

# **1<sup>st</sup> Workshop on Water Regulation in Europe**

*December 5th, 2014*

*Rome - Palazzo De Carolis*

**Water Regulators, Major Water Companies and Infrastructure Funds/Financing Institutions** together to better understand the needs of the industry and how to improve the current regulatory framework at European Level to foster investments in the sector

The program attempted to answer, among others, to the following questions:

**Do we need common rules as in Electricity and Gas?**

**What would those rule be?**

**How to move forward to have a minimum set of common rules allowing proper cost orientation?**



**1<sup>st</sup> WORKSHOP ON WATER REGULATION IN EUROPE**

**December 5th, 2014 - UniCredit Palazzo De Carolis - Sala della Minerva, Via Lata 3, Rome**

**9.00 Registration and Welcome Coffee**

**9.30 Welcome by Francesco Lo Passo, *Principal*, The Brattle Group**

**9.45 Introduction by Alberto Biancardi, *Commissioner*, AEEGSI (Regulator for Electricity Gas and Water, Italy)**

**10.00 Round Table: *Common features of water regulation in Europe***

- *Introduction and Moderator: Maria Salvetti, Deputy Director Water Department, Florence School of Regulation*
- *Monica Dumitrescu, Chief Tariffs Prices office of ANRSC, (National Authority for Regulating and Monitoring Public Utilities Services, Romania)*
- *Cathy Mannion, Director, Energy Retail and Water Division of CER, (Commission for Energy Regulation, Ireland)*
- *Carlos Pereira, Member of the Board of Directors of ERSAR, (Regulation Authority of Water and Waste Services, Portugal)*
- *Representative of MAGRAMA, (Ministry of Agriculture, Food and Environment, Spain) (TBC)*
- *Q & A session with floor intervention*

**10.45 Coffee-break**

**11.00 Round Table: *A fruitful dialogue between industry and regulation***

- *Introduction and Moderator: Roberto Zocchi, Chairman, EUREAU EU3*
- *Alberto Irace, CEO, ACEA*
- *Ramon Masip, Director MENA Operations, AGBAR - Sociedad General de Aguas de Barcelona*
- *Mariano Blanco, International Director of Customer Management, Aqualia*
- *Silviu Lăcătușu Representative of ARA, Romanian Association of Water Companies*
- *Emanuela Cartoni, Head of Water Department, Federutility*
- *Carolina Latorre, Representative of IWA, The International Water Association*
- *Jacques Labre, Senior Advisor, Suez Environment*
- *Maria Vittoria Pisante, Member of the Board, Veolia*
- *Q & A session with floor intervention*

**12.00 Coffee-break**

**12.15 Round Table: *Regulation enhancing water investments bankability***

- *Introduction and Moderator: Massimo Pecorari, Global Head of Project Finance, UniCredit*
- *Lars Anwandter, Senior Loan Officer, EIB - European Investment Bank*
- *Corrado Santini, Senior Partner, F2i Fondi Italiani per le Infrastrutture*
- *Matteo Botto Poala, Managing Director, Goldman Sachs*
- *Mark Braithwaite, Executive Director, Macquarie Infrastructure and Real Assets*
- *Alberto Donzelli, Executive Director, Morgan Stanley Infrastructure*
- *Q & A session with floor intervention*

**13.15 Wrap-up and conclusions by Brattle Group, EUREAU, Financial Institution**

**13.30 End of the meeting – buffet lunch**



## Attendees

<i>Lars Anwandter</i>	<b>EIB</b>
<i>Simona Benedettini</i>	<b>LEAR</b>
<i>Simona Biagi</i>	<b>HERA</b>
<i>Alberto Biancardi</i>	<b>AEEGSI</b>
<i>Mariano Blanco</i>	<b>Aqualia</b>
<i>Daniela Boni</i>	<b>UniCredit</b>
<i>Paolo Bottiglione</i>	<b>Aragon Partners</b>
<i>Matteo Botto Poala</i>	<b>Goldman Sachs</b>
<i>Mark Braithwaite</i>	<b>Macquarie</b>
<i>Giovanni Canitano</i>	<b>Metropolitana Milanese</b>
<i>Riccardo Capecchi</i>	<b>Poste Italiane</b>
<i>Valerio Capizzi</i>	<b>ING BANK</b>
<i>Paolo Carta</i>	<b>ACEA</b>
<i>Emanuela Cartoni</i>	<b>Federutility</b>
<i>Laura Castellucci</i>	<b>Tor Vergata</b>
<i>Francesco Ciarmatori</i>	<b>Aragon Partners</b>
<i>Matteo Codazzi</i>	<b>CESI</b>
<i>Renato Conti</i>	<b>ACEA</b>
<i>Raffaella Copper</i>	<b>Macquarie</b>
<i>Franco Damore</i>	<b>ICOM</b>
<i>Alessandro De Carli</i>	<b>Università Bocconi</b>
<i>Cristina Dell'Aquila</i>	<b>CDDPP</b>
<i>Raffaele Di Stefano</i>	<b>Energiamedia</b>
<i>Alberto Donzelli</i>	<b>Morgan Stanley</b>
<i>Renato Drusiani</i>	<b>Federutility</b>
<i>Monica Dumitrescu</i>	<b>ANRSC</b>
<i>Marcella Fantini</i>	<b>Brattle</b>
<i>Cosimo Fischietti</i>	<b>Brattle</b>
<i>Ursula Fliri</i>	<b>ING BANK</b>
<i>Domenico Gullo</i>	<b>Ashurst</b>
<i>Dan Harris</i>	<b>Brattle</b>
<i>Alberto Irace</i>	<b>ACEA</b>
<i>Silvia Keller</i>	<b>CDDPP</b>
<i>Jacques Labre</i>	<b>Suez Environment</b>
<i>Silviu Lacatusu</i>	<b>ARA</b>
<i>Carolina Latorre</i>	<b>IWA</b>
<i>Nicola Lo Parco</i>	<b>Gruppo CIE</b>
<i>Francesco Lo Passo</i>	<b>Brattle</b>
<i>Alexandra Lungu</i>	<b>ANRSC</b>
<i>Ramon Masip</i>	<b>AGBAR</b>
<i>Francesca Mazzarella</i>	<b>NERA</b>
<i>Mario Rosario Mazzola</i>	<b>Università di Palermo</b>
<i>Valentina Menin</i>	<b>Assaeroporti</b>
<i>Alberto Angelo Meregalli</i>	<b>CESI</b>
<i>Maria Gerarda Mocella</i>	<b>NERA</b>
<i>Massimo Pecorari</i>	<b>UniCredit</b>
<i>Maria Vittoria Pisante</i>	<b>Veolia</b>
<i>Sabrina Paris</i>	<b>ENAC</b>
<i>Lorenzo Parola</i>	<b>Paul Hastings LLP</b>
<i>Lorenzo Pecchi</i>	<b>Unicredit</b>
<i>Carlos Pereira</i>	<b>ERSAR</b>
<i>Maria Pirozzi</i>	<b>Energia Verde Idrica</b>
<i>Lucia Pitzurra</i>	<b>ACEA</b>
<i>Renato Pizzolla</i>	<b>Brattle</b>
<i>Andrea Ripa di Meana</i>	<b>CCSE</b>
<i>Tommaso Salonic</i>	<b>Freshfields</b>
<i>Maria Salvetti</i>	<b>Florence School of Regulation</b>
<i>Gianfranco Sansone</i>	<b>UniCredit</b>
<i>Corrado Santini</i>	<b>F2i</b>
<i>Stefano Scalera</i>	<b>Ministero dell'Economia e delle Finanze</b>
<i>Emer Scirè</i>	<b>SIAS</b>
<i>Sarah Shababi</i>	<b>Università di Genova</b>
<i>Fabio Soleri</i>	<b>ADR</b>
<i>Fabio Tambone</i>	<b>AEEG</b>
<i>Tiziana Toto</i>	<b>Cittadinanza Attiva</b>
<i>Giuseppe Tribuzi</i>	<b>CCSE</b>
<i>Giovanni Valeri</i>	<b>Studi Amministrativisti</b>
<i>Roberto Zocchi</i>	<b>EUREAU</b>



# Infrastructure Needs, Water Regulation, Financing Options and Areas of Improvements

## 1<sup>st</sup> Workshop on Water Regulation in Europe Rome, 5 December 2014<sup>\*</sup>

Francesco Lo Passo, *Principal* The Brattle Group  
Cosimo Fischietti, *Associate* The Brattle Group

### INTRODUCTION<sup>\*\*</sup>

The European water industry operates under country specific regulatory frameworks. In 2000 the approval of the Water Framework Directive imposed a set of common rules aiming at promoting sustainable water use. The Directive recognised cost-oriented tariffs as an instrument to promote such sustainable use: the tariff calculation has to be based on an economic analysis which estimates the volume, prices and costs associated with water services, the relevant investments and a forecast of investments. The Water Framework Directive, however, does not detail mechanisms for cost recovery and tariff design.

The water industry, as other network industries such as electricity and gas, is highly capital intensive and each country has set its own rules to set tariffs to recover the costs of providing the water services (including capital charges) as well as to govern the relationships between the different stakeholders, including central and local governments.

Differently from the electricity and gas industries, however, no attempt has been made so far to introduce in the water sector a more comprehensive and harmonized set of rules at European level such as to have an homogeneous approach to cost recovery and governance across countries.

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<sup>\*</sup> This paper has been prepared as a basis for discussion during the 1st Workshop on Water Regulation in Europe, Rome, 5 December 2014.

<sup>\*\*</sup> The Authors wish to thank Marcella Fantini, Senior Associate at The Brattle Group, for comments and suggestions on previous versions of this work.



Both governance and tariffs are keys to attract investments in a sector which needs significant investments to be carried out to develop and maintain infrastructures at a time when public budgets are unable to finance the required capital expenditures. It is perhaps also time to reflect on the best way to move forward and in particular the need to create a harmonized European approach to foster investments.

This working note intention is to provide some evidence on the European water sector, with a focus on tariff regulation from the point of view of several European regulators, water companies, infrastructure funds and lending institutions in order to identify areas for improvements of the regulatory design of the water sector.

The structure of this working note is as follows:

- Section 1 provides an overview of the different governance arrangements in the water sector;
- Section 2 summarizes the key features of water tariff regulation for a few European countries;
- Section 3 describes the set of conditions which attract private investors;
- Section 4 provides evidence of the importance that regulation has on access to financial sources;
- Section 5 concludes with a list of questions which could be addressed at the Seminar.



## 1. GOVERNANCE IN THE WATER SECTOR

The water sector is crucial in the development of a country for its role in production (e.g. in agriculture) and for the access to quality water services has on public health.

Granting access to water services and a proper quality of service require European policy makers and regulators to set a governance structure and an economic regulation that will allow water operators, whether public or private, to understand the targets to be achieved in terms of availability and quality of water services and to timely and properly recover the costs of providing water services of the required quality.

Targets to be achieved in the provision of water services are best identified by a clear long-term strategic planning. As water management involves different stakeholders at local, national and international level, long term planning requires identification of the role and competencies of each stakeholder and of the relationships between them.

There is no “one-fits-all” solution as each country has a specific territorial organisation and a different degree of development of institutions involved in the water management. As an example of such complexity, we report the results of a survey the OECD carried out in 2009-2010 across 17 OECD countries on the number of authorities at national level involved in water policy making (Table 1) and at local level (Table 2).



**Table 1**  
*Authorities at National Level Involved in Water Policy Making  
(2009-2010 Survey Results)*

Country/Region	Numbers of Principal Actors in Design and Implementation	Number of Actors in Regulation	Role of Central Government (dominant actor, joint role with local actors, none)	Specific water regulatory agency (yes/no)
<b>Europe</b>				
Belgium (Flanders)	7	-	None	No
Belgium (Wallonia)	-	-	None	No
France	5	5	Joint	No
Greece	13	12	Dominant	Yes
Italy	6	5	Joint	Yes
Netherlands	2	2	Joint	Yes
Portugal	3	5	Dominant	Yes
Spain	5	6	Joint	No
United Kingdom	11	5	Joint	Yes
<b>Other OECD Countries</b>				
Australia	4	4	Joint	Yes
Canada	9	3	Joint	No
Chile	15	10	Dominant	No
Israel	4	4	Dominant	
Japan	4	-	Dominant	No
Korea	6	4	Dominant	No
Mexico	6	4	Dominant	Yes
New Zealand	14	7	Joint	Yes
United States (Colorado)	11	7	Joint	No

Source OECD: OECD Studies on Water, Water Governance in OECD Countries- A multi-level approach, 2011.

Table 1 shows that in European countries the number of actors involved at national level in water policy making ranges from a minimum of 2 actors involved in design and implementation of provisions in the water sector and 2 in regulation in the Netherlands to 13 actors involved in design and implementation of provisions in the water sector and 12 in regulation in Greece. In non-European countries the number of actors involved at national level ranges from a minimum of 4 actors involved in design and implementation of provisions in the water sector in Japan to a maximum of 15 actors involved in design and implementation of provisions in the water sector and 10 in regulation in Chile. Regarding the role of Central Government in governance, in European countries the joint role of Central Government and local authorities is the prevailing arrangement, while the role of Central Government is predominant in other OECD countries.



Allocation of roles and responsibilities at local level shows the same degree of variability across countries.

**Table 2**  
*Involvement and Responsibilities of Local Authorities*  
*(2009-2010 Survey Results)*

Country/Region	Type of involvement (dominant actor, joint role with Central Government, no competence)	Water resources	Water supply (domestic)	Water Budget
<b>Europe</b>				
Belgium (Flanders)	Dominant	Regions, Municipalities	Regions, Municipalities, Intermunicipal bodies	CG, SNG, RBO
Belgium (Wallonia)	Dominant		Regions, Municipalities, Intermunicipal bodies	CG, SNG, RBO
France	Joint	Regions, RBOs	Regions, Intermunicipal bodies	CG, SNG, RBO
Greece	Joint	Regions	Municipalities	CG, SNG
Italy	Joint	Regions, RBOs, Water-specific bodies, Intermunicipal bodies	Municipalities	CG, SNG, RBO
Netherlands	Dominant	Regions, Municipalities	Regions, Municipalities	CG, SNG
Portugal	Joint	RBO, SNG (Azores and Madeira)	Municipalities, Regional and intermunicipal bodies	CG, SNG, RBO, RDA
Spain	Joint	Regions, RBOs	Municipalities, Regions and Intermunicipal bodies	CG, SNG, RBO, RDA
United Kingdom	Joint	Regions, Municipalities	Regions, Municipalities	CG, SNG
<b>Other OECD Countries</b>				
Australia	Joint	Regions, Water Bodies, RBOs	Municipalities, Water Bodies	CG, SNG, RBO
Canada	Dominant	Regions, Municipalities, Intermunicipal bodies, Water-specific bodies	Regions, Municipalities	CG, SNG
Chile	None (except municipalities for sanitation in rural areas)	None	None	CG, SNG
Israel	No competence	-	-	CG
Japan	Joint	n/a	Prefectures, Municipalities	CG, SNG
Korea	Joint	Regions, Water-specific bodies	Regions, Water-specific bodies	CG, SNG
Mexico	Joint	Regions, Municipalities, Intermunicipal bodies, RBOs	Regions, Municipalities, Intermunicipal bodies, RBOs	CG, SNG
New Zealand	Dominant	Regions, Intermunicipal bodies	Regions, Intermunicipal bodies, Municipalities	CG, SNG
United States (Colorado)	Dominant	Regions, Municipalities, RBOs, Water-specific bodies	Regions, Municipalities, RBOs, Water-specific bodies	CG, SNG, RBO, RDA

Note:

CG= Central Government

SNG= Sub National Government

RBO= River Basin Organisation

RDA= Regional Development Agencies

Source OECD: OECD Studies on Water, Water Governance in OECD Countries- A multi-level approach, 2011.



An example of the institutional layers of water management is provided for the Netherlands in Box 1.

**Box 1**  
**Water Management in the Netherlands**

*In the Netherlands, water management is carried out at both centralised and local level. There are different institutional layers in the water sector governance, ranging from the European to the municipal level:<sup>1</sup>*

*- At the European level, the European Union sets legislation and regulation for water, floods and the environment while the International River Basin Commissions (Rhine, Scheldt, Meuse, Ems) are in charge of cross-border water management;*

*- At National level, the Ministry of Infrastructure and the Environment is in charge of water, spatial planning and flood protection at national level, of planning of the national water policy and of coordination with other policy areas such as spatial planning, environment, economic development, agriculture, etc, while the National Water Authority is in charge of the operation and maintenance of the main water system. In 2009 the Dutch Government adopted the River Basin Management Plans for the Dutch section of the international river basin districts. Such plans include a chapter with the economic analysis of water use which details cost recovery mechanisms for water services. Calculation of cost recovery includes the following costs: financial costs, including investments, opex, costs for research and implementation of groundwater measures;*

*- At Provincial level, the 12 provinces are in charge of integrated spatial and environmental planning, of the supervision of regional water authorities, of groundwater regulation and of coordination with other regional policy areas;*

*- At the Watershed level, the 24 Regional Water Authorities are in charge of operation and maintenance of regional water systems, flood defence, water quality and water quantity, wastewater transportation and treatment;*

*- At Municipal level, the 408 municipalities are in charge of local spatial planning, sewage collection and wastewater transport, urban drainage and stormwater collection.*

*In addition to the above institutional bodies, a number of other actors have a role in water management:*

*- 10 drinking water companies;*

*- The Delta Commissioner, which leads the Delta program in collaboration with the ministries and other stakeholders;<sup>2</sup>*

*- Institutes, advisory committees and associations.*

The survey results highlights that the number of national and local institutional bodies involved in the design, implementation and regulation of the water sector requires governance to be carefully designed and implemented in order to provide the transparency in the planning and decision process required by water operators to run the system efficiently and to make the required investments.

<sup>1</sup> OECD, *Water Governance in the Netherlands – Fit for the Future?*, 2014.

<sup>2</sup> The Delta program is a national program for flood defence and for freshwater supply.



Since the survey results were published, a rationalization of the water sector has been observed in several countries (as an example Netherlands, Portugal, Italy), together with a clearer definition of roles and competencies.<sup>3</sup>

Despite efforts towards a more efficient water management structure, governance appears still fragmented, and overlapping competencies of different institutions remain a barrier to consistent long term planning and sector development.

**Table 3**  
*Institutional Layers Involved in Setting the Policy of the Alfeios River Basin – Greece (Example)*

Layer	Competent Authority	Role
Government	National Water Council	Advisory
	National Water Commission	Advisory
Ministry	Ministry of Environment, Energy and Climate Change + Special Secretariat for Water	Supervisory
	Ministry of Rural Development and Food	Participatory
	Ministry of Transport and Networks	Participatory
	Ministry of Finance	Participatory
	Ministry of Interior, Decentralisation and E-Government	Participatory
	Ministry of Maritime Affairs, Islands and Fisheries	Participatory
	Ministry of Health and Social Solidarity	Participatory
	Ministry of Infrastructure	Participatory
	Ministry of Culture and Tourism	Participatory
	Ministry of Development and Competitiveness	Participatory
Decentralised Administration	2 Regional Water Authorities	Supervisory, Executive
	2 Departments of Environment & Planning	Participatory
	Regional Forestry Department	Participatory
	2 Departments of Rural Planning	Participatory, Executive
	Department of Civil Protection	Participatory
Regional Unit	Department of Local Administration and Decentralisation	Participatory
	3 Departments of Environment and Hydro-Economy	Executive
	3 Departments of Rural Economy	Executive, Participatory
	3 Departments of Public Works	Executive, Participatory
	3 Departments of Planning	Participatory
	3 Departments of Health and Welfare	Participatory
	3 Departments of Civil Protection	Supervisory, Participatory
Municipality	Enterprises for Water Supply and Sewerage	Executive
	Directories of Technical Services	Executive
	Local Organisation for Land reclamation	Executive
Other	Public Power Corporation S.A.	Executive
	Archaeological authority	Supervisory, Participatory
	Land public authority	Supervisory, Participatory
	NGOs	Supervisory, Advisory, Participatory

Source: Marianthi V. Podimata and Panayotis C. Yannopoulos, 2012, *Kallikrates Scheme and Water Governance in Greece*, paper presented at the International Conference on the protection and Restoration of the Environment

<sup>3</sup> As an example, in Greece, the so-called “Kallikrates Law” in 2010 reformed local and regional public administration by reducing the number of local administrative bodies and such reform is expected to have a positive impact also on the governance of the water sector.



A poor regulation of the relationships within and across institutional layers, for example lack of coordination between Ministries and regulators, overlapping of competencies, etc. would result in poor definition of targets to achieve and in low transparency of decisions on the investments to be carried out.

A poor identification of which investments are required to achieve the targets will, in turn, have a negative impact on economic regulation, which will not be able to identify the most efficient investments to be remunerated in tariffs. Poor governance, therefore, will translate in lack of investments and higher costs of the system to achieve the required standards in term of quality of service and access to the service.



## 2. Water Tariff Regulation in Selected European Countries

Further to the differences in Governance, European countries show also a variety of approaches to economic regulation. As an example, Table 4 provides an overview of the differences in water tariff regulation across Member States for a sample of five European countries (Denmark, England & Wales, Ireland, Italy, and Portugal).<sup>4</sup>

**Table 4**  
*Regulatory Provisions of a Sample of European Countries*

Country	Regulatory Period	Who is responsible for economic and quality of service regulation	Tariff control	Treatment of costs
Denmark	1 year	<ul style="list-style-type: none"> <li>Regulator is the Nature Agency (Ministry of the Environment) and define the economic and environment regulation as well as climate change policies</li> <li>Tariffs approved by Competition Authority (Ministry of Economic Development)</li> </ul>	<ul style="list-style-type: none"> <li>Revenue cap calculated as opex plus net financial items plus pass-through costs plus depreciation plus correction for over/undercovery of costs in previous years</li> <li>Opex are calculated using benchmarking</li> </ul>	<ul style="list-style-type: none"> <li>Valuation on opex efficiency by benchmarking</li> </ul>
England & Wales	5 years	<ul style="list-style-type: none"> <li>Tariff approved by the Regulatory Independent Authority</li> <li>Regulator is also responsible for setting quality of service targets</li> </ul>	<ul style="list-style-type: none"> <li>Price cap: RPI – K formula (k is the efficiency factor) with forecasts of expected RAB, new investments, opex, and volumes</li> <li>Output based regulation based on control of total expenditures (TOTEX) for the regulatory period 2015-2020</li> </ul>	<ul style="list-style-type: none"> <li>Valuation on opex , capex and quality of services efficiency (by benchmarking and industry expert reviews)</li> <li>RPI used for RAB, capex and opex</li> <li>Economic depreciation</li> <li>No time lag for remuneration</li> <li>Penalties &amp; Rewards</li> </ul>
Ireland	6 years	<ul style="list-style-type: none"> <li>Tariff approved by the Regulatory Independent Authority</li> <li>Regulator is also responsible for quality of service</li> </ul>	<ul style="list-style-type: none"> <li>Revenue cap: RPI – X formula (X is productivity gain) with forecasts of expected RAB, new investments, opex, volumes</li> <li>Targets in terms of quality of services (output regulation)</li> </ul>	<ul style="list-style-type: none"> <li>Valuation on opex , capex and quality of services efficiency (by benchmarking and industry expert reviews)</li> <li>RPI used for RAB, capex and opex</li> <li>No time lag for remuneration</li> </ul>
Italy	4 years	<ul style="list-style-type: none"> <li>Tariff approved by the Regulatory Independent Authority</li> <li>Regulator is also responsible for quality of service</li> </ul>	<ul style="list-style-type: none"> <li>Revenue cap: depreciation+financial costs+opex+component for financing new investments+environmental costs+revenue balance with previous year</li> </ul>	<ul style="list-style-type: none"> <li>Valuation on opex efficiency (profit sharing in place between users and companies)</li> <li>Fixed deflator used for RAB and capex, RPI used for opex</li> <li>2 years' time lag for remuneration</li> <li>Economic depreciation (financial in some cases)</li> </ul>
Portugal	1 year	<ul style="list-style-type: none"> <li>Tariff approved by Ministry of the Environment after the Regulator opinion</li> <li>Regulator responsible for quality of service</li> </ul>	<ul style="list-style-type: none"> <li>Today cost plus: depreciation+opex+financial costs+equity costs less other revenues /volumes</li> <li>Shift toward revenue cap under discussion</li> <li>No full cost recovery</li> </ul>	<ul style="list-style-type: none"> <li>Valuation on opex efficiency</li> </ul>

<sup>4</sup> Analysis of regulator's websites and public information.



Our analysis shows that:

- tariffs are approved by the regulator in England & Wales, Ireland and Italy, and by the Ministry in Denmark and Portugal;
- Denmark and Portugal have one-year regulatory periods, while England & Wales, Ireland and Italy have multi-annual regulatory periods;
- Cost-plus regulation is adopted in Portugal, a price cap regulation applies in England & Wales and Denmark, and revenue cap regulation is utilized in Ireland and Italy;
- operating and capital expenditures are under efficiency valuations scrutiny in England & Wales and Ireland, operating expenditures efficiency is evaluated in Denmark, Italy and Portugal. Efficiency of quality of services is evaluated in England & Wales and Ireland;
- tariffs increase according to the achievement of quality of services goals fixed ex-ante in Ireland and England & Wales.

Appropriate cost recovery mechanisms are needed to ensure financial viability of water management. The Water Framework Directive does not provide details on requirements for cost recovery as there is no agreement among European countries on the costs to be recovered and on water use which can be qualified as “water service”. Such uncertainty has led to a lack of investments that will negatively influence the development of water infrastructures.



### 3. Water Infrastructure Needs and Investors Requirements

Table 5 provides for illustrative purposes data on annual projected capital expenditures on water infrastructures in the main EU countries by 2015 and 2025. Those data are expressed as a percentage of Gross Domestic Product (“GDP”) and USD billions.

**Table 5**  
**Water Infrastructures Needs**

Nation	Projected Expenditures on Water Infrastructure % of GDP		Average Annual Expenditures USD Billions	
	By 2015	By 2025	By 2015	By 2025
Austria	0.8	0.9	2.6	3.9
Belgium	0.8	0.7	2.8	4.4
Czech Republic	1.9	0.9	3.1	2.8
Denmark	0.8	0.9	1.8	2.7
Finland	0.8	0.7	1.4	2.2
France	0.8	0.8	16.9	25.8
Germany	0.8	0.8	23.4	35.8
Greece	0.8	0.8	2.2	3.3
Hungary	0.8	1.4	2.0	2.8
Ireland	0.8	0.7	1.4	2.2
Italy	0.8	0.9	16.8	25.2
Luxembourg	0.8	0.6	0.2	0.4
Netherlands	0.8	1.1	5.4	7.9
Norway	0.8	0.6	1.6	2.6
Poland	1.9	0.9	7.9	7.2
Portugal	0.8	0.9	2.0	3.0
Slovak Republic	1.9	0.9	1.4	1.2
Spain	0.8	1.1	11.0	16.0
Sweden	0.8	0.7	2.3	3.6
Switzerland	0.8	0.6	2.0	3.2
United Kingdom	0.7	0.9	19.1	28.0
<b>Total</b>	<b>0.8*</b>	<b>0.9*</b>	<b>127.1</b>	<b>184.1</b>

Source: The Brattle Group on OECD Infrastructure to 2030: Telecom, Land Transport, Water and Electricity, Volume 2 (2007)  
\*% of GDP is weighted average for total GDP.

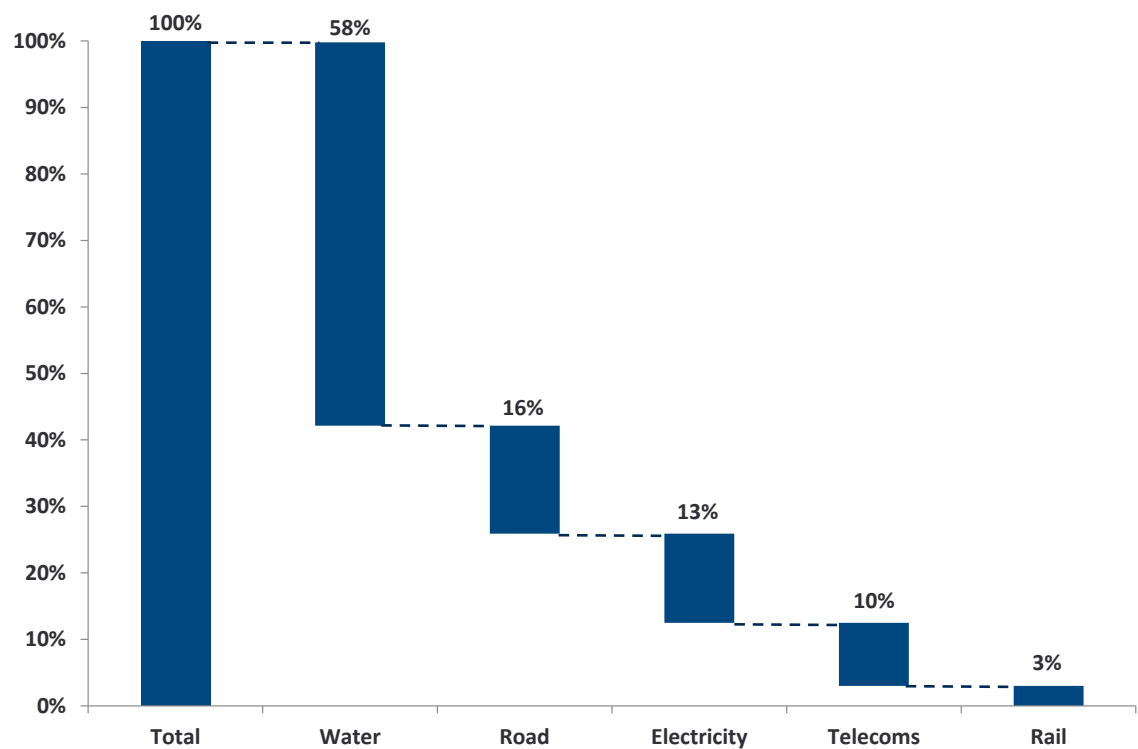
Annual projected capital expenditures on water infrastructures by 2015 and 2025 amount to 0.8% and 0.9% of GDP on average. The percentage of GDP ranges from a minimum of 0.7% to a maximum of 1.9% by 2015, and from a minimum of 0.6% to a maximum of 1.4% by 2025.

Total expenditures amount to 127.1 USD billion by 2015 and 184.1 USD billion by 2025. Expenditures ranges from a minimum of 0.2 USD billion to a maximum of 23.4 USD billion by 2015 and from a minimum of 0.4 USD billion and a maximum of 35.8 USD billion by 2025.



Data on capital expenditures in the main EU countries for other infrastructures (roads, electricity, telecoms and rails) are not available for comparison. For illustrative purposes, we report results of such comparison at world level published in the 2007 OECD study, which show that capital expenditures in the water sector represent about 60% of the total world’s annual capital expenditures in infrastructures (about € 10 trillion over a total of € 1.8 trillion) during the period 2020-2030 (Table 6).

*Table 6*  
*Relative incidence of world’s capital expenditures by sector*  
*(average values during the period 2020-2030)*



Source: The Brattle Group on OECD Infrastructure to 2030: Telecom, Land Transport, Water and Electricity, Volume 2 (2007), Values for Water and Telecom are considered by 2025.

Investments required by the water sector can hardly be funded by public budgets due to the fiscal constraints. This implies that the role of private investors in financing the required investments has to increase.

The water industry is characterized by significant investments in infrastructures with an economic life of at least forty years. Private investors should be will be willing to commit their capital as long as they expect that their investments in water assets will not become stranded, i.e. as long as they expect that they will be able to remunerate their investments.



Investors' expectations are met when a regulatory framework exists which meets the following general criteria:

1. Tariff mechanisms that are able to provide predictable cash flows for the entire life of the assets on the basis of stable and transparent rules agreed ex-ante (and periodic updates of parameters);
2. "Safeguard clauses" that allow proper remuneration of invested capital in case of unpredictable events that are outside the control of the regulated company;
3. Clear rules that allow investors to recover the value of their assets when early termination in the provision of water services is allowed and at end of the concession in those cases where water services are provided after a concession has been granted.



#### 4. Regulation and Access to Financial Sources

The importance of the regulatory framework in investors' decisions is highlighted by the weight given by credit rating agencies in the evaluation of credit quality. The latter is a key consideration as to whether companies can access the financial sources necessary to fund their investment programs and credit rating agencies form their judgment by taking into account a wide range of factors – including the regulatory framework (Table 7).

*Table 7*  
*Example – Moody's Credit Factors*

Credit Factors for Moody's	Weighting
<b>1. Regulatory Environment &amp; Asset Ownership Model</b>	<b>40%</b>
1. a) Stability & Predictability of Regulatory Environment	15%
1. b) Asset Ownership Model	10%
1. c) Cost and Investment Recovery (Ability & Timeliness)	12%
1. d) Revenue Risk	3%
<b>2. Operational Characteristics &amp; Asset Risk</b>	<b>10%</b>
2. a) Operational Efficiency	5%
2. b) Scale & Complexity of Capital Programme & Asset Condition Risk	5%
<b>3. Stability of Business Model &amp; Financial Structure</b>	<b>10%</b>
3. a) Ability & Willingness to Pursue Opportunistic Corporate Activity	3,33%
3. b) Ability & Willingness to Increase Leverage	3,33%
3. c) Targeted Proportion of Revenues Outside Core Water and Wastewater	3,33%
<b>4. Key Credit Metrics</b>	<b>40%</b>
4. a) Adjusted Interest Coverage OR FFO Interest Coverage	15%
4. b) Net Debt to Regulated Asset Base OR Debt/Capitalisation	15%
4. c) FFO / Net Debt	5%
4. d) RCF / Capex	5%
<b>TOTAL</b>	<b>100%</b>

Source: Moody's Global Infrastructure Finance, 2009.

Table 7 shows that the “Key financial credit metrics” and the “Regulatory environment & asset ownership model” have the highest weights (40% each) while weights for the “Operational characteristics & asset risk” and the “Stability of the business model and financial structure” are the lowest (10% each).



Evaluation of the “Regulatory environment & asset ownership model” requires evaluating the following features:

- a) Stability and Predictability of the Regulatory Environment: this feature captures the level of strength that derives from the regulatory and/or concession framework under which the company operates;
- b) Asset Ownership Model: this feature analyzes whether regulated companies own their assets in perpetuity, or for a defined time horizon under a concession, or under other contractual agreements. In those cases where the assets are owned in perpetuity, an assessment is made on the ownership rights that are subject to a license and the risk of license termination. In the other cases, an assessment is made on the recovery mechanism of the residual assets value at the end of the concession or the other contractual arrangement;
- c) Cost and Investment Recovery: this feature analyzes the ability of a regulated company to recover the cost of its operations and/or investment in a timely manner, thus verifying the stability of the cash flow;
- d) Revenue Risk: this feature analyzes the potential unpredictability of revenues by taking into account fluctuations in volumes of goods and services sold.

The factors utilized by credit rating agencies in their judgment give additional evidence of the importance that regulation has on access to financial sources.



## 5. Questions to be addressed

The need for very significant investments, together with the inability of public funds to finance such expenditures, motivates the following questions:

- To what extent can water sector governance be rationalized and harmonised across countries, so as to provide the required transparency to carry out investments?
- Would it be useful to envisage the introduction of a long-term tariff mechanism where rules are defined for the entire life of the asset and parameters are subject to periodic reviews?
- How should risks to be allocated between companies and end users (e.g. operating risks, cost overruns for new investments, changes in law/regulation, force majeure and other unpredictable events and events that are outside the water company's control)?
- What rules should be introduced, if any, for the determination of the value of assets in case of early termination of provision of water services or at the end of the provision of service?

The introduction of a harmonized set of rules so as to have a common approach to cost recovery and to governance across European countries would provide a consistent answer to the questions above, that would benefit all consumers in European countries by attracting the investments required to improve water infrastructures and by enhancing efficiency in water use.

Harmonisation, however, is a costly process for both regulators and companies. There is, therefore, a trade-off between the degree of harmonization to be achieved and the costs that harmonization will impose on European countries. This implies identifying the minimum general requirements to be imposed in order to create the required regulatory framework to foster investments without imposing undue constraints on countries.



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# Infrastructure Needs, Water Regulation, Financing Options and Areas of Improvements

Issues as basis for discussion

1<sup>st</sup> Workshop on Water Regulation

Francesco Lo Passo

5 December 2014



# Introduction

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- The EU water sector framework is mainly based on the Water Framework Directive (standards to protect water and promote efficiency)
- At national level and due to the economic and financial crisis , rationalization and reorganization has been pursued: new market design, independent regulator, new institutional architecture, etc.:
  - Decisions are taken to avoid network losses, replace obsolete infrastructures, promote efficient behavior of operators, attract investments, protect consumers
  - Regulation can play a key role: A common set of rules can foster growth and harmonization, facilitating new investment and supporting better sectorial policies at regional level
- The Workshop aims to share views among key stakeholder of water sector on key issues



# Governance

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- There is no «one-fits-all» approach as each country has its own specificities:
  - Number of actors involved (design, implementation, regulation of environmental standards and tariffs)
  - Involvement of Central Government, Local Authorities, Ministries and – in many instances – Independent Regulators
- No clear governance rules and overlapping of roles can substantiate in barriers to the planning process and operation of Water Companies
- Procedures to meet environmental standards have an impact on timing and costs for delays of investments
- Tariff regulation needs coordination often between different layers of responsibility, at central and local level



# Tariff Regulation – Key Issues

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- Regulatory periods from 1 to 6 years
- Price Caps versus Revenue Caps
- Full costs recovery versus efficient costs recovery
- Penalties & Rewards
- Quality Targets
- Remuneration of Capital Employed



# Water Infrastructure Needs

Projected Expenditures on Water Infrastructure <i>% of GDP</i>			Average Annual Expenditures <i>USD Billions</i>	
Nation	By 2015	By 2025	By 2015	By 2025
Austria	0.8	0.9	2.6	3.9
Belgium	0.8	0.7	2.8	4.4
Czech Republic	1.9	0.9	3.1	2.8
Denmark	0.8	0.9	1.8	2.7
Finland	0.8	0.7	1.4	2.2
France	0.8	0.8	16.9	25.8
Germany	0.8	0.8	23.4	35.8
Greece	0.8	0.8	2.2	3.3
Hungary	0.8	1.4	2.0	2.8
Ireland	0.8	0.7	1.4	2.2
Italy	0.8	0.9	16.8	25.2
Luxembourg	0.8	0.6	0.2	0.4
Netherlands	0.8	1.1	5.4	7.9
Norway	0.8	0.6	1.6	2.6
Poland	1.9	0.9	7.9	7.2
Portugal	0.8	0.9	2.0	3.0
Slovak Republic	1.9	0.9	1.4	1.2
Spain	0.8	1.1	11.0	16.0
Sweden	0.8	0.7	2.3	3.6
Switzerland	0.8	0.6	2.0	3.2
United Kingdom	0.7	0.9	19.1	28.0
<b>Total</b>	<b>0.8*</b>	<b>0.9*</b>	<b>127.1</b>	<b>184.1</b>

- Annual projected capital expenditures on water infrastructures by 2015 and 2025 amount to 0.8% and 0.9% of GDP on average
- Expenditures ranges from a minimum of 0.2 USD billion to a maximum of 23.4 USD billion by 2015 and from a minimum of 0.4 USD billion and a maximum of 35.8 USD billion by 2025



# Regulation and Investments

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- The importance of regulation is highlighted by the weight given by credit rating agencies in terms of:
  - a. Stability and Predictability of the Regulatory Environment
  - b. Asset Ownership Model
  - c. Cost and Investment Recovery
  - d. Revenue Risk
- The regulatory framework enhances investments in presence of:
  - Tariff mechanisms that provide predictable cash flows for the entire life of the assets on the basis of stable and transparent rules agreed ex-ante (and periodic updates of parameters)
  - “Safeguard clauses” that allow proper remuneration of invested capital in case of unpredictable events that are outside the control of the regulated company
  - Clear rules that allow investors to recover the value of their assets when early termination in the provision of water services is allowed and at end of the concession in those cases where water services are provided after a concession has been granted



# Next Steps?

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- Regulation of the Water Sector in Europe has specificities in each jurisdiction:
  - Allocation of competences (tariffs, quality, environment, etc.)
  - Methodologies for the calculation of allowed revenues (volume forecast, capex plan, opex, depreciation, cost of funding)
  - Different levels of quality of services
  - Integrated vertical utilities vs. unbundling of commercial activities and retail competition
- A common minimum approach could be set such to meet requirements to foster investments:
  - core competencies allocated to the different institutional players (Water Authority/Department, Ministry, Government, Parliament)
  - Common set of regulatory accounting rules are applied (allocation of common and joint costs, allocation of direct costs, useful lives, calculation of Regulatory Asset Value-RAV, etc.)
  - How tariffs are calculated for each segment of the industry (volumes, allowed regulatory costs)
  - How quality of services is measured, levels and trends and related premia/penalties
  - Structure of the industry (players in each segment, technological barriers, etc.)



**Round Table 1**  
***Common Features of Water  
Regulation in Europe***



**Monica Dumitrescu**  
**Alexandra Lungu**  
**ANRSC**





*Romanian Government  
Ministry of Regional Development and Public Administration  
National Regulator for Public Services*

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# ***Regulation for Water Supply and Sewage Services***

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# ***I. General view of A.N.R.S.C.***

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***National Regulator for Public Services -A.N.R.S.C. is a national public institution, with legal entity, financed from the state budget through the Ministry of Regional Development and Public Administration.***

***ANRSC is the appropriate regulatory authority for the following public services:***

- ☐ ***water supply;***
  - ☐ ***sewage and wastewater treatment;***
  - ☐ ***collecting, sewerage and storm water discharge;***
  - ☐ ***generation, transmission, distribution and supply of thermal energy in centralized system, apart from thermal energy cogeneration;***
  - ☐ ***sanitation of localities;***
  - ☐ ***public lighting;***
  - ☐ ***local public transport, according to the competencies granted by the special law.***
-





# ***I. General view of A.N.R.S.C.***

---

***ANRSC operate under the following principles:***

- ☐ ***protect the users interests in relation with the operators acting in the field of public utilities;***
  - ☐ ***promote competition, effectiveness and economic efficiency in the sector of public utilities operating under monopoly;***
  - ☐ ***promoting the principles of transparency, accessibility, non-discriminatory treatment and protection of users;***
  - ☐ ***promotion of result oriented, balanced contractual relations;***
  - ☐ ***ensuring equal treatment and opportunities between central and local public administration authorities and service operators of public utilities;***
  - ☐ ***resource conservation, environmental protection and public health.***
-





## ***II. General presentation of A.N.R.S.C.***

### ***❑ Main competences and attributes of A.N.R.S.C. in the public utilities services:***

***develops and establishes  
secondary and tertiary binding  
sector regulations***

***grants, modifies, suspends or  
revokes licenses or permits***

***issues a special notice regarding  
the establishment, adjustment or  
modification of prices and tariffs***

***monitors and controls the public  
utilities services market***



### ***III. Regulation of water supply services and sewerage***

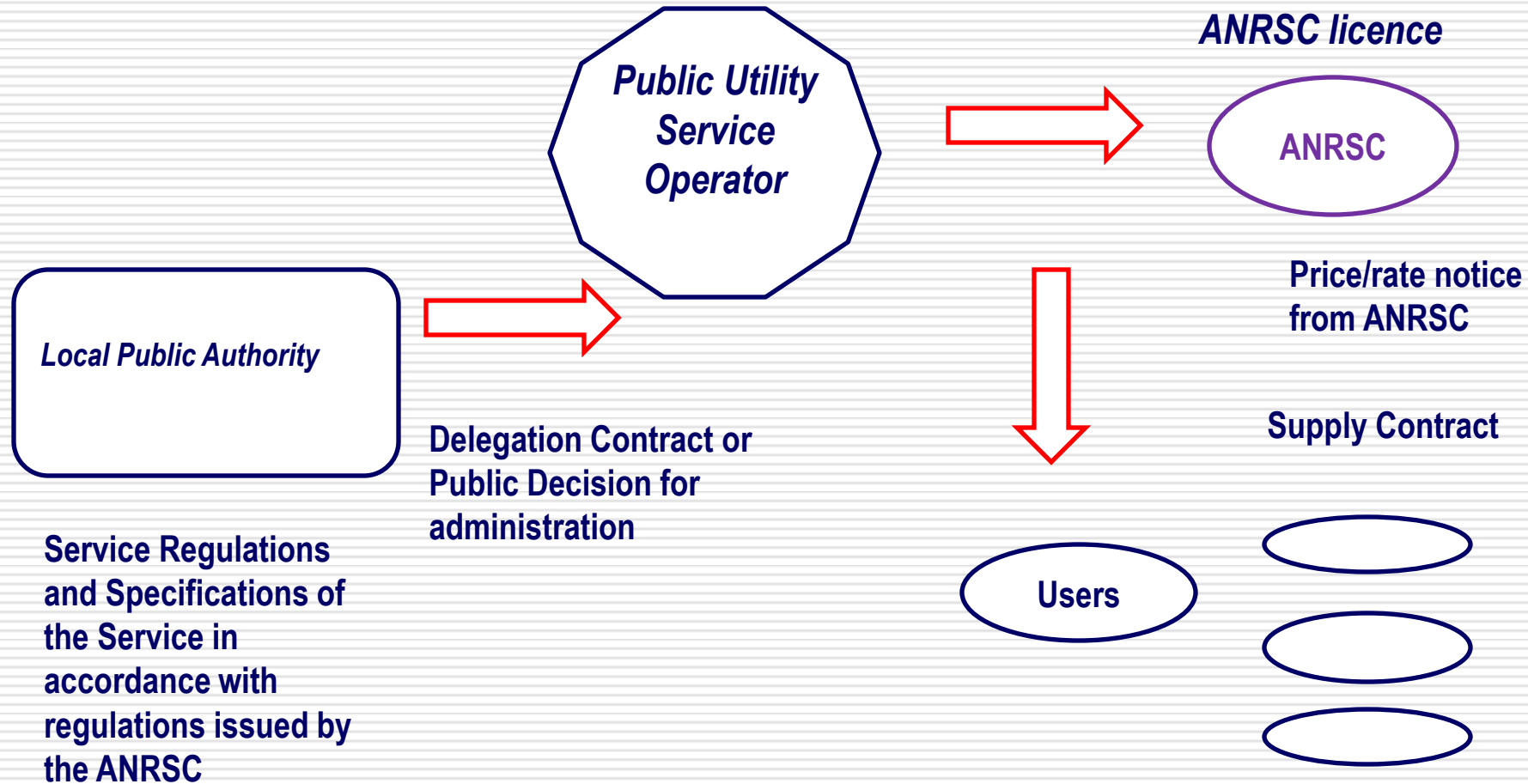
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***A.N.R.S.C. is in charge with permanent guiding, monitoring and controlling of water and waste water services regarding aspects such as:***

- Providing water services only based on license;***
  - Fair prices and tariffs approved by local public authority/intra-communitarian development association IDA and approved (established, adjusted/changed) by NRPS;***
  - respecting contractual stipulations;***
  - providing water services in accordance with water services regulation;***
  - checking delegating management procedure adaptability to the needs of users***
  - equal accessibility of users to the public service, on contractual basis***
  - compliance with the specific regulations of water management, protection of environment and health of the population.***
-



## IV. Legislation of water supply services and sewerage





## ***V. Development of water supply and sewerage***

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***In the last few years, public sector for water and water services has taken a big leap leaving behind other public services, this important development was influenced by factors such as:***

- Coherent regulations in water sector, closely aligned to UE legislation and also combined with national strategy and modernization of this sector.***
  - Regionalization of water and waste water services (foundation of the authority/intra-communitaria development association IDA and the regional operator);***
  - Well developed connection between water operators and professional associations existing in this field;***
  - Pre-Accessing European funds by all important operators in water services;***
  - Respecting all requirements stipulated in EU Accession Treaty`s for Romania;***
  - Implementing strategic projects using EU funding;***
  - Launch of next period of EU financing 2014-2020.***
-





## ***VI. Proposed legislative changes – Service water and sewerage law no. 241/ 2006***

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***Currently, there is debate concerning amendments to the public service water supply and sanitation law no. 241 / 2006, republished, covering the following aspects:***

- Approval of operators prices that produce and / or carry water from a supply system and deliveres it in another supply system***
  - Approval by ANRSC prices and rates for payment of water supply and sewerage***
  - Establishing a free right of use and easement on the state and territorial administrative units affected by public utility systems throughout their existence***
-





## ***VII. Proposed legislative changes – Service water and sewerage law nr. 241/ 2006***

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➤ ***However, there are proposals to change the law, which stipulate:***

- individual contracts in each apartment in a condominium***
  - investment of bill with enforceable title***
  - authorization by ANRSC of natural or legal persons for the design and execution of objectives / water transmission and distribution systems***
-



## **VIII. Targets for A.N.R.S.C. between 2015 - 2020**

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- ☐ **Law adjustment and regulations adjustment in order to access European funds existing for the next EU financing period – 2014-2020.**
  - ☐ **Along with RAW to establish a benchmarking methodology to develop competitiveness, quality or even to make some economical savings in water sector;**
  - ☐ **Sustainable development together with extended area of operating for Regional Operating Companies – ROC along with developing existing systems for waste water and also reducing substances that damage the environment.**
  - ☐ **Individual invoicing and individual consumption in condominiums.**
  - ☐ **Ceasing water services providing only for users with debts.**
  - ☐ **Law enforcement for paying invoices issued for water and waste water services.**
  - ☐ **Implementation of local strategies in order to ensure providing water and waste water services for communities in mountain regions.**
  - ☐ **Water and waste water network extension in recent developed suburbs.**
-



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*More information about water and waste water service are highlighted in the regulator National Annual Report. This Report is elaborated along with Romanian Association of Water – RAW and it posted on institution web site: [www.anrsc.ro](http://www.anrsc.ro)*

***THANK FOR YOUR ATTENTION!***

---



**Carlos Pereira**  
**ERSAR**



# Workshop on Water Regulation (Brattle Group) Infrastructure Needs, Water Regulation, Financing Options and Areas of Improvements

Water and Waste Services Regulation Authority (ERSAR), Portugal

Rome, 5th December, 2014



Entidade Reguladora dos Serviços de Águas e Resíduos  
The Water and Waste Services Regulation Authority



A decorative graphic on the left side of the slide consists of numerous squares of various sizes and colors (light blue, yellow, and green) arranged in a diagonal, cascading pattern from the top left towards the bottom right.

# **Brief presentation of ERSAR, the Portuguese Water and Waste Services Regulation Authority**



**Regulatory national agency, independent from executive powers at functional, organic and financial levels.**

**Regulation: (500) water supply, sanitation and solid waste services for 10 million inhabitants provided by State owned, municipal owned and private utilities.**

**Staff: 70 employees with skills on legal sciences, economy, engineering and water quality.**

**Budget: 8.000.000 €/year exclusively financed through taxes coming from utilities.**



**The main objective of regulation in water services is to assure:**

- universality of access, continuity and quality of the services, at lowest possible price;**
- efficiency and equity in terms of tariffs setting;**
- respect by the environment.**



A collection of semi-transparent squares in light blue, yellow, and green, scattered across the left and bottom portions of the slide.

**Main question we need to face about  
water services**



### **The water services:**

- **Water supply and sanitation are public services essential for the social and economic development.**
- **They have major implications for the quality of life, environment and public health.**
- **Countries must promote the development of these services for the population.**
- **Governments must create the necessary conditions for gradual access of the population.**
- **United Nations declaration reinforces this need.**

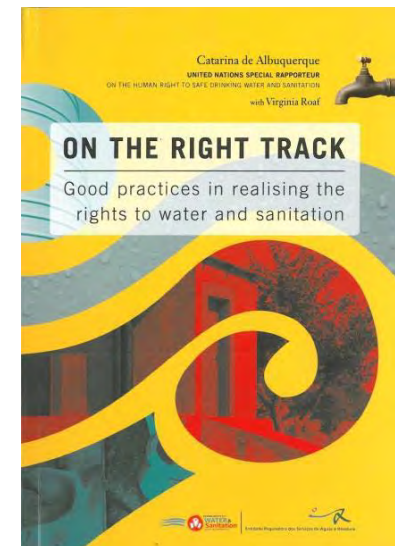


## Millennium Development Goals:

- Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.
- UN resolution 64/292 of 28 July 2010 recognized water and sanitation as a human right.

## “On the Right Track: Good Practices in Realising the Rights to Water and Sanitation”

Catarina de Albuquerque (United Nations Special Rapporteur) and Virginia Roaf





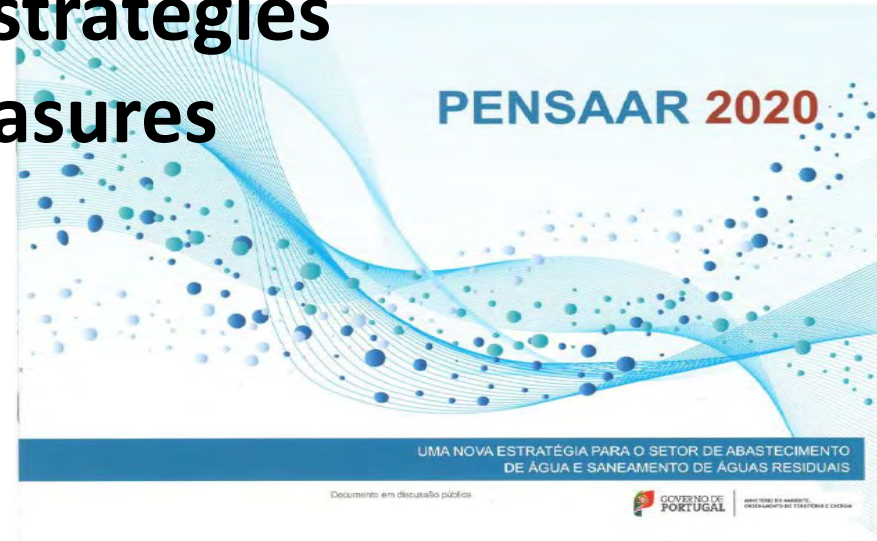
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# Public policies for water services



## Adoption of strategic plans for the sector

- Formulation of national strategies
- Definition of goals & measures
- 1st generation (1993-1999)
- 2nd generation (2000-2006)
- 3th generation (2007-2013)
- 4th generation (2014-2020)
- Annual monitoring of implementation and public reporting of the results
- Stability in the last 20 years





## ■ Definition of the institutional framework

- Clear definition of responsibilities of:
  - Owner of the service
  - Operator of the service
- ... and the Authorities:
  - Environment
  - Water resources
  - **Water services**
  - Public health
  - Competition



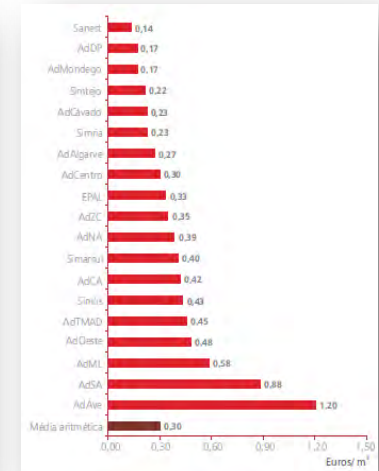


## ■ Definition of the tariff policy

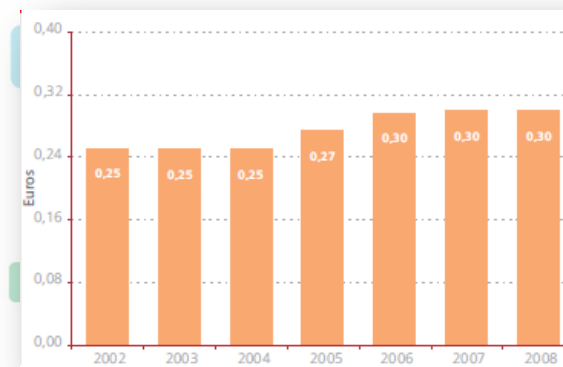
- Promoting (a trend toward) full cost recovery
- Promotion of efficient and affordable tariffs
- Promotion of social tariffs
- Annual assessment of the economic performance for each operator
- Annual benchmarking between operators
- Assessment of the evolution of the performance



Performance for each operator



Benchmarking between operators



Evolution of the performance



## ■ Management of the financial resources

- Portugal invested and is still investing a large amount of money in water infrastructures
- 10,000 x 10<sup>6</sup> euros between 1993 and 2013
- The sector acquired a large experience on using important financial resources (namely from European funds)
- Portugal created an internal market of 1,190,000,000 € /year and about 10,000 employees





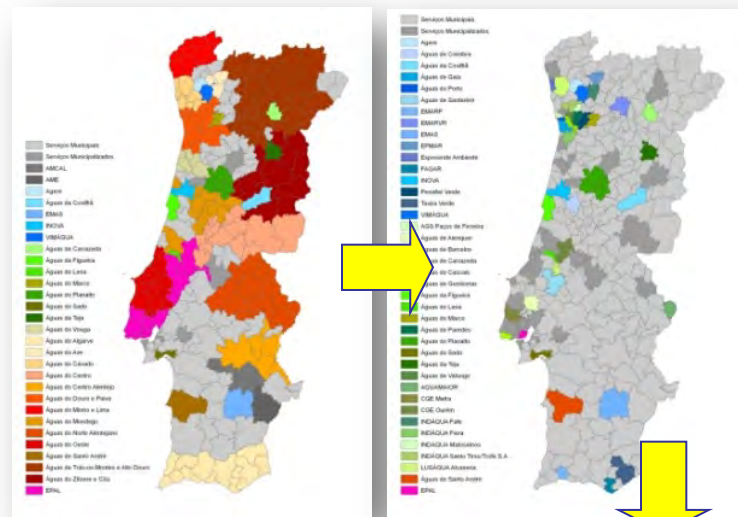
- **Construction of the infrastructures**
  - The sector acquired a large experience on planning, design, financing, construction and operation of water services
  - A large increase of compliance with European legislation was achieved





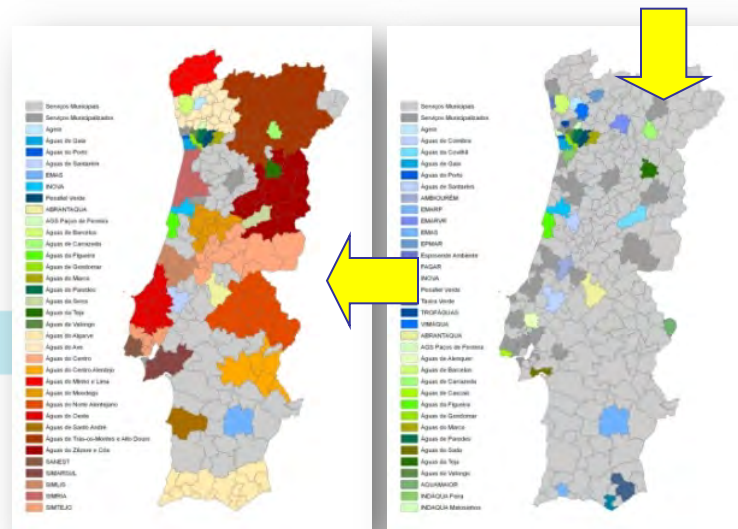
## Improving the structural efficiency

- Division bulk/retail
- Reorganization (almost completed) on bulk systems
  - small number of large and modern regional operators provide bulk services
- Territorial reorganization (on-going) on retail systems
  - still a large number of small/medium size local operators provide retail services
- Current trend to aggregate those local operators



Water bulk services

Water retail services



Wastewater bulk services

Wastewater retail services



- **Improving the operational efficiency**
  - In general it exists a large space of improvement by the utilities.
  - **Examples:**
    - Commercial water losses
    - Physical water losses
    - Energy efficiency
    - Human resources
    - (etc.)





- **Introduction of competition.**
  - In the case of natural or legal monopolies, it must be promoted:
    - Virtual competition, through benchmarking between utilities;
    - In the case of private involvement, competition in the market (tender procedures for the allocation of delegations, concessions and the provision of services).
  - **Competition encourages innovation and technical progress.**





## ■ Provision of information

- Providing rigorous and comprehensive information to all stakeholders
- Guaranteeing ease-of-use by less informed consumers

Annual Report on  
Water and Waste  
Services in  
Portugal  
(RASARP)



Ex. ERSAR web site (free access)





# Role of regulation in public policies

- **The success of a public policy depends on the ability to manage the implementation of all these components with a effective global and integrated approach.**
- **The role of the regulation:**
  - Regulation should be seen as a component of public policies on water, one out of various.
  - But has a very important role given the fact that it promotes or controls most of the remaining components.



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# **Regulatory model for the water services**



- **We can approach regulation of the water services in different ways.**
- **In Portugal we decided to implement regulation:**
  - **With an integrated (holistic) approach.**
  - **Operating at national level (mainland).**
  - **Regulating all the utilities, regardless the governance model (State-owned, municipal-owned and private).**
  - **Adopting a collaborative and pedagogic regulation.**




# Regulatory model for water services

The success of regulation depends on the ability to manage the implementation of its components, ensuring an effective **regulatory integrated approach.**





A decorative graphic on the left side of the slide consisting of a cluster of small, semi-transparent squares in light blue, yellow, and green, arranged in a pattern that tapers to the left.

# **Regulatory model: Structural regulation of the sector**



- **Contribution to the organisation of the sector:**
  - **Cooperation with Government in the formulation of the national strategies.**
  - **Proposal of measures with the aim of resolution of dysfunctions.**
  - **Monitoring and regular reporting on the degree of implementation of the national strategy.**




- **Contribution to the legislation of the sector:**
  - **Proposing new legislation.**
  - **Proposing the upgrading of legislation.**
  - **Approving regulations.**
  - **Issuing recommendations.**



- **Contribution to the capacity building of the sector:**
  - **Promotion of innovation and technology in partnership with research centers and universities.**
  - **Edition of free technical guides for the utilities.**
  - **Promotion of training events.**



A decorative graphic on the left side of the slide consisting of a cluster of small, semi-transparent squares in light blue, yellow, and green, arranged in a roughly triangular shape pointing downwards.

# **Regulatory model: Behavioral regulation of the utilities**

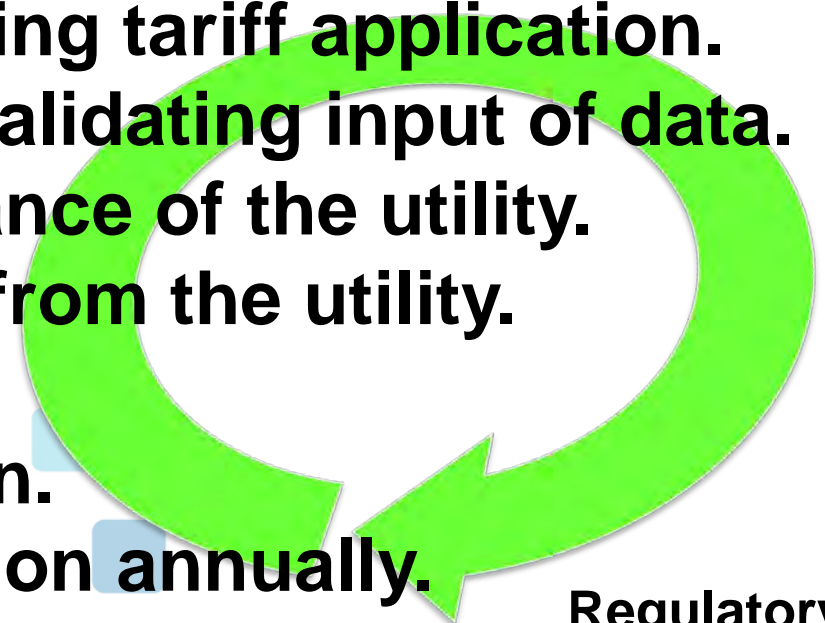


- **Legal and contractual regulation:**
  - Analysing the creation of new utilities.
  - Analysing tender processes.
  - Analysing contract documentation.
  - Analysing contract modifications.
  - Approving utility contracts with consumers.
  - Monitoring contractual compliance.
  - Promoting the conciliation.
  - Analysing contract terminations.
  - Assessing the global situation annually.
  - Disseminating information annually.



## ■ Economic regulation:

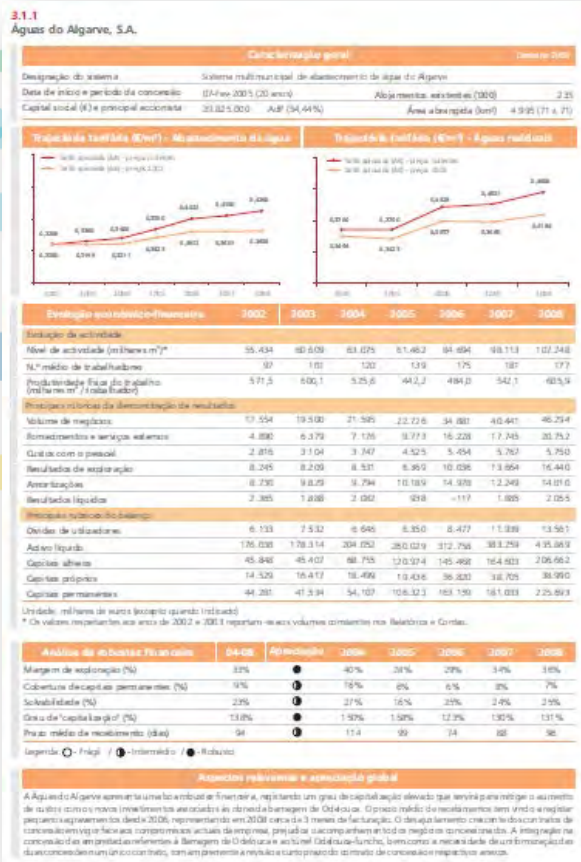
- Defining tariff principles and rules.
- Analysing proposals for updating tariffs.
- Allowing contradictory from the utility.
- Approving the tariffs.
- Auditing utility, monitoring tariff application.
- Requesting utility and validating input of data.
- Accessing the performance of the utility.
- Allowing contradictory from the utility.
- Benchmarking utilities.
- Accessing the evolution.
- Disseminating information annually.



Regulatory  
annual cycle



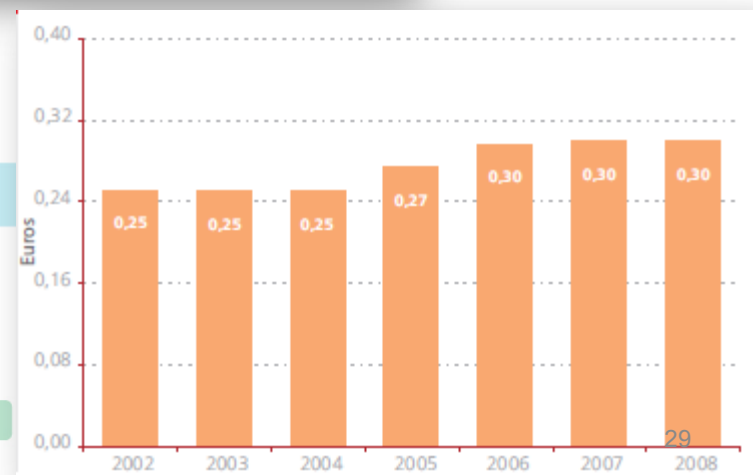
## Annual assessment of the economic performance for each utility



## Assessment of the evolution for the economic performance



## Annual benchmarking between utilities regarding the economic performance





A collection of semi-transparent squares in light blue, yellow, and green, scattered across the left side of the slide, some overlapping each other.

# **Information and awareness as a regulatory tool**



# A informação e a sensibilização pública sobre os serviços

- Information available in the Annual Report of the Water and Waste Services In Portugal ([www.ersar.pt](http://www.ersar.pt)):





# Information and awareness as a regulatory tool

- **Documentation and information in the site of regulator must be available to the consumers ([www.ersar.pt](http://www.ersar.pt)):**

What is the quality of my service?

What is the quality of my tap water?



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

What is my water tariff?

How many complains has my utility?



# Information and awareness as a regulatory tool

- Information available in the smartphone ([www.ersar.pt](http://www.ersar.pt)):





# Information and awareness as a regulatory tool

- Philatelic emission of stamps regarding to the awareness of the consumers of the water and waste services.





# Information and awareness as a regulatory tool

- Contest “Drink tape water!” for young designers regarding to the awareness of the consumers of the water.





# The end





**Round Table 2**  
***A Fruitful Dialogue Between  
Industry and Regulation***



**Roberto Zocchi**  
**EUREAU**



# **1<sup>st</sup> Workshop on Water Regulation in Europe**

***December 5th, 2014 at 9.00***

***Rome - Palazzo Decarolis - Via Lata 3***

**Round Table: A fruitful dialogue between industry and regulation**

**Introduction and Moderator: Roberto Zocchi, Chairman, EUREAU EU3**





**maintenance holiday is an expensive short term thinking!**

## **ARE WE PROPERLY MAINTAINING WATER SERVICES ASSETS FOR THE FUTURE GENERATIONS?**



**ASSET RENEWAL (extimated value)  
about 15 Billion Euros**

**PLANNED GLOBAL INVESTMENT (5 Yrs):  
100/150 M€/Year**

- Rising Standards (ww new infrastructures):  
**50/100 M€/Year**
- Maintenance (Ord/Extra; w/ww):  
**45/50 M€/Year**

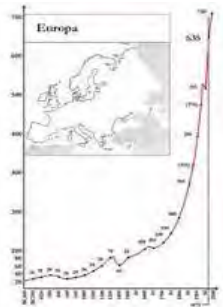
**(0,33%???.....300 Years!)**

**NOT ENOUGH!! WE HAVE TO DO MORE!!  
WE ARE LEAVING PROBLEMS TO NEXT GENERATIONS!**



# *maintenance holiday is an expensive short term thinking!*

ASSET NEED PROPER MAINTENANCE TO  
MAINTAIN THEIR SERVICEABILITY



**'50 – '70 POPULATION GROWTH – ECONOMIC  
BOOM**



**'70 – '90 ENVIRONMENTAL  
AWARENESS (WW)**



**WE (often) BUILD WATER ASSETS  
RISING THE (public) DEBT OF OUR  
COUNTRIES (*liabilities to next generations*)**



**'90 – Today**



**RISING STANDARDS  
*serviceability***



**maintenance holiday is an expensive short term thinking!**

**INFRASTRUCTURE RENEWAL VALUE: 500 – 5.000€ pro-capita**

**SERVICEABILITY INVESTMENTS: 5 – 60 € pro-capita/yr**

**How many years?**

**WE HAVE TO INVEST MORE AND BETTER  
(A.I.M – Asset Integrity Management)!!**

**DILEMMA (reference 3Ts)....**



**DO WE PAY ON USE  
BASIS (TARIFF)**

**DO WE PAY ON INCOME  
BASIS (TAXES)**

***An artificially low level of water prices would not only lead to the depletion of water resources, but would fail to secure investments in infrastructure maintenance, leaving a heavy burden of investment for future generations***



°

·@

A#-°



# ***1<sup>st</sup> Workshop on Water Regulation in Europe***

## ***Round Table***

***"A fruitful dialogue between industry and regulation "***

***Rome, 5 December 2014***



***Alberto Irace***  
***CEO***  
***Acea S.p.A.***





# ***REGULATION***

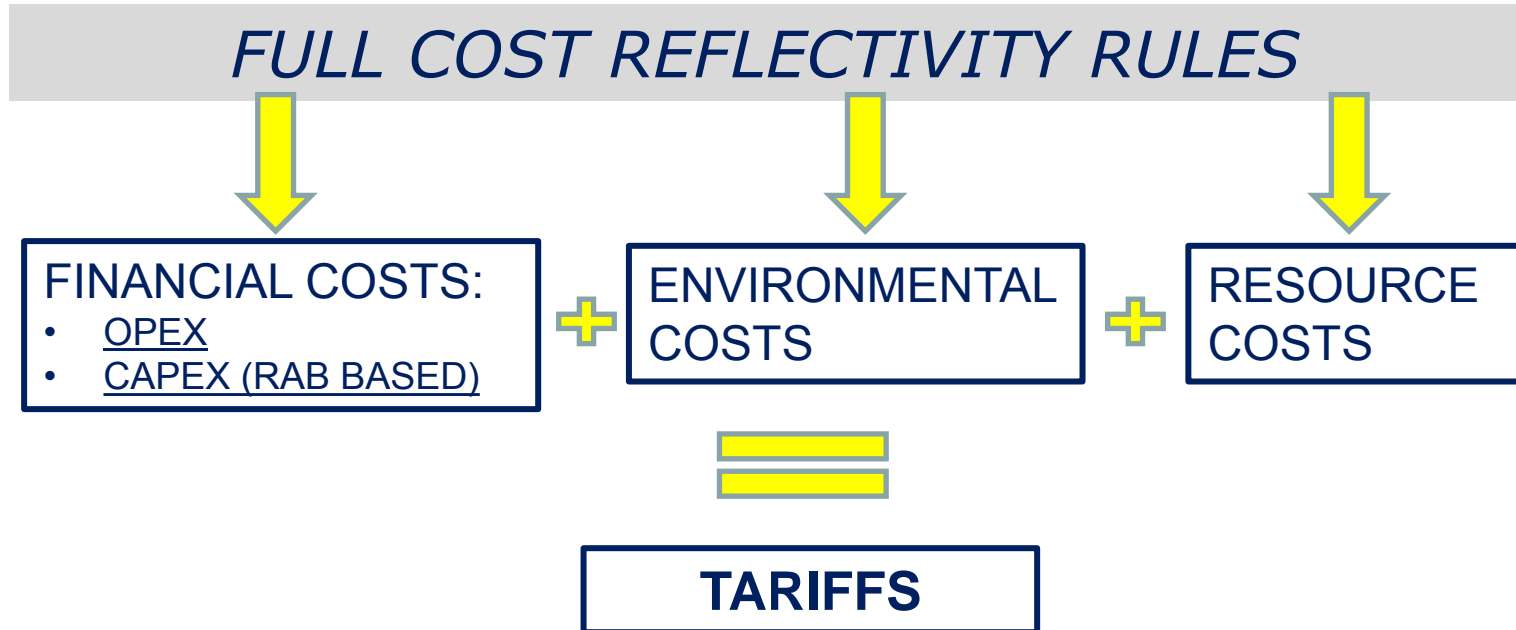
*HOW SHOULD IT BE.....*

- *INDEPENDENT*
- *NOT POLITICALLY INFLUENCED*
- *PREDICTABLE – EXTERNAL SUPERVISOR OF MARKET STABILITY*





# TARIFFS AND COST REFLECTIVITY



- *CRITICAL ISSUES IN MANY COUNTRIES DUE TO LONG STORY OF PUBLIC INVESTMENT (LOW OR HIDDEN REGULATORY ASSET BASE)*
- *HOW TO OVERCOME CRITICAL ISSUES: REAL VALUE OF ASSETS SHOULD BE TAKEN INTO ACCOUNT IN DEFINING THE HUGE MAINTENANCE COSTS*



# ***REGULATION BY INCENTIVES***

- ***OPEX REDUCTION INCENTIVE RULES TO ACHIEVE BENEFIT FOR FINAL USERS LEVERAGING COMPANIES KNOW-HOW***
- ***INCENTIVE TO OPTIMIZE INVESTMENTS:***
  - ***STANDARD COSTS FOR SPECIFIC CATEGORIES:***
    - ***METERING***
    - ***LEAKAGE***





# ***REGULATION FOR SOCIAL AND ENVIRONMENTAL SUSTAINABILITY***

- DISINCENTIVE CONSUMPTIONS
- HELPS TO SPECIFIC USERS
  - FAMILIES
  - LOW INCOME CUSTOMERS





# ***WATER INDUSTRY***

- WATER SERVICES HAVE TO BE CONSIDERED AS AN INDUSTRY LIKE ANY OTHER REGULATED BUSINESSES:
  - GAS
  - ELECTRICITY



**GOD GAVE US WATER, BUT WHO IS GOING TO PAY FOR PIPES AND PLANTS?**





**Ramon Masip**  
**AGBAR**





## WATER REGULATION MIXED CAPITAL COMPANIES IN SPAIN

THE **Brattle** GROUP



1st WORKSHOP ON WATER REGULATION IN EUROPE    Rome, December 5th, 2014



### FLASH: CONSTITUTIONAL & LEGAL BACKGROUND

- **Regulatory competences of Central & Regional Governments based basically in a «River basin» approach:**



- Municipalities competences regarding water services are restricted to water supply and sanitation. Since January 1st 2014, Municipalities <20.000 inhab. could be obliged to cease in the performance of water services (they will be performed by the Provinces Governments (*Diputaciones Provinciales*)).<sup>2</sup>

<sup>1</sup> «Transregional» are those river basins which runs through the territory of more than just one Region (Comunidad Autónoma).

<sup>2</sup> By means of National Law 27/2013, of december 27th (BOE dec. 30th).



### ➤ **Transregional River Basins:**

- Cover aprox. 90% of all territory.
- Regulation (including economic regulation) is a State's competence.
- Each River basin is conducted by an independent body (Organismos de Cuenca, traditionally known as «Confederaciones Hidrográficas») linked to the Ministry for Agriculture, Food & Environment.
- The State's Law (R.D.L. 1/2001, July 20th, Revised Text of the Water Act) includes the «*cost recovery principle*» (art. 9 of the WFD) & provides a common economic regulation applying to all transregional River Basins Authorities (taxes).
- There are some hydraulic infrastructures subject to special economic regulation (i.e. transfers, works constructed & financed by National Public Corporations (AQUAMED, etc).



### ➤ **Regional River Basins:**

- Scarce importance in terms of territory & population served, except for Cataluña's Region (Ter-Llobregat)
- Regulation (including economic regulation) is a Regional Government's competence, provided they fully comply with the WFD and the «*cost recovery principle*».
- Some Regional Governments (Galicia, Cataluña) have created independent public bodies to conduct their own river basins.
- Regional Laws determines in each Region the economic regulation of these river basins. Most of the Regions have established environment taxes and other public incomes to finance their river basins public bodies.



### **Spanish Water Act economic regulation:**

- The «cost recovery *principle*» was included in 2003 (art. III bis RDL 2/2000). It is (in theory) fully applicable since 2010.
  - In practice, it was a literal transposition of the WFD. Some obstacles remains for the fully application of the «cost recovery *principle*».
-



## Mixed capital companies

A registered company whose capital belongs partly to a local public Administration or several local public Administrations and partly to a private partner or several private partners, with the main goal of **managing a public service or an economic activity of general interest.**

Mixed capital companies are a form of indirect management established in the Spanish regulation.

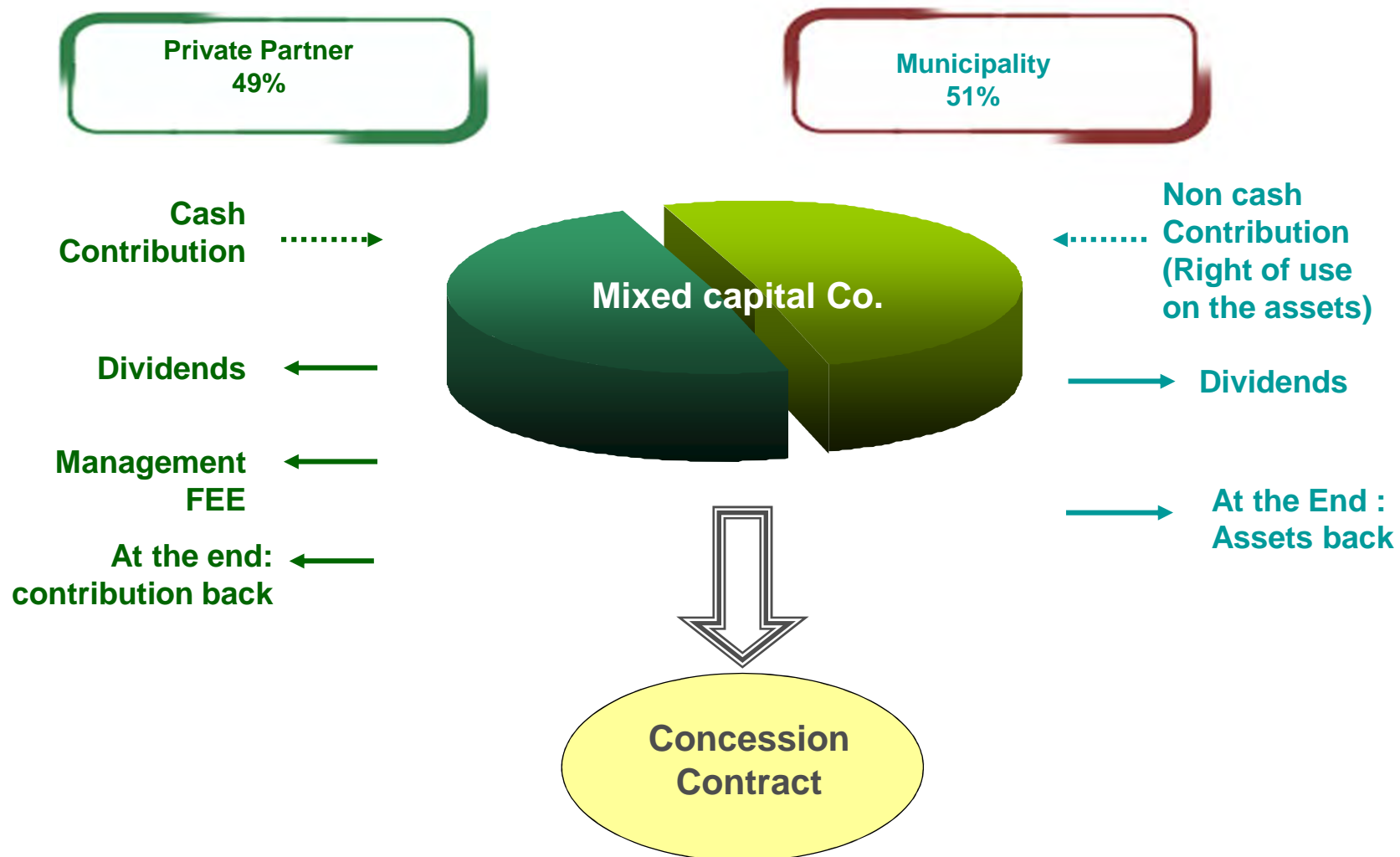
- They are holding a public service concession of water (may include sewerage and treatment)
- Water contract and service rates are governed by the common regulation of water concessions.



## Tariff Scheme

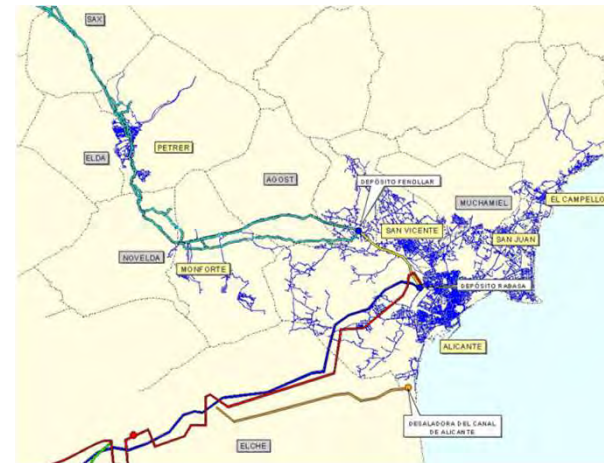
- ✓ Remuneration of the concessionaire: Directly from customers. Includes:
  - Operational cost - service cost.
  - Capital recovery (reversion).
  - Industrial benefit- compensation for service management.
- ✓ The concessionaire is remunerated by fees authorized by regulation.
- ✓ Cost Recovery principle: Fares must be sufficient to self-financing service.
- ✓ The responsibility for setting the tariff is of the ownership of the service (municipality).
  - Normally proposed by the concessionaire.
  - It should be authorized by the corresponding regional government.
- ✓ Tariff structure:
  - Service fee
  - Consumption fee





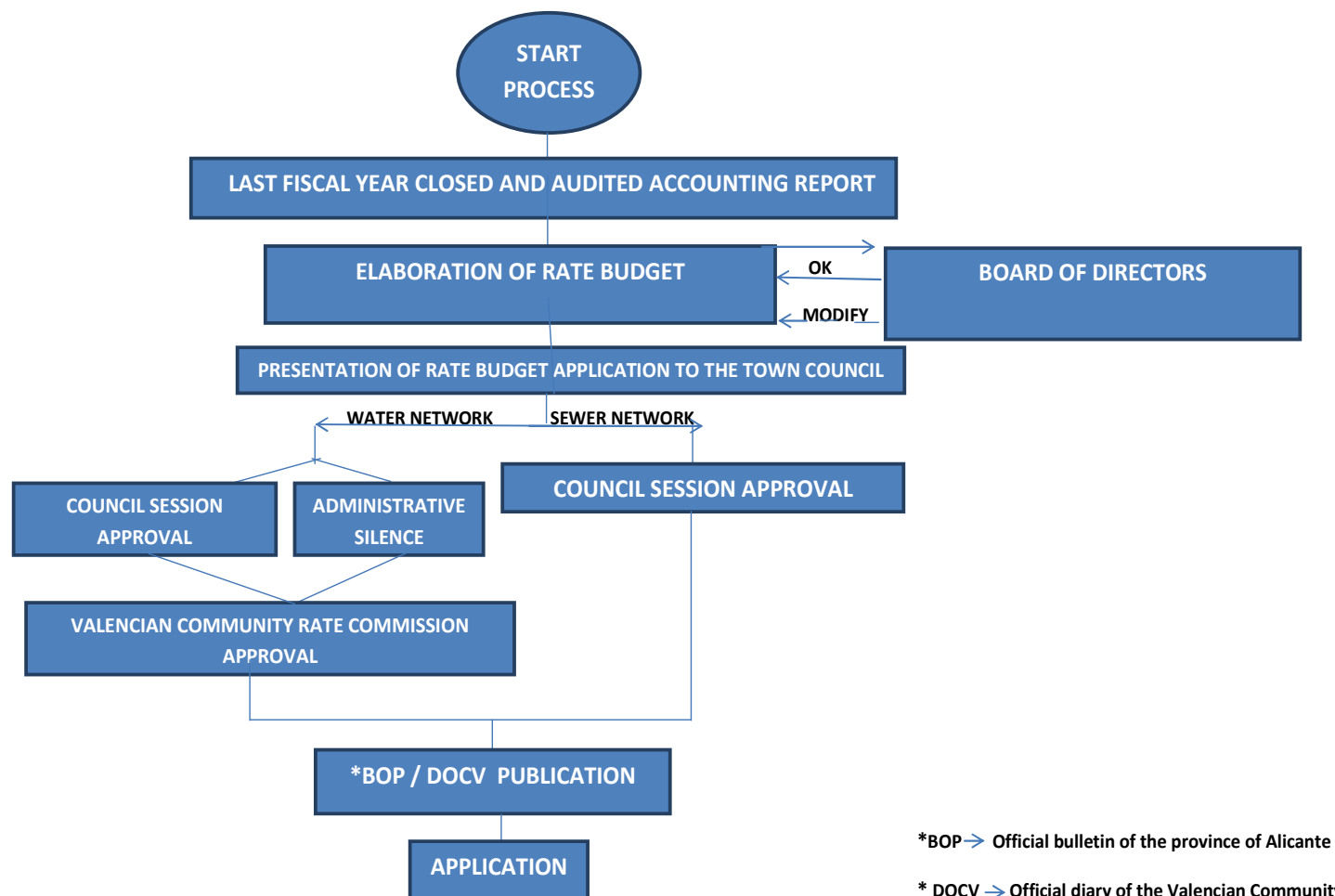


- **Aguas Municipalizadas de Alicante, Empresa Mixta (A.M.A.E.M.) is present in the municipalities of Alicante, Campello, Monforte, Petrer, Sant Joan d'Alacant and San Vicente del Raspeig.**
- **The supplied population amounts to 532.677 inhabitants, reaching 700.000 in the summer (2010 data).**





## Rate Budget Approval Process





Domestic tariff is composed of the following concepts:

➤ **WATER**

- **Service fee:** Depends on the meter size

Ej.: 13 mm. → 6,76 €/month

- **Consumption**

- Section 1 : 0 – 9 m<sup>3</sup> / quarter → 0,02 € / m<sup>3</sup>
- Section 2 : 10 – 30 m<sup>3</sup> / quarter → 0,49 € / m<sup>3</sup>
- Section 3 : 31 – 60 m<sup>3</sup> / quarter → 1,63 € / m<sup>3</sup>
- Section 4 : > 60 m<sup>3</sup> / quarter → 2,18 € / m<sup>3</sup>

➤ **SEWERAGE**

- **Service fee:** Depends on the meter size

Ej.: 13 mm. → 1,52 €/month

- **Consumption**

- Section 1 : 0 – 9 m<sup>3</sup> / quarter → 0,02 € / m<sup>3</sup>
- Section 2 : 10 – 30 m<sup>3</sup> / quarter → 0,07 € / m<sup>3</sup>
- Section 3 : > 30 m<sup>3</sup> / quarter → 0,29 € / m<sup>3</sup>

➤ **REGENERATED WATER**

- **No Service fee**

- **Consumption:** 0,31 € / m<sup>3</sup>
-





**Agbar**



**Mariano Blanco**  
**AQUALIA**



# WATER REGULATION IN EUROPE

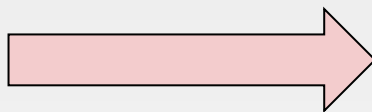
## A fruitful dialogue between industry and regulation

5th December 2014

Mariano Blanco Orozco



## CURRENT SITUATION

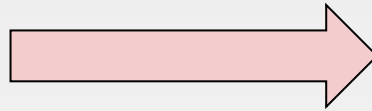


## ATOMIZATION

- **Large diversity of local rules**, more than 8.000 local councils and more than 2.000 operators. **Consequences:**
  - ✓ Dispersion of quality in the supplied service.
  - ✓ Dispersion in the definition of sustainability and efficiency (publics and privates).
  - ✓ There is not a common technical-economic-social model, using the same indicators.
  - ✓ The price is based on the territorial irregularity.
- **Large diversity of responsible bodies**: local councils, groups of municipalities, region, autonomous communities, central government.
- **Short term tariffs**, as result of an annual balance of forecasted costs and revenues.
  - ✓ **There is not a multiannual planning.**
  - ✓ **The tariff studies are adapted for every local council**, without any track of costs, investment commitments, revenues, and designed management goals.



## POTENTIAL REGULATOR

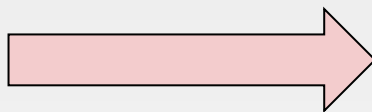


## CLARITY

- **To guarantee of policies** from EC and the State.
  - ✓ The matching of the tariffing systems to the **requirements of the EC** (guarantees of compliance with the WFD in time).
  - ✓ **To arbitrate** any disputes between the local councils and the service operator.
- **To improve the transparency** of the tariff for users.
  - ✓ **To analyze and approve** the local rules to be implemented.
  - ✓ The approval of **multi-year tariff plans**, linked to financial and management undertakings, and investment commitments.
- **Benchmarking as previous task**, to “**regulate**” the service.
  - ✓ To guarantee the **tariff harmonisation**, and the possibility to compare services.
  - ✓ Implementation of **prices depending on indicators** of quality service.
  - ✓ Linking the price with the quality of supplied service, not only with the cube meters.



## FORMER SITUATION



## CASE-BY-CASE

- **Reforming legal framework** to permit and regulate **competition in the water market** (increasing of private delegated management).
  - ✓ Leasing contracts (managing, operation and maintenance).
  - ✓ Concessional model (operating transfer).
  - ✓ Sell of assets (operating included).
  
- **Prices fixed municipality by municipality**, but according to the **restrictions of the Ministries** of Environment, Agriculture and Economy.
  - ✓ Regulating the development of the tariff, depending on particular conditions (526/1990 law).
  
- **Keys of tariff setting up:**
  - ✓ Evaluation of a three year historical series in costs and justified profit.
  - ✓ The suitable or appropriate profit, is justified by making sure that the capital is recovered in a precise period of time.



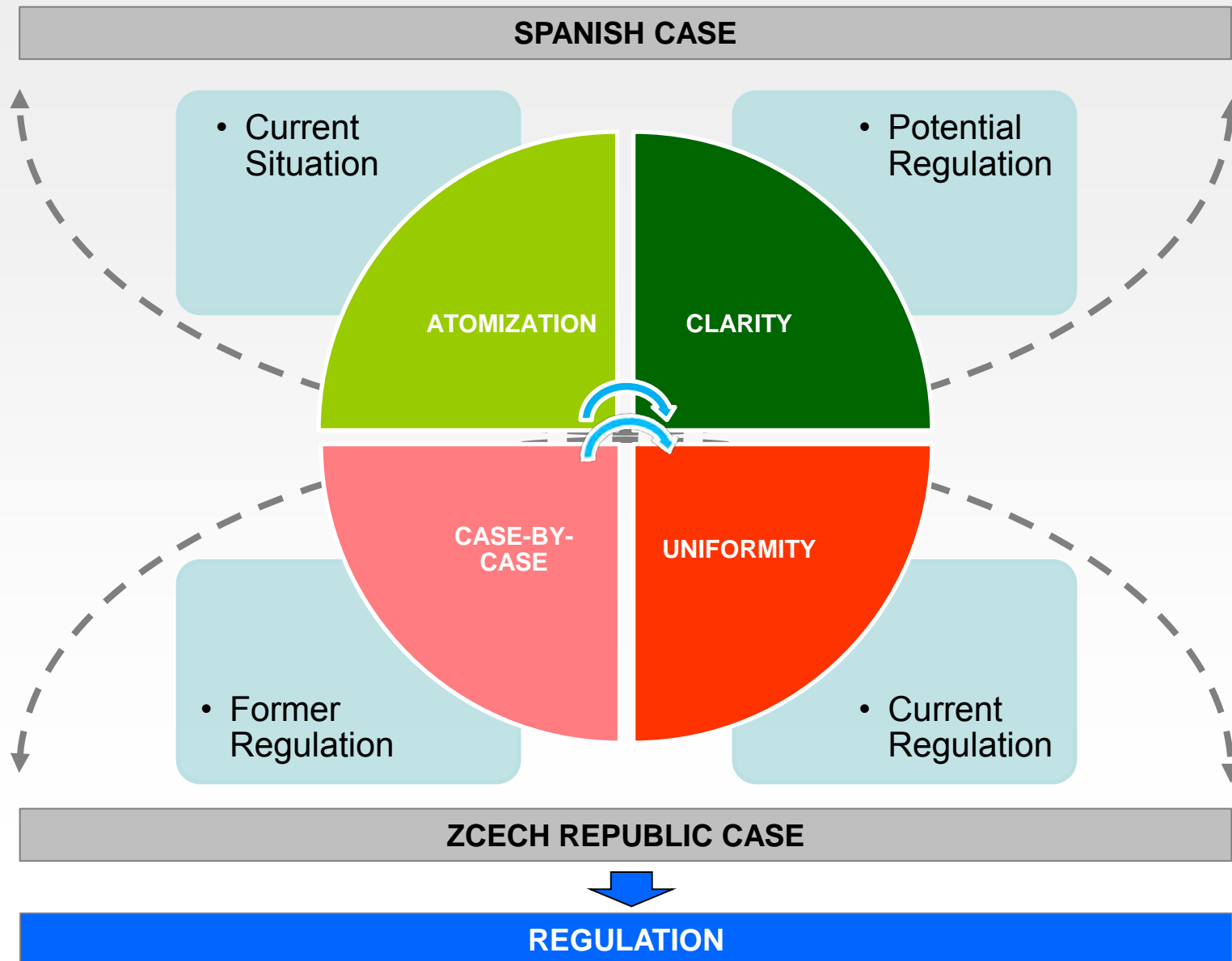
## CURRENT SITUATION



## UNIFORMITY

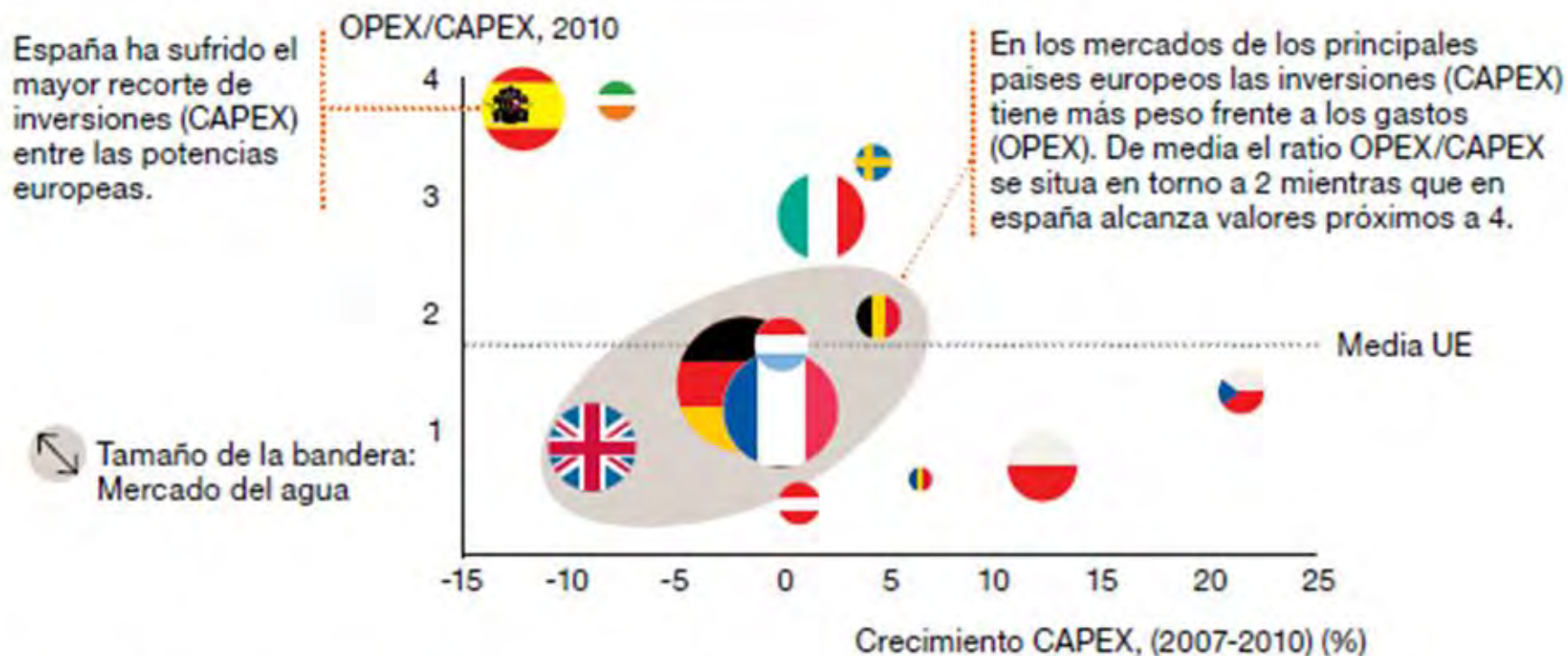
- **Users tariff regulation reform**, from January 2013.
  - ✓ Uniform structure of calculation.
- **Main restrictions:**
  - ✓ An amortization cap is introduced.
  - ✓ Not possible to include costs of non active assets.
  - ✓ The permitted profit is capped by formula:  $BAT = OPK \times WACC + RO$ 
    - OPK are the assets related to the production (working capital included).
    - WACC is the margin of profit per assets (7%).
    - RO is the difference between made investments, and the annual amortizations.
    - Limit of 5% for yearly increasing profit.
- **The infrastructure investments** is the main objective of the new method.
  - ✓ In mature markets, with mature assets, this system limits the profit.







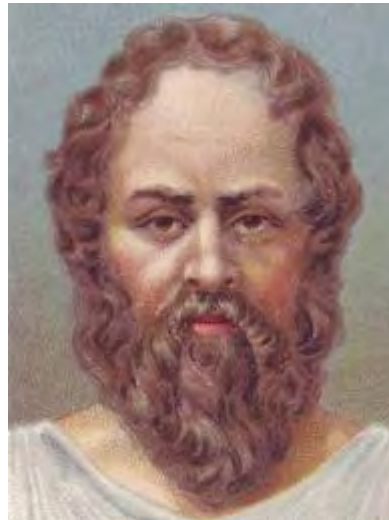
## Evolución de las inversiones en agua en los principales países europeos y análisis de la relación entre los gastos de explotación (OPEX) y las inversiones (CAPEX).



Fuente: Global Water Intelligence: Global Water Market 2011.



# QUIS CUSTODIET IPSOS CUSTODES?







Many thanks

Mariano Blanco Orozco



**Carolina Latorre**  
**IWA**



# The International Water Association

Shaping our water future

NOVEMBER 2014

inspiring change





**The Lisbon Charter  
For Public Policy  
And Effective Regulation  
Of Drinking Water Supply, Sanitation And  
Wastewater Management Services**



# THE LISBON CHARTER

- The importance of creating an enabling environment for the performance of essential drinking water and sanitation functions has become increasingly recognized.
- IWA has the vocation to be the international reference and global source of knowledge, experience and leadership for sustainable urban and basin-related water solutions.
- The IWA Bonn Charter for Safe Drinking Water established a framework for the collective implementation of integrated risk assessment and management systems aimed at ensuring the safe management of drinking water.



# THE LISBON CHARTER

- The satisfactory delivery of water supply and sanitation services depends critically on contributions from all stakeholders, playing their role effectively and efficiently.
- The IWA Governing Assembly acknowledged the importance of the human right to safe drinking water and sanitation in 2012, encouraging members to support the progressive realization of this Rights.
- In September 2014, the First International Water Regulators Forum took place.




# THE LISBON CHARTER

- The First International Regulators Forum was jointly organized by IWA and the Portuguese Water and Waste Services Regulation Authority (ERSAR), in last September.
- Brought together:
  - 200+ participants
  - 100+ regulators
  - 56 different countries
  - water services regulators (economic and quality of service)
  - Energy, public health and environmental regulators



# THE LISBON CHARTER

- The Forum discussed:
    - The role of regulation;
    - its current status and future trends on water services provision;
    - The different interactions between regulatory bodies;
    - Principles and good practices
- 
- Lisbon Charter



# THE LISBON CHARTER – PRELIMINARY OUTLINE

Part One - Nature and Purpose	3
Article One	3
Article Two	3
Article Three - How to Use the Charter	3
Article Four - Definitions	3
<b>Part Two - Principles</b>	<b>4</b>
<b>Article Five - Principles for good public policy and effective regulation</b>	<b>4</b>
<b>Part Three – Roles and Responsibilities</b>	<b>5</b>
<b>Article Six - Common responsibilities</b>	<b>5</b>
<b>Article Seven - Responsibilities of the public administration</b>	<b>5</b>
<b>Article Eight - Responsibilities of regulatory authorities</b>	<b>6</b>
<b>Article Nine - Responsibilities of the service providers</b>	<b>7</b>
<b>Article Ten - Responsibilities of the users</b>	<b>8</b>
<b>Part Four – Regulatory Frameworks</b>	<b>8</b>
<b>Article Eleven - Principles of Effective Regulatory Frameworks</b>	<b>8</b>
<b>Final Part</b>	<b>9</b>
Article Twelve - Interpretation of the Charter	9



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Final Part 9	
Article Twelve - Interpretation of the Charter	9



# THE LISBON CHARTER – PRELIMINARY OUTLINE

## Principles for good public policy and effective regulation

1. Effective water supply, sanitation and wastewater management make a positive contribution to sustainable development
2. The provision of services should enshrine accountability and transparency
3. The economics of service provision should be framed by long-term infrastructure investments and cost recovery instruments
4. Service provision should take into account the financial, social and environmental aspects of all water resources
5. Effective service provision relies upon the collective actions of interdependent stakeholders



# THE LISBON CHARTER – MILESTONES

- Regulators Forum in Lisbon – September 2014
- First Draft of the Lisbon Charter to consultation
- Inputs and feedback from various fora (OECD Water Governance Initiative)
- IWA Board of Directors – January 2015
- The Second International Water Regulators Forum, in Brisbane as part of the IWA World Water Congress 2016



# THE LISBON CHARTER – MILESTONES

Thank you.

For more information about the next International Water Regulators Forum or about the Lisbon Charter and the drafting process, please contact:

**Ms Carolina Latorre, IWA Programmes Officer**

at [Carolina.Latorre@iwahq.org](mailto:Carolina.Latorre@iwahq.org)

Global Operations Office

Anna van Buerenplein 48, 11th floor

2595 DA, Den Haag

The Netherlands



**Jaques Labre**  
**SUEZ ENVIRONMENT**





1<sup>st</sup> Workshop on Water Regulation in Europe  
Rome, 5 December 2014

# **Regulation of Water Utilities:**

## **9 Golden Rules for Performance**

Jacques Labre  
[jacques.labre@suez-env.com](mailto:jacques.labre@suez-env.com)



## 3 criteria inspired by EU policy principles

1. **Inclusiveness** : does the pricing policy take into account the affordability question (Right to Water for all ?)
2. **Subsidiarity**: does the regulation allow for a freedom of choice between management models at local government level ?
3. **Neutrality** : are the same economic rules applicable whatever the nature of the operator?





## 3 criteria for sound business conditions

1. **Separation/ Contractualisation** : is there a clear distinction between Organising Authorities and Operators , and is the need for a **contract** between them recognized ?
2. **Sustainable cost recovery** : do the water pricing and budgeting policies ensure the coverage of the cost of services (including capital costs) with a long term view and in a predictable manner ?
3. **Transparency** : is economic information on water services made public ?





### 3 criteria for performance recognition and reward

1. **Efficiency** : is there a national system for performance monitoring ?
2. **Service quality** : does the system create incentives for voluntary policies on service quality (beyond strict compliance with regulations) ?
3. **Fair competition** : do the competition rules allow for a fair competition, not only between private actors, but also between public and private ones ?





# The 12 performance indicators for Hyères les Palmiers' water service

Area	Indicator	Contractual target for 2023 (at the latest)
Climate/energy	Energy efficiency (kWh/m <sup>3</sup> of water produced)	0.36 kWh/m <sup>3</sup>
Water efficiency	Reliance on local resources (% local resource/total)	98.6 %
	Network yield (%)	90 %
	Linear index of water unaccounted for (m <sup>3</sup> /j/km)	4.31 m <sup>3</sup> /j/km
	Leakage detection (km pipes surveyed/year)	470 km/year
	Delay for fixing leaks (% fixed in 24h and 72h)	75% in 24 h, 100 % in 72 h
	Meter replacement (% replaced according to diameter and age in years)	100 % diam<40 age>18 100 % diam>40 age>10
Water quality	Compliance with bacteriological standard (%)	100 %
	Compliance with physico-chemical standard (%)	98 %
Service quality	Customer satisfaction (number of written complaints/year/1 000 customers)	0.85
	Collection of bills (part recovered for the municipality)	99.5 % after 12 months
Employment	Conversion of apprentices into permanent staff (%)	50 %





**Hyères, your next holiday resort**

**Thank you for your attention !**





**Maria Vittoria Pisante**  
**VEOLIA**



# **1<sup>st</sup> WORKSHOP ON WATER REGULATION IN EUROPE**

## **From Italian needs.....to common rules?**

**MARIA VITTORIA PISANTE**

Rome – December 5<sup>th</sup>, 2014



# Italian needs

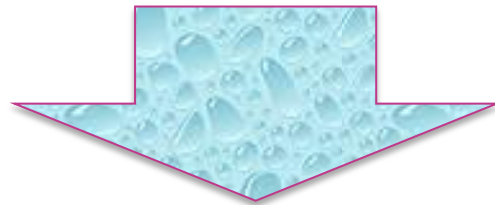
What does Italy need to foster investments in water sector?

- Clear and effective governance that works
- Investment bankability
- Ensure investment realization



# Clear and effective governance that works

- “Sblocca Italia Law” improved relationships within and across institutional layers, also with substitutive powers
- Are we sure all layers will perform their role and, in case, will exercise their substitutive powers?
- Previous Laws did not work (Veolia experience in Calabria)



**Do we need common rules to ensure a proper governance will work?**



# Investment bankability

- Italian Regulator has done a good job and it is likely to go forward (according to strategic lines for 2015/2018 as for 528/2014 resolution) on predictable cash flows, safeguard clauses and clear rules
- Some comments:
  - *Tariff method has been established for a limited period*  
Uncertainty for future tariff scheme (standard costs? which impact on cash flow?)
  - *How new tariff rules and new concession contract schemes will impact on existing contracts?*  
Do not compromise investments already started!
  - *Tariff method has focused on the economic side, less on the financial one*  
Tariff cap is a limit for investment. Can we increase the cap and avoid European penalties for infractions?
  - *Unpaid ratio*  
It's a problem. Not homogeneous. Cap issue. Can we face it with tariff increase?

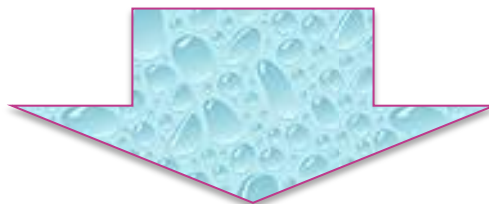


**How can common rules ensure investment bankability?**



# Ensure investment realization

- *Investments to be identified in the plan in order to:*
  - Use innovative technologies
  - Realize investments in the scheduled time
- *Tariff to have incentive mechanisms to speed up strategic investments*
- *Prevent administrative litigations and speed up litigations*
- *Select the industrial private partner not only to manage the service but also to realize investments: a tender “upfront” instead of a long tender process after*



**How can common rules help on investment realization?**  
**Can we use European Fund for 2015/2017 to foster tariff incentive?**



# Veolia in Italy

Veolia in Italy operates as:

✓ Concessionaire Operator

- *Starting from early 2000 (first tenders)*
- *With spv companies (i.e. no Veolia name)*
- *Managing investment plans*
- *Arranging for financing the investments (non recourse PF, co-financing for European funds)*
- *Providing operating services for entire water cycle*
- *Especially in the South of Italy, in bulk water management (grossista)*
- *2 millions inhabitants (5<sup>th</sup> operator), 1.300 people staff, 500 mil investments in last 10 years*

✓ Construction company (D&B competence)

- *Rarely for Veolia Concessionaire Operators*



**Round Table 3**  
***Regulation Enhancing Water  
Investments Bankability***



**Massimo Pecorari**  
**UNICREDIT**



# Water Sector

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## Bankability issues

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Infrastructure & Power Project Finance Italy

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Rome, 13<sup>th</sup> January 2015



## INVESTOR' EXPECTATIONS

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- Most investors believes that the water sector offers opportunities, the true value of water is not fully recognized. The capital expenditures required in the water sector are significant and only a set of common rules can help investment realization through private funds.
- Investor' expectations are for stable regulatory environment and therefore predictable capital return on their investment.
- Investor welcome an international cooperation among Regulators (e.g. WAREG) as a possible tool in support of stable regulation in Europe and to boost cross border investments. Other important countries, such as UK and France, are expected to join the group.
- A stable regulation implies:
  - I. a tariff mechanisms able to provide stable and predictable cash flow for the entire life of the concession
  - II. clear rules for the definition (and therefore calculation) of the termination amount in the case of (early) termination of the concession.
  - III. safeguard clauses that allow proper remuneration of capital in case of unpredictable events not under the control of the regulated Company
- Operations across Europe are supported thanks to the creditworthiness and capacity of the Public entities and granting authorities involved.



## ITALIAN WATER SECTOR

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- Starting from December 2011 AEEGSI is the independent regulator and has a supervisor role for the water market stability. It defines criteria for tariff determination and take the final decision on tariff communicated by local authorities.
- AEEGSI has introduced a new tariff mechanism, based on a full cost recovery and revenues cap, valid until 2015 (starting from 2012).
- In November 2014 the *Sblocca Italia Law* has also improved the overall bankability of the concession introducing
  - a. modifications to prevent the time lag between the expiry of the concession and the assignment of it to a new operator;
  - b. standard concession agreement schemes in line with the new tariff regulation to be adopted for the future;
  - c. the obligation for the new concessionaire to pay to the outgoing operator a “redemption value”.
- The main constraints still pending for the financing in the Italian water sector are:
  - a. the creditworthiness and capacity of the Public entities / Granting authorities to pay the redemption value
  - b. certainty about tariff mechanism after 2015.



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**Corporate & Investment Banking**  
UniCredit Bank AG Milan Branch  
as of 13 January 2015



**Mark Braithwaite**  
**MACQUARIE**  
**INFRASTRUCTURE**  
**AND REAL ASSETS**



# Macquarie Infrastructure and Real Assets (MIRA)

## Water regulation seminar

5th December 2014





## Why European regulated utilities are an attractive investment



# An Introduction to Regulated Utilities in Europe



## The development of core infrastructure in Europe

- Within Europe regulated utilities are considered the backbone of the “core infrastructure” asset class.
- The concept of a “regulated utility” started in the UK in the mid 1980s with the privatisation of the state owned gas, electricity and water utilities.
- The UK pioneered the RPI – X incentive based regulation model which is now widely adopted throughout Europe for the regulation of utility networks.
- The UK model was further developed in the mid 1990s with the separation of the regulated monopoly networks business from the competitive supply and retailing activities.
- Throughout Europe the need to separate the utility is now part of the member states legislative framework (unbundling legislation).
- Consequently a number of utility network assets are coming to market as the local governments and large strategic energy companies across Europe sell off their utility assets to comply with the legislation.
  - These assets are an attractive investment for pension funds/institutional investors



# An Introduction to Regulated Utilities in Europe



## Why are regulated utilities attractive investments

- Regulated utility network business are monopoly activities and are not subject to competition.
- Whilst the regulator has a number of general duties to protect the consumers, utility networks are considered “essential infrastructure”, consequently the regulator also has a duty to ensure the company can finance their operation.
- In most jurisdictions the network revenue is almost entirely “capacity” based and is not subject to throughput or commodity price volatility.
- The allowed revenue is set typically for 5 year periods (or more) and linked to inflation.
- The governance arrangement typically includes a two tier organisation where the work of the officials is overseen by an independent board, with a Chairman and Non Executive Directors.
- In the situation where the company considers the proposals of the regulator are unacceptable, they can be challenged through the competition authorities or courts.



# Key Features of EU Regulatory Environment



## Regulatory environment is transparent and incentive-based

### Legal framework

- Obligations enshrined in primary legislation
- Specific license detailing the obligations on both parties

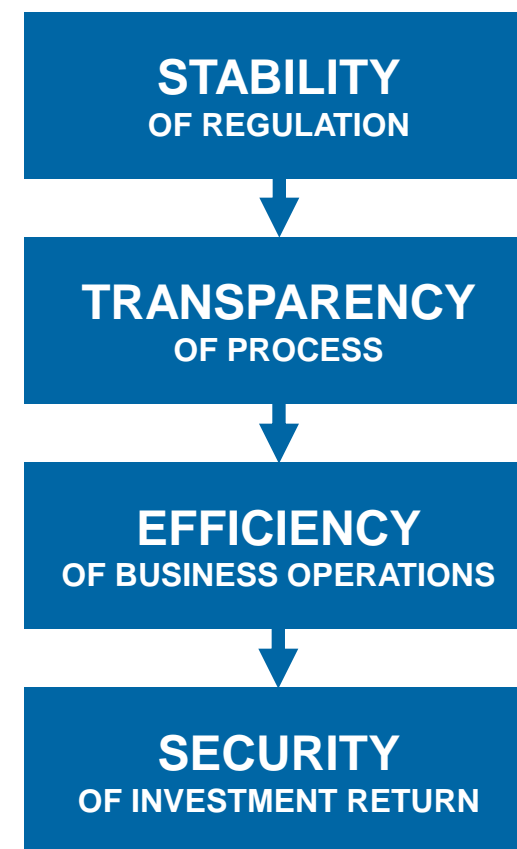
Price Control Reviews undertaken typically every five years (or more), allowing realignment of

- Business operating costs
- Capital investment requirements
- Return on capital invested (WACC)

Comparative efficiency models and benchmarking used where possible

- Recognition given for superior operation and customer performance

Incentive based – retain outperformance for the regulatory period, plus additional revenue for superior performance





# Key Features of EU Regulatory Environment



Regulatory environment is transparent and incentive-based

## Building blocks approach to price setting

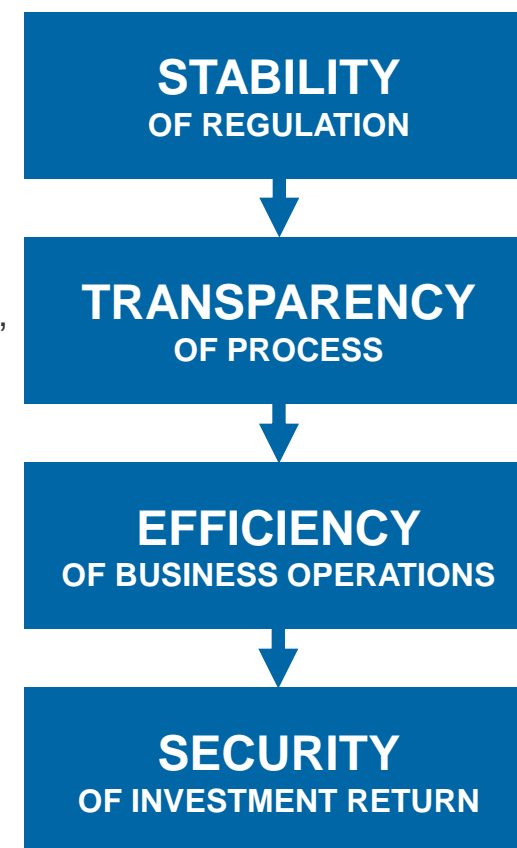
- All efficiently incurred costs allowed (including equity returns)
- Results in inflation-linked cash flows

## Regulatory obligations

- Ensure the regulated entity receives sufficient revenue to “finance the function”
- Ensure the regulated entity can retain “comfortable investment grade credit rating”

## Transparent process

- Established multi-stage, public consultative process with stakeholders
- Ability to challenge regulatory decisions





# Utilities – Summary



- Utilities are regulated as they have monopolistic positions
- Regulation is designed to provide a stable return to investors, to encourage investment
- Regulation is also designed to increase efficiency, by incentivising owners to make operational improvements
- The key risk for an investor is regulation risk
- This is mitigated by a deep understanding of the regulation
- Clear separation between government and regulation typically provides a more stable regulatory environment
- Historically stable regulation can also give an indication of future behaviour
- Regulated utilities are a particularly good match for pension funds / institutional investors as they have a strong correlation to inflation





## Water sector regulation in the UK



# Objectives of UK Water Regulation



## UK water regulation seeks to protect the interests of all stakeholders

### The Guiding Principles

Consumers' interests are protected and promoted

The companies must remain financially viable and able to finance their operations and capital programmes

"These duties are, in practice, complementary because customers benefit if efficient companies remain financially viable"  
(Ofwat, 2002)

### A Transparent Process

Regulator is sensitive to the perception of regulatory risk and attempts to minimise this through a process of open consultation

Draft determination of regulatory reviews are followed by submissions, discussions and then final determinations

Interested parties are invited to make submissions, and it is not unusual for the regulator's position to change on the basis of these submissions

The regulatory process includes consideration of a number of key aspects of the water companies' operations and financing

"No hidden agenda, no predetermined outcomes. Price limits will be what they need to be to enable efficient companies to finance their functions" (Ofwat, 2003)



# UK Water Industry

## Industry stakeholders



Thames provides essential services to approximately 14 million customers and as such has a number of key stakeholders

- Co-operation e.g. bulk supplies, billing for sewerage services
- Water UK – trade association

Other Water Companies

Economic Regulator

Environmental & Quality Regulation

- Department for Environment, Food and Rural Affairs (DEFRA): Government department which includes:

- Environment Agency (EA)
- Drinking Water Inspectorate (DWI)

- 4,800 employees
- Four major trade unions (Unison, GMB, Amicus, T&G)

Employees And Unions

Government (Central & Local)

- Government sets policy framework and legislation
- DEFRA approves drought orders
- Local authorities provide planning consents, including access to roads/public areas

- Customers: 9 million (water); 14 million (waste)
- 300,000 commercial properties

Customers / General Public

- Represented through statutory body, Consumer Council for Water
- Major developments require extensive public consultation



Effective management of all key stakeholder groups is essential to the future success of the company and this is a priority for MIRA



### Water companies are given 25-year rolling licences as regional monopolies and are regulated by Ofwat

Principal legislation is the Water Industry Act 1991, as amended by the Water Industry Act 2003

Ofwat is required to exercise its regulatory functions in pursuit of certain statutory objectives and having regard to:

- Protecting the interest of consumers, wherever appropriate by promoting effective competition
- Securing that the water undertakers are able to finance their functions
- Securing that companies with water supply licences properly carry out their functions

Each company has an instrument of appointment (“Licence”) which contains the terms of its appointment as a water undertaker

- Licences initially had a fixed 25-year term and a 10-year notice period
- Following consultation with the industry in 2002 the tenure was changed to be a rolling licence with a 25-year notice period

Breaches of statutory obligations or licence conditions can result in regulatory enforcement actions (including fines) or the revoking of a company’s licence

- No water company has ever had its licence challenged or revoked

The legal framework is clear and proposed changes are extensively consulted upon, minimising legislative risk to the industry