>
<td>650</td>
</tr>
</tbody>
</table>
The Concession award procedure follows the provisions of the Public Procurement Code and counts on the involvement of several entities in their different phases.

In summary, the tender process is transparent, scrutinized by several entities, attracting many entities, namely foreign.
**Regulation by contract**

Long-term contracts between a private entity and a public entity, where the regulator verifies if the contract is being complied with, in particular as regards the revision of tariffs.

- Contracts subject to competitive processes -
- Rates and review mechanisms defined in the contract -
- Technical requirements and quality of service defined by the Municipality -
- Contractual review and conflict resolution follow the rules defined in the contracts -
The performance of the private sector is positive in relation to the established objectives, presenting values higher than the public sector in most of the categories.

The private sector performs well in the various quality of service categories, with emphasis on water quality, wastewater quality, customer service, service failures and water losses.

The concessions have cost coverage levels above 100%.

The economic accessibility of the service in private concessions is satisfactory.
Information presented by the Regulator - Evolution of key indicators

AA08 indicator – Non Revenue Water (NRW)
PENSAAR 2020
Progress of performance indicators
Public and Private entities
Part 3 - PENSAAR 2020  Progress of performance indicators

Partial Index

Framework
Objectives, scope and methodology

Evolution of water supply (last 7 years)
Analysis of indicators for water services. Comparison of performance of public and private management entities - retail systems (water supply)

Evolution of Wastewater Collection (last 7 years)
Analysis of indicators for Wastewater Collection. Comparison of performance of public and private management entities - retail systems (Wastewater Collection)

Considerations on Water Management efficiency
Indicators and other elements that influence the efficiency of systems

Conclusions
Overall performance of public and private entities
1. Present the **comparison of the performance between the public and private sector according to PENSAAR indicators**

2. Present the **performance and contribution of the private sector to the evolution of the PENSAAR 2020 indicators**
Here we analyzed some of the Portuguese Regulator performance indicators, selected in PENSAAR to measure the evolution in the quality of service in water and wastewater, comparing between public and private water utilities.

**FRAMEWORK - Metodology**

We use the same assumptions considered by the support group responsible for the PENSAAR 2020 evaluation. This rationale allows us to make a direct comparative study between public and private management. The scope is limited to the retail system excluding bulk water utilities (exclusively public).

### SCOPE OF THIS PRESENTATION

**FIRST TIER** | RASARP indicators

<table>
<thead>
<tr>
<th>Service quality</th>
<th>ERSAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td></td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td></td>
</tr>
</tbody>
</table>

**SECOND TIER** | PENSAAR indicators

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>PENSAAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td></td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td></td>
</tr>
</tbody>
</table>

**THIRD TIER** | PENSAAR and AEPSA analysis

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Internal analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfactory</td>
<td>Public Entity</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>Private Entity</td>
</tr>
</tbody>
</table>

**SCOPE**

- **ONLY Retail System**
- Rating by% of households

We use the same assumptions considered by the support group responsible for the PENSAAR 2020 evaluation. This rationale allows us to make a direct comparative study between public and private management. The scope is limited to the retail system excluding bulk water utilities (exclusively public).

EVOLUTION OF WATER SUPPLY SYSTEM

- Regular growth rate over the years with a peak in 2014 to achieve a satisfactory evaluation in 2017 of 62% of households;
- Private sector with much higher score over the years (37% on average) and above the 2020 target. Public sector still behind and 24% below 2020 target;
- Private sector contributed to this KPI with 94% of households served by private entities with a satisfactory evaluation;
- Excluding the contribution of the private sector this KPI would reach a poor rate of 56% of compliance in 2017.
• The joint assumption in this KPI of bulk + retail raises the level of compliance from to 94%. If exclusively considered the retail performance satisfaction level would drop 4% to 94% overall;

• **Private sector with regular scores, always higher than public sector (13% on average) and close to the 2020 target.** Public sector with regular growth and getting closer to the target;

• Private sector contribution is of 96% of households covered while public sector contributes with 89% to the same indicator.
Both private and public sector with regular scores, but private always higher than public sector (12% on average). Private sector really close to the target (3% down only);

Regular scores over the years and really close to the 2020 target. Only one down in 2016;

Excluding bulk, the KPI drops from 88% to 82% compliance;

For that 82% compliance rate, the private sector contributes with 87% of households covered with a satisfactory evaluation.
### 3 – PENSAAR 2020 – progress of performance indicators

**EVOLUTION OF WATER SUPPLY SYSTEM**

<table>
<thead>
<tr>
<th>Year</th>
<th>Public</th>
<th>Private</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2012</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2013</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2014</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2015</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2016</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2017</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

- Both private and public with the maximum score of 100% over the years;

#### ECONOMIC SERVICE ACCESSIBILITY

**BULK + RETAIL SYSTEM**

- Source: data from PENSAAR 3rd report

#### ONLY RETAIL SYSTEM - PRIVATE vs PUBLIC SECTOR

- Satisfactory Evaluation only

**TARGET (2020)** 100%

- Public Sector: 100%
- Private Sector: 100%

Satisfactory Evaluation

- Average 2011-2017

- Public Sector: 100%
- Private Sector: 100%

~0%
The private sector presents in 2017 higher scores and is very close to achieve the 2020 target score.

<table>
<thead>
<tr>
<th>WATER SUPPLY SYSTEM</th>
<th>TARGET 2017</th>
<th>BULK + RETAIL 2020</th>
<th>RETAIL 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2020</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>AA12: REAL WATER LOSSES</td>
<td>80%</td>
<td>-</td>
<td>62%</td>
</tr>
<tr>
<td>AA03: SUPPLY FAILURES</td>
<td>100%</td>
<td>94%</td>
<td>90%</td>
</tr>
<tr>
<td>AA11: BREAKDOWNS IN PIPELINES</td>
<td>90%</td>
<td>88%</td>
<td>82%</td>
</tr>
<tr>
<td>AA02: ECONOMIC SERVICE ACCESSIBILITY</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Notation: all the numbers are form 2017 (Satisfactory Evaluation)
EVOLUTION OF WASTEWATER COLLECTION

WASTEWATER ANALYSIS

% of households covered by EG with satisfactory evaluation in the indicators
Wastewater analysis

TARGET
(2020) ➞ 100%

AR14

BULK + RETAIL SYSTEM

ONLY RETAIL SYSTEM - PRIVATE vs PUBLIC SECTOR
(Satisfactory Evaluation only)

Satisfactory Evaluation

Global

Private Vs Public

Regular high scores over the years, growing since 2015. Really close to the 2020 target.

Good growth rate over the years, especially in the last 2 years. Not so far to the 2020 target.

Private sector with regular high scores, always higher than public sector (28% on average) and close to the 2020 target. Public sector with good growth since 2015 and getting closer to the private sector and target.

Source: data from PENSAAR 3rd report

KEY FINDINGS

Satisfactory Evaluation

(average 2011-2017)

Public Sector 68%

~28%

Private Sector 96%
EVOLUTION OF WASTEWATER COLLECTION

AR15

COMPLIANCE WITH DISCHARGE PARAMETERS

% of households covered by EG with satisfactory evaluation in compliance with the discharge parameters

TARGET (2020) → 80%

ONLY RETAIL SYSTEM - PRIVATE vs PUBLIC SECTOR
(Satisfactory Evaluation only)

BULK + RETAIL SYSTEM

Regular scores over the years a high growth in 2017, getting very close to the 2020 target.

RETAIL SYSTEM

Lower scores than the “bulk + retail system”. Ups and downs over the years but growing since 2015. Still very far from the 2020 target.

Private sector with much higher score over the years (41% on average) and very close to the 2020 target. Public sector with ups and downs, good growth since 2015 but still very far from 2020 target.

KEY FINDINGS

Satisfactory Evaluation (average 2011-2017)

Public Sector 26%

Private Sector 67%

~41%

Source: data from PENSAAR 3rd report
EVOLUTION OF WASTEWATER COLLECTION

AR12

ADEQUATE WASTE WATER DESTINATION

% of households covered by EG with satisfactory evaluation in the appropriate waste water destination

TARGET (2020) 100%

Source: data from PENSAAR 3rd report

RETAIL SYSTEM

ONLY RETAIL SYSTEM - PRIVATE vs PUBLIC SECTOR
(Satisfactory Evaluation only)

<table>
<thead>
<tr>
<th>Year</th>
<th>Public Sector</th>
<th>Private Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>72%</td>
<td>84%</td>
</tr>
<tr>
<td>2012</td>
<td>81%</td>
<td>93%</td>
</tr>
<tr>
<td>2013</td>
<td>86%</td>
<td>86%</td>
</tr>
<tr>
<td>2014</td>
<td>86%</td>
<td>87%</td>
</tr>
<tr>
<td>2015</td>
<td>89%</td>
<td>88%</td>
</tr>
<tr>
<td>2016</td>
<td>90%</td>
<td>86%</td>
</tr>
<tr>
<td>2017</td>
<td>89%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Regular scores over the years and really close to the 2020 target.

Both private and public sector with good scores over the years. In the last 3 years the public sector presents a slightly higher score. Both getting closer to the 2020 target.

N/A

BULK + RETAIL SYSTEM

KEY FINDINGS

Satisfactory Evaluation (average 2011-2017)

Public Sector 84%

Private Sector 86%

~2%
EVOLUTION OF WASTE WATER COLLECTION

**AR09**

**OCCURRENCE OF STRUCTURAL COLLAPSE IN COLLECTORS**

% of households covered by EG with satisfactory evaluation in Occurrence of structural collapses in collectors

**TARGET**

(2020) → 80%

**BULK + RETAIL SYSTEM**

![Graph showing the percentage of households covered with satisfactory evaluation from 2011 to 2017 for BULK + RETAIL SYSTEM.]

**KEY FINDINGS**

**BULK + RETAIL SYSTEM**

Regular scores over the years. A big down in 2016 but a good recovery in 2017. Very close to the 2020 target.

**RETAIL SYSTEM**

**Global**

Regular scores over the years, although in the last 2 years the score has been decreasing. Not so far from the 2020 target.

**Private Vs Public**

Private sector with much higher score over the years (28% on average) and above the 2020 target. Public sector with ups and downs, decreasing since 2015. Not so far from the 2020 target.

**ONLY RETAIL SYSTEM - PRIVATE vs PUBLIC SECTOR**

(Satisfactory Evaluation only)

![Graph comparing the percentage of households covered with satisfactory evaluation for Private and Public sectors from 2011 to 2017 for the Retail System.]

**Source:** data from PENSAAR 3rd report

**ONLY RETAIL SYSTEM - PRIVATE vs PUBLIC SECTOR**

(Satisfactory Evaluation only)

<table>
<thead>
<tr>
<th>Year</th>
<th>Private</th>
<th>Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>61%</td>
<td>64%</td>
</tr>
<tr>
<td>2012</td>
<td>66%</td>
<td>66%</td>
</tr>
<tr>
<td>2013</td>
<td>63%</td>
<td>69%</td>
</tr>
<tr>
<td>2014</td>
<td>82%</td>
<td>72%</td>
</tr>
<tr>
<td>2015</td>
<td>50%</td>
<td>72%</td>
</tr>
<tr>
<td>2016</td>
<td>73%</td>
<td>69%</td>
</tr>
<tr>
<td>2017</td>
<td>91%</td>
<td>64%</td>
</tr>
</tbody>
</table>

**Public Sector** 63%

~28%

**Private Sector** 91%

**Satisfactory Evaluation (average 2011-2017)**

![Graph comparing the percentage of households covered with satisfactory evaluation for Private and Public sectors from 2011 to 2017 for the Retail System.]

024
### 3 – PENSAAR 2020 – progress of performance indicators

#### EVOLUTION OF WASTEWATER COLLECTION - OVERVIEW

The private sector presents in 2017 higher scores and is very close to achieve the 2020 target score.

<table>
<thead>
<tr>
<th>WASTEWATER COLLECTION</th>
<th>TARGET</th>
<th>BULK + RETAIL</th>
<th>RETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2017</td>
<td>2020</td>
<td></td>
</tr>
<tr>
<td>AR14 Wastewater Analysis</td>
<td>100%</td>
<td>95%</td>
<td></td>
</tr>
<tr>
<td>AR15 Compliance with Discharge Parameters</td>
<td>80%</td>
<td>72%</td>
<td></td>
</tr>
<tr>
<td>AR12 Adequate Waste Water Destination</td>
<td>100%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>AR09 Occurrence of Structural Collapse in Collectors</td>
<td>80%</td>
<td>73%</td>
<td></td>
</tr>
</tbody>
</table>

#### Comparison:

- **Variation < 10%**
  - AR14: 100%
  - AR15: 80%
  - AR12: 100%
  - AR09: 80%

- **Variation > 10% e < 20%**
  - BULK + RETAIL: Total 87%
    - Private: 91%
    - Public: 86%

- **Variation > 20%**
  - BULK + RETAIL: Total 87%
    - Private: 91%
    - Public: 86%

Notation: all the numbers are form 2017 (Satisfactory Evaluation)
There are indicators that usually are considered critical to achieve the efficiency of NRW, but when we analyze the reality, we find that some of them don’t really have a direct impact on this specific KPI. It is clear that the element which has a bigger influence on the NRW performance is the Management Model.

**ONE**

**DIMENSION**

**TWO**

**GEOGRAPHIC LOCATION**

**THREE**

**MANAGEMENT MODEL**

There is no relationship between dimension and performance in terms of NRW.

The geographical location of the entities does not affect their performance.

The municipal concession model is the one with the best performance.

MAIN CONCLUSIONS

Globally, performance indicators for water supply and wastewater systems that have been on the rise since 2011 are fully leveraged in the positive performance of private management entities.

Some indicators have been showing a tendency of stagnation. It means that private entities have achieved maximum efficiency, which good practice recommends, and so can no longer contribute more significantly to the level of national satisfaction.

PENSAAR 2020 is not achieving the recommended results, because the water and wastewater sector in Portugal has a very significant weight of public entities (80%) in favor of private entities (20%), which is fully efficient.

The balance of public and private management entities in the sector in Portugal is desirable and recommendable, that is, in the short term, greater penetration of the private sector so that Portugal can make the qualitative leap to the level of a more adequate and efficient management of water resources.

The outstanding performance of the private sector is leveraged by the technological solutions it has, the operational expertise, leadership and management experience, greater agility and the introduction of international best practices.

The Portuguese water sector is expected to continue to privatize in coming years, creating opportunities for existing players to strengthen their hold on the concession market.
THANK YOU!

For more information, please contact AEPSA
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