

IWA International SAM Forum 2021

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WATER FORUM 2021 Conference and Exhibition

Asset management and public policy

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DE ENGENHARIA CIVIL



giz





Public policies creating an enabling environment for asset management will achieve their goals more efficiently and effectively

Presentation outline

- Global challenges and goals
- Linking government's goals, public policy and asset management to better serve society
- Public policy enabling strategic asset management
- The case of Portugal
- Concluding remarks

Global challenges and goals

From the SDGs to governments global goals



- The SDGs are nowadays “**THE**” reference framework for any country to foster **development and sustainability**
- With this reference, each government needs to take into account **its own role and context** and define **its specific goals**

Global challenges and goals

SDG 6: Access to safe & reliable water services is key...

- ... to overcome poverty (SDG1), hunger (SDG2) and inequalities (SDGs 5 &10)
- ... for economic growth (SDG8), public health (SDG3) and education (SDG 4)
- ... for the sustainability of cities and communities (SDG11)
- ... and for peace and justice (SDG 16)

The quality of water services also influences:

- ... life in land (SDG15)
- ... life below water (SDG14) and
- ... energy production (SDG7)

On the other hand,

- innovation and infrastructures (SDG 9)
- climate action (SDG 12)
- responsible consumption and production (SDG13)
- adequate partnerships (SDG 17)

...are critical to meet SDG6.



Global challenges and goals

How can urban water systems contribute?

- Urban water systems need to
 - contribute to a more **circular economy**
 - be able to cope with **emergent pollutants**
 - become more **flexible** and **resilient** to face **future uncertainties** and **extreme weather** conditions.
- We need **water-smart cities** that
 - integrate surface water in urban planning
 - increasingly adopt nature-based solutions
 - explore alternative water sources, new materials, massive sensing, digital intelligence or advanced treatment technologies

Linking government's goals, public policy and asset management to better serve society



Public policy enabling strategic asset management

- **Key elements** of a public policy for water enabler of Asset Management:
 - Strategic plans
 - Legal framework
 - Institutional framework
 - Governance models and contracts
 - Quality of service goals
 - Tariff and tax policy
 - Financial resources
 - Infrastructure construction & rehabilitation
 - Operational efficiency
 - Training and capacity building
 - Research and innovation
 - Business development
 - Data and information and knowledge
 - Community engagement and users protection



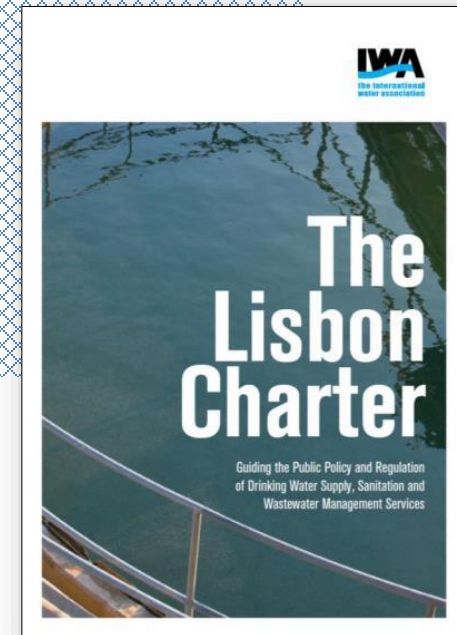
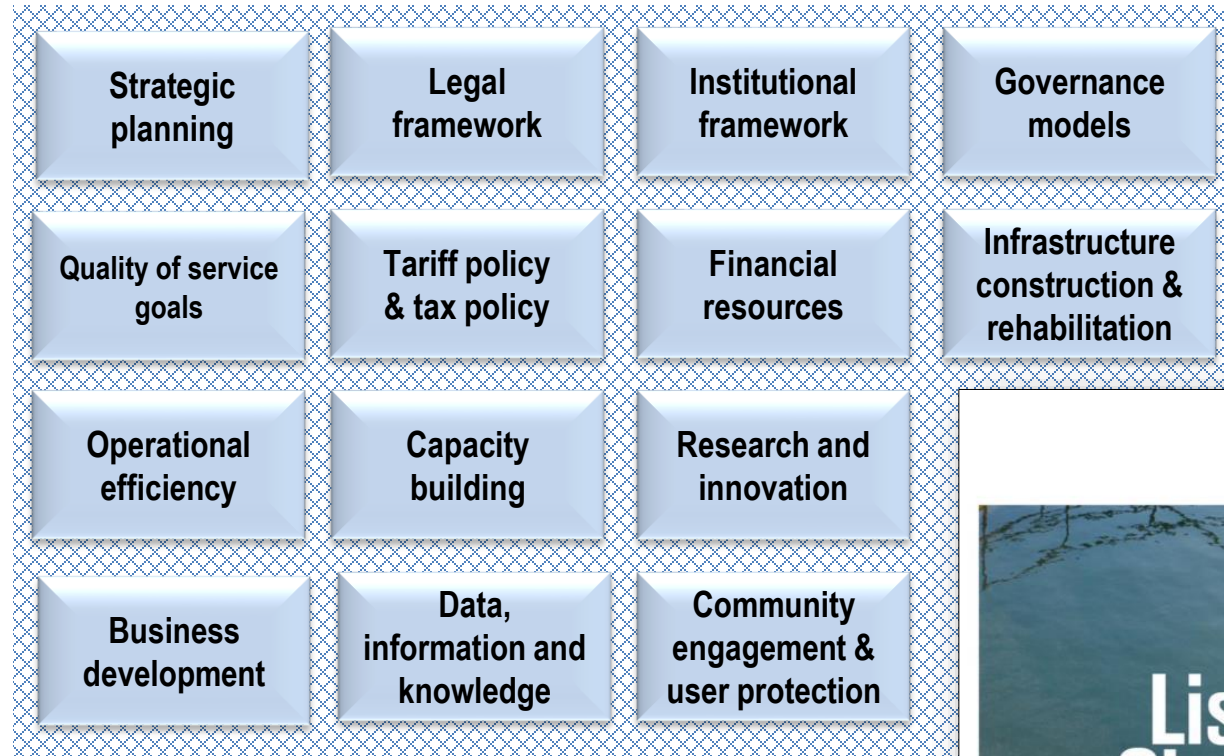
Public policy enabling strategic asset management

From the frequently seen chaos ...



Public policy enabling strategic asset management

... into an effective public policy:



Public policy enabling strategic asset management

Benefits from having an enabling environment for asset management:

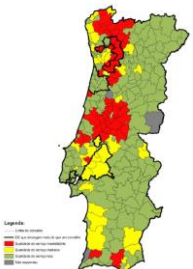
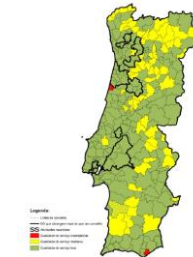
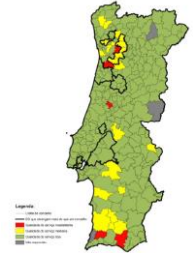
- Improved use of **financial** resources
- Demonstrated **compliance** with the governments' goals and related utilities' objectives
- Well-grounded **priority** setting and solutions selection and implementation
- **Transparency** and **accountability** of the decisions
- **Alignment** between government's strategic goals and intents with all the value chain until daily water systems operations
- Opening room for **research** and **innovation**
- Managed **risk**, particularly with regard to **critical infrastructures**
- Incorporation of a **long-term perspective**

The case of Portugal



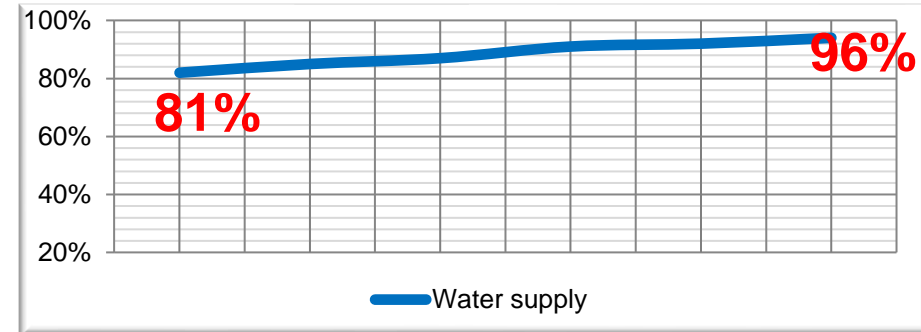
The case of Portugal

Data from 2020
national report

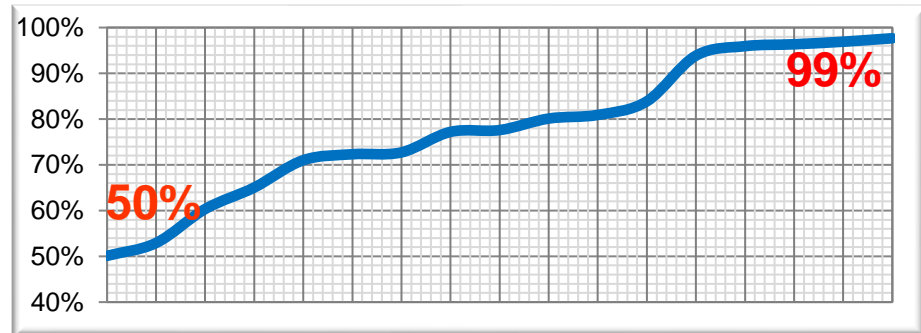


Evolution of the water sector in Portugal
last 3 decades

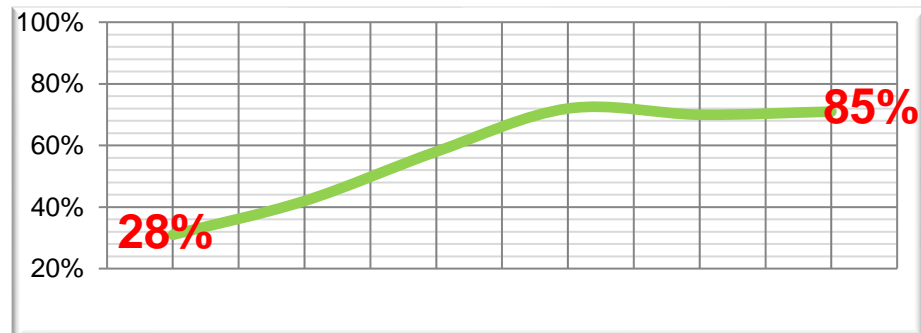
Population served with public water supply
(1993-2019)



Safe water provided to consumers by public systems
(1993-2019)



Population served by public wastewater systems
(drainage and treatment)
(1993-2019)

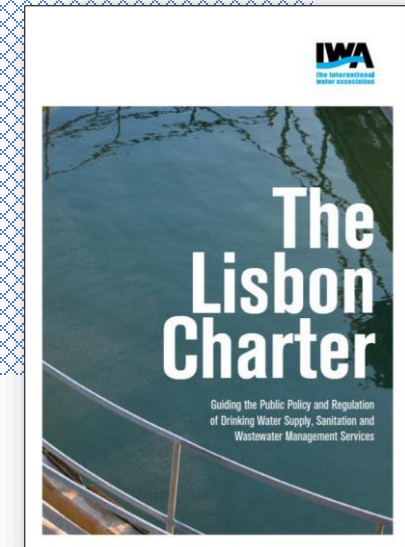


53% → 99% good quality coastal bathing water

17% → 95% of good quality inland water

The case of Portugal

Implementing an effective public policy



Public policy element: Strategic planning

Strategic planning can provide a supportive environment for effective asset management implementation by...

... including strategic directions and setting up **priorities** for asset management, taking into consideration a **long-term vision** for the existing assets and **maximizing their value**.

In the case of Portugal...



Public policy elements: Legal framework

Legal framework can provide a supportive environment for effective asset management implementation by...

... including the **requirements**, enforcement mechanisms and **penalty tools** in the legislation conducive to better asset management practice;

... **regulating** this subject, avoiding legal gaps and overlaps, and overcoming existing barriers.

In the case of Portugal...

2009 Decree Law: utilities serving more than 30.000 inhabitant need to implement Asset Management

MINISTÉRIO DO AMBIENTE, DO ORDENAMENTO
DO TERRITÓRIO E DO DESENVOLVIMENTO REGIONAL

Decreto-Lei n.º 194/2009
de 20 de Agosto

As actividades de abastecimento público de água às populações, de saneamento de águas residuais urbanas e de gestão de resíduos urbanos constituem serviços públicos de carácter estrutural, essenciais ao bem-estar geral, à saúde pública e à segurança colectiva das populações, às actividades económicas e à protecção do ambiente. Estes serviços devem pautar-se por princípios de universalidade no acesso, de continuidade e qualidade de serviço e de eficiência e equidade dos tarifários aplicados.

O actual regime de abastecimento de água, saneamento de águas residuais e gestão de resíduos urbanos assenta na dicotomia entre sistemas municipais, situados na esfera dos municípios, onde se incluem também os sistemas intermunicipais, e sistemas multimunicipais, situados na esfera do Estado.

possíveis abusos decorrentes dos direitos de exclusivo, por um lado, no que se refere à garantia e ao controlo da qualidade dos serviços públicos prestados e, por outro, no que respeita à supervisão e controlo dos preços praticados, que se revela essencial por se estar perante situações de monopólio.

Pretende-se também assegurar, quando aplicável, condições de igualdade e transparência no acesso à actividade e no respectivo exercício, bem como nas relações contratuais. Visa-se ainda acautelar a sustentabilidade económico-financeira, infra-estrutural e operacional dos sistemas.

Por fim, articula-se o regime aplicável com as alterações legislativas entretanto ocorridas. É especialmente significativo, devido às potenciais implicações nos serviços municipais, o Código dos Contratos Públicos, aprovado pelo Decreto-Lei n.º 18/2008, de 29 de Janeiro, que fornece um regime geral para a contratação pública e para a disciplina substantiva dos contratos administrativos, e o regime jurídico do sector empresarial local, aprovado pelo Lei n.º 53-F/2006, de 29 de Dezembro, que define o quadro aplicável à constituição e funcionamento das empresas municipais, intermunicipais e metropolitanas. Atendendo às especificidades próprias das actividades em causa, o presente decreto-lei concretiza, nalguns aspectos,

Water services regulator since 1997

- Water supply, wastewater, urban wastes
- Regulation on stormwater: under discussion



Public policy element: Governance models and contracts

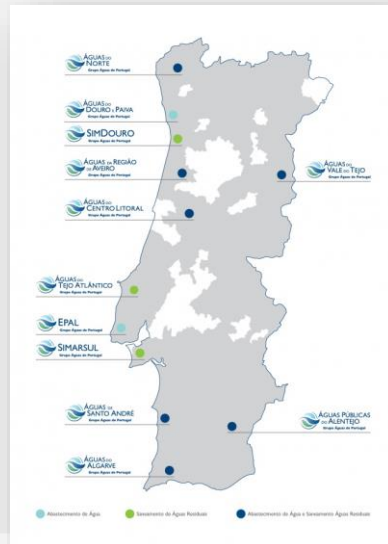
Governance models and contracts can provide a supportive environment for effective asset management implementation by...

... including **clear obligations and incentives** to promote the **adoption of asset management**

... specification of the **end of contract target value** of the **asset portfolio** and **service levels** in the contracts

In the case of Portugal...

Bulk systems company AdP (90's)



Current retail utility merging process



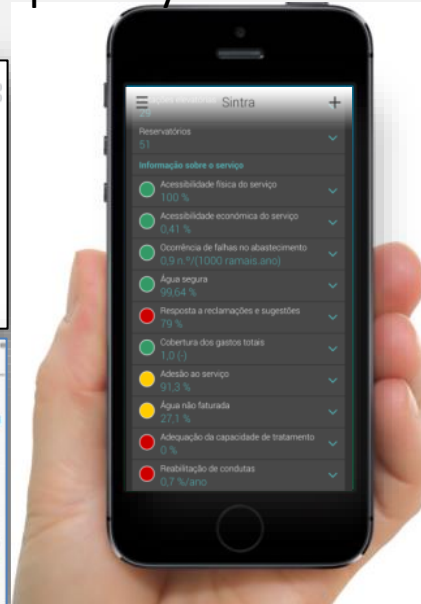
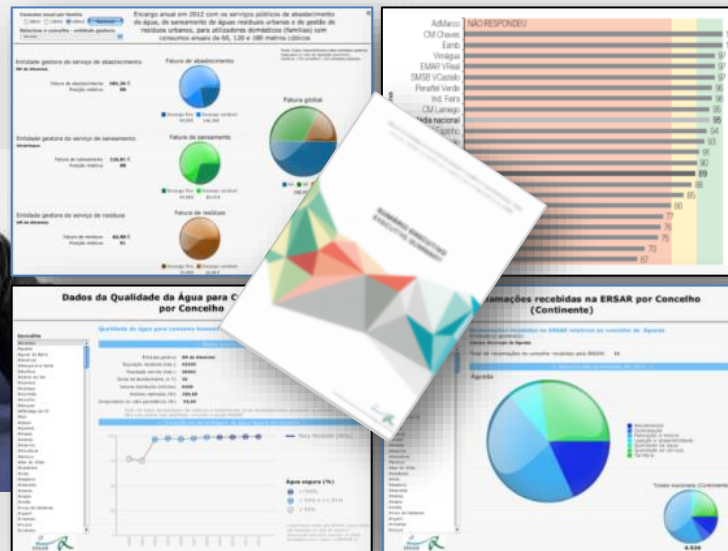
Public policy element: Quality of services goals

Quality of services goals can provide a supportive environment for effective asset management implementation by...

... including in the **quality of service** assessment system a set of **performance indicators** able to assess the asset management practice and setting up realistic quality of service **targets**.

In the case of Portugal...

National quality of service assessment publicly available each year



Public policy element: Research and innovation

Research and innovation provide a supportive environment for effective asset management implementation by...
 ... identifying the existing gaps and enabling and promoting **problem-driven research and innovation** on asset management, fostering **co-production** and **knowledge transfer** and promoting a strong link between the knowledge and practice .

In the case of Portugal...



The image displays several logos and technical documents:

- AMAREP**: Logo with a green and red tree-like structure.
- trust**: Logo in blue lowercase letters on a dark background.
- Prepared enabling change**: Logo with a globe icon.
- RESCCUE**: Logo with the text "RESILIENCE TO COPE WITH CLIMATE CHANGE IN URBAN AREAS" and "RESILIENT CITIES FACING CLIMATE CHANGE".
- Série GUIAS TÉCNICOS**: A series of five blue technical guides numbered 2 through 5, each with a specific title in Portuguese.
- Water and waste services quality assessment guide**: A large technical guide cover with the text "2nd generation of the assessment system" and logos for ZNEC and ERSAR.

Evolution of the water sector in Portugal

last 3 decades

- Consistent public policy (1993-2021)

- Large public investments in the sector
- Supportive regulator - quality of service and regulatory framework
- New strategy, governance, legal framework, territorial reorganization, economic framework
- Utilities serving more than 30.000 inhabitant need to implement Asset Management (Decree Law)



- Improvement of coverage and quality of the service provided by public infrastructure
- Contribution to government goals



MINISTÉRIO DO AMBIENTE, DO ORDENAMENTO DO TERRITÓRIO E DO DESENVOLVIMENTO REGIONAL
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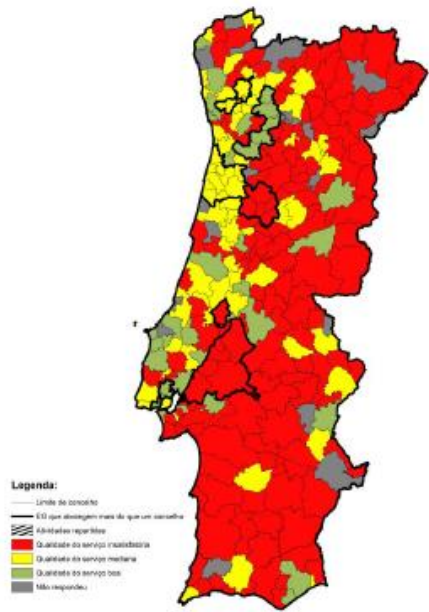


Evolution of the water sector in Portugal

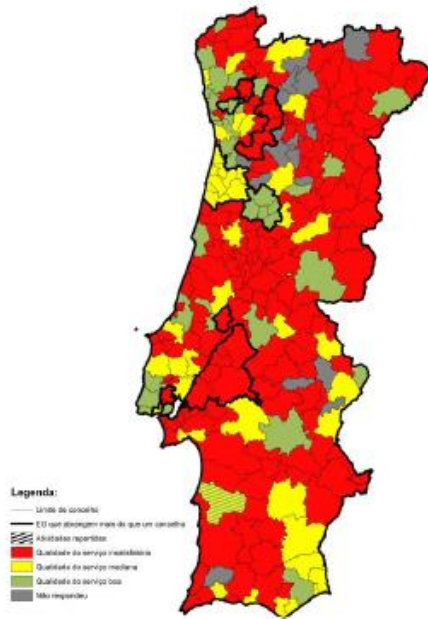
last 3 decades

Is it all perfect?

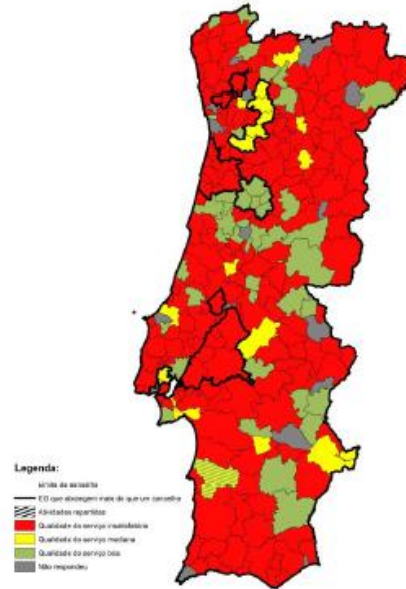
Water supply



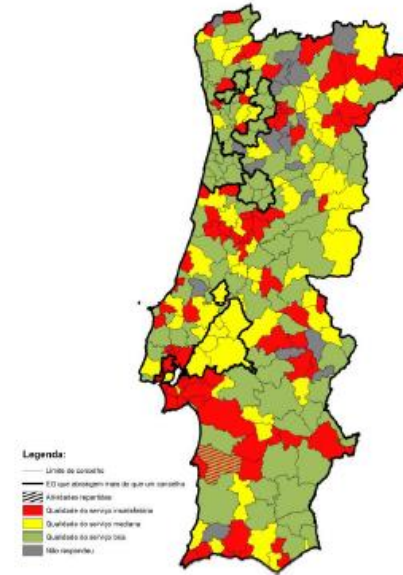
Cost coverage



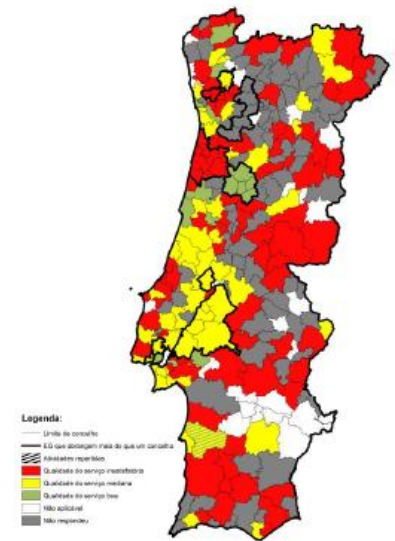
Unbilled water



Mains rehabilitation



Water losses



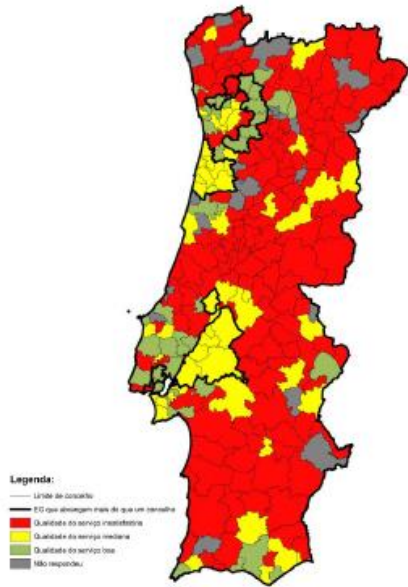
Pumping stations
energy efficiency

Evolution of the water sector in Portugal

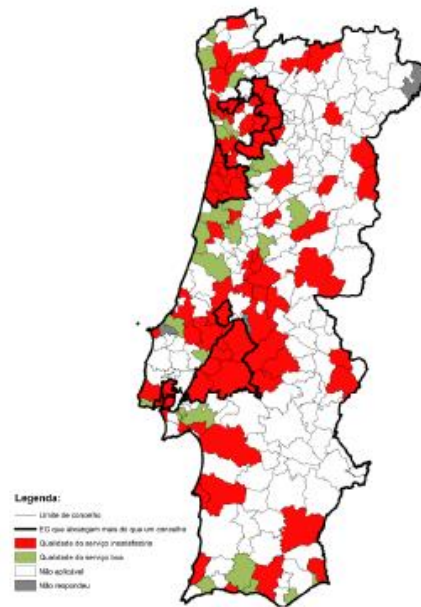
last 3 decades

Is it all perfect?

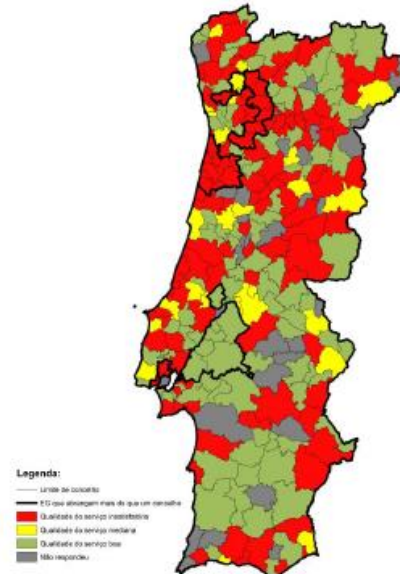
Wastewater



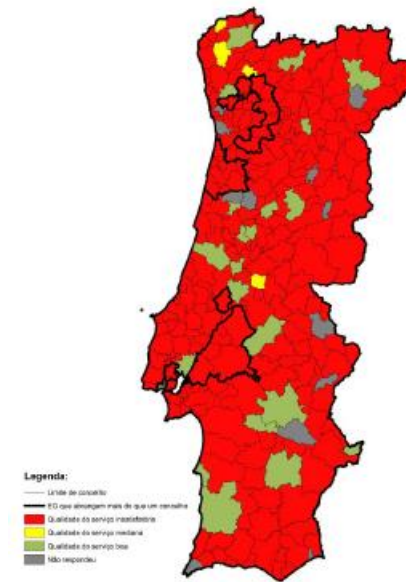
Cost coverage



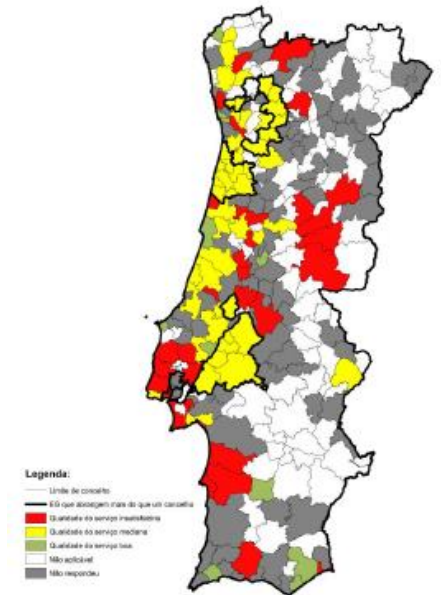
Combined sewer overflows control



Flooding



Pipes rehabilitation



Pumping stations energy efficiency

The case of Portugal

So, where do we stand now?

- We inherited many **existing infrastructure**
- We made a big effort to build new infrastructure to increase **access to service**
- We launched the basis for a **supportive public policy**
- Now we are using the infrastructure and targeting at **quality of service**
- **Asset management** is becoming common practice in **utilities serving 30000+ people**

- We must deliver the infrastructure to the next generation in good condition – **still a long way to go**

- **Need to make asset management usable to smaller utilities**
- **Need to better engage public policy makers, particularly at municipal level**

Concluding remarks

- It is crucial to pave the way to service effectiveness and sustainability by including the **asset management** concern in the **public policies** for water, with the right tools and incentives
- Case of Portugal: demonstrates that the establishment **of a sound public policy enabling asset management** for the water sector, with **simultaneous public policy elements** under place, is a key success factor for the **water services sustainability**
- The **ISO standard “Asset management - guidance for public policy makers”**, currently under preparation (ISO/TC251/WG7), will be a valuable resource to guiding governments in this process

Thank you for your attention

More details in

Alegre, H., Amaral, R., Brito, R.S., Baptista, J.M. (2020). Public policies as strategic asset management enablers: the case of Portugal. H2Open Journal (2020) 3 (1): 428–436. IWA Publishing
<https://doi.org/10.2166/h2oj.2020.052>



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Twitter: https://twitter.com/IWA_SAM



LESAM 9th Leading Edge Conference for Strategic Asset Management

- Join us again in **Bordeaux, France, May 11th - 13th 2022**
- Deadline for submission: November 15th, 2021
- <https://lesam2022.colloque.inrae.fr>



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