cerre Centre on Regulation in Europe

WATER SECTOR GOVERNANCE

Introducing the CERRE Water Regulatory Lab

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cerre.eu
Improving network and digital industries regulation

Key considerations for water governance

1. **SOCIETAL** objectives for the water sector
2. **VARIATIONS** in the water sector's outcomes and organisation
3. The importance of independent **REGULATION** for investment

Societal objectives to be balanced

1. **Operating efficiency**
2. **Appropriate investment over the long run**
3. Affordability
4. Managing water scarcity/water conservation
5. Security of supply
6. Public health
7. Environmental protection

Observations about multiple objectives

All objectives are influenced by **ECONOMIC REGULATION**, even if only indirectly

Some objectives are COMPLEMENTARY
e.g. Operating efficiency & Affordability

Some objectives require TRADE-OFFS
e.g. Affordability & Environmental protection

Due to trade-offs, societies may place **DIFFERING WEIGHTS** on **≠ OBJECTIVES**

- '**OPTIMAL**' industry/regulatory structure identifiable **FOR 1 OBJECTIVE**
  1 structure for **ALL OBJECTIVES** together may be **DIFFICULT** to identify

- Arguments on **STRUCTURE** of sector difficult to separate from arguments on **WEIGHT** of different objectives

EU countries may place differing weights on objectives (1)

WATER QUALITY

Overall Compliance Rate	
England & Wales	99.71%
Germany	99.70%
France	99.65%
Italy	99.57%
Spain	98.89%
Ireland	96.50%

WASTEWATER TREATMENT

Connections to Secondary/Tertiary Treatment	
Germany	91.3%
England & Wales	88.6%
Spain	80.9%
France	79.3%
Italy	57.8%
Ireland	45.3%

NON-REVENUE WATER

Share of Total Supply	
Germany	7.13%
Spain	18.9%
France	21.3%
England & Wales	23.4%
Italy	34.7%
Ireland	44.4%

Data: Collated by Global Water Intelligence (2018). Figures are long-run averages using data for up to 28 years (1989-2017). Years covered varies by country.

EU countries may place differing weights on objectives (2)

SYSTEM COSTS

Total Cost per Capita	
Italy	€156.39
Spain	€249.72
England & Wales	€272.70
Ireland	€329.22
Germany	€343.40
France	€521.47

'DIRECT' AFFORDABILITY

Charge to Customers per m^3	
Ireland	€0.06
Spain	€1.32
Italy	€1.50
France	€3.48
England & Wales	€4.14
Germany	€4.66

INVESTMENT (2013)

CAPEX per capita	
France	€150
Ireland	€120
England & Wales	€117
Germany	€98
Spain	€43
Italy	€35

Data: Collated by Global Water Intelligence (2018). Figures are long-run averages using data for up to 28 years (1989-2017) in 2017 prices. The years covered varies by country.

Ownership, operation and regulation of water utilities vary across Europe (1)

	ENGLAND	REPUBLIC OF IRELAND	FRANCE
OWNERSHIP & OPERATION	**Private ownership**: 9 regional water and wastewater companies (+6 water only companies, 8 'small' water and waste water companies, numerous non-household licences)	**1 state owned provider**: Irish Water	c. **15,000 operating entities.** Majority involve concessions where assets are publicly owned but privately operated by large companies e.g. Veolia, Suez. Some direct public operation
REGULATION GOVERNANCE	**Economics:** Ofwat **Drinking Water:** Drinking Water Inspectorate **Environment:** Environment Agency	**Economics:** Commission for Regulation of Utilities **Drinking Water and Environment:** Environment Protection Agency	**Economics:** Local Municipalities **Drinking Water:** Regional Health Agencies (Ministry of Social Affairs and Health) **Environment:** Ministry of the Environment, Energy and Sea

Sources: Mixed, in particular EurEau (2019)

- The UK and Ireland are outliers due to regional/national organisation structures.
- Most member states organise water utilities at the local level.

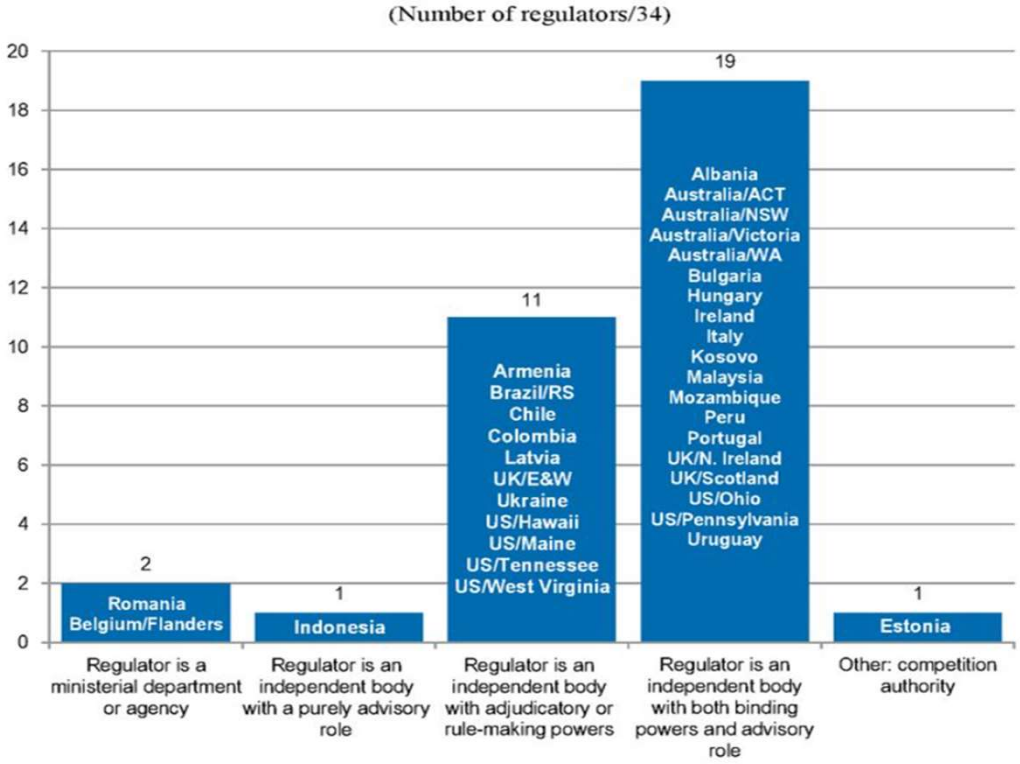
Ownership, operation and regulation of water utilities vary across Europe (2)

	GERMANY	ITALY	SPAIN
OWNERSHIP & OPERATION	**6,065 operating entities** in 2010 A mix of wholly publicly owned utilities and utility companies with significant public shareholdings	**2,100 water operators** in 2017 that vary a lot in size Assets are publicly owned, but operation can be public, private or public-private partnerships	Organised at **municipal level** (8,000 municipalities) A mix models, but more than 1/3 involve private concessions. Large private operators are Agbar and Aqualia
REGULATION GOVERNANCE	**Economics:** Regional and local government **Drinking Water:** State and municipal health departments **Environment:** Regional environmental laws	**Economics:** Local (EGA) and national (ARERA) **Drinking Water:** Institute of Health (ISS) and local health authorities (ASL) **Environment:** Ministry of Environment and regional environment authorities (ARPA)	**Economics:** Local municipalities **Drinking Water:** Regional health offices and Ministry of Health **Environment:** Water Directorate General and River Basin Authorities

Sources: Mixed, in particular EurEau (2019)

- Individual member states can contain multiple forms of organisation
- Utilities' small size means unexploited economies of scale and geographic externalities are key issues

Around the world, many jurisdictions have placed water regulation in an independent body.
This is still not common across Europe…Why?



Source: OECD Survey on the Governance of Water Regulators (2014).

The challenge of long-term investment

Infrastructure requiring large **CONTINUING INVESTMENTS** to remain effective

But infrastructure **DETERIORATES SLOWLY** creating a potential for opportunism…

PUBLICLY-OWNED SYSTEM

- politicians may choose **prices below long-run average cost** to win votes
- politicians may **restrict funding** to meet overall government borrowing targets

PRIVATELY-OWNED SYSTEM

- firms might choose **high dividends** over maintenance
- politicians might regulate **prices below long-run average cost** *(a form of expropriation)*

The added value of regulators

INDEPENDENT REGULATOR	Delegation from government to an independent regulator provides a commitment to the pursuit of particular objectives
NEEDS ASSESSMENT	Independence (incl. from industry) can support technical assessments entering the public domain on needed investment and prices that ensure appropriate recovery of investment cost

The water sector is facing significant challenges

BALANCE CONFLICTING OBJECTIVES

Complexity to balance, without collision, multiple objectives assigned to the sector governance/regulation.

In particular tensions between massive investments needs and affordability of water in all regions

INTERACTIONS WITH OTHER SECTORS

Need to take account of the interactions between water and other sectors, such as waste

INFRASTRUCTURE & TECH GAPS IN SEVERAL COUNTRIES

ENVIRONMENTAL AND CLIMATE CHANGE URGENCY

Why a Water Regulatory Lab?

1. Meet the **CHALLENGES** of the water sector
2. Balance **CONFLICTING OBJECTIVES** assigned by society to the sector
3. Develop robust & locally applicable **REGULATORY SOLUTIONS**
4. Water policy deserves **MORE ATTENTION** in Brussels + right timing: new European Commission

Why CERRE?

1 DELIVERING INDEPENDENT ACADEMIC RESEARCH

- supported by operators and regulators

2 APPLYING CERRE'S SUCCESSFUL APPROACH TO GUARANTEE VALUE AND INFLUENCE

- Proven track record for original, robust policy and regulatory recommendations for network industries, incl. water systems

3 GATHERING RELEVANT STAKEHOLDERS

- corporate players
- regulatory authorities
- and expert academics

CERRE, a cross-sectoral community of 50+ members

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Some of our members

Operators, infrastructure managers and systems manufacturers

ENGIE
Uber
Sibelga
energizing the city
FLUXYS
EXCELLENCE IN GAS TRANSPORT
enel
elia
Powering a world in progress
EDF
Microsoft
Deutsche Telekom
Google
Qualcomm
SNCF

Regulators

ARERA
Autorità di Regolazione per Energia Reti e Ambiente
Bundesnetzagentur
CRU
An Coimisiún um Rialáil Fóntas
Commission for Regulation of Utilities
E-CONTROL

University centres

INSTITUT D'ECONOMIE INDUSTRIELLE
Bocconi
Università Commerciale Luigi Bocconi
Tilec
Tilburg Law and Economics Center
CCP
CENTRE FOR COMPETITION POLICY

Renowned academic resources

MULTI-DISCIPLINARY
Team of 25 economists, lawyers, engineers, and political scientists.

SPECIALISED & CROSS-SECTOR
High-level experts sharing their expertise across sectors: digital, media, telecom, energy, water, mobility and competition.

DECENTRALISED
Academics based in their universities and research centres across Europe.

Sean Ennis
University of East Anglia
CERRE Research Fellow
"Water Sector Ownership and Operation" (CERRE, 2019)

Catherine Waddams
University of East Anglia
Non-executive Director, Ofwat
CERRE Research Fellow

Clara Poletti
Commissioner ARERA
Chair ACER
CERRE Board Member

Michael Pollitt
University of Cambridge
CERRE Joint Academic Director

CERRE Water Regulatory Lab
To do what?

Terms of reference jointly decided by membership - could include:

- Assessing **new trends** across EU countries and regions
- Initiating **in-depth debates** on regulatory matters
- Developing robust, innovative and timely **policy/regulatory recommendations**
- Securing a **multidisciplinary fora** for experts
- Issuing **three policy papers** in 2020
- **Informing decision makers** at EU, national and sub-national levels about analyses and recommendations
- Ensuring **independent thinking** by top-level researchers

Possible burning or unexplored questions to be addressed by the Lab

1. **Water and governance**
   How to reconcile investment and affordability goals?

2. **Water and technology, including artificial intelligence**
   Will new tech shape the future of water services in Europe? How ?

3. **Towards convergence of water and waste services?**
   How can regulation support convergence and efficiencies?

4. **Water and other policies:** climate change, circularity and deforestation
   How resilient is the water system in Europe?

5. Regulation for innovation and environmental sustainability
   Tariffs and distributional effects
   Governance challenges in EU water systems, …

Other potential deliverables

EU Roadmap for Future Water Systems 2040 ?

EU Water Congress: outcomes of independent research developed by CERRE Regulatory Lab ?

Guidelines for Regulators and Operators to improve the governance of Water Systems ?

For more info

If you are interested in the **CERRE Water Regulatory Lab**,

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