

Rome, 31st January 2018

Water Regulation in Italy

Regulatory Affairs Area

Gaia Rodriguez
Andrea Grenga



Agenda

- Economic Overview and Regulation objectives
- Legal & Regulatory evolution
- Water Tariff Structure of ARERA
- Other important subjects regulated by ARERA
- Next steps

Economic Overview and Regulation objectives

Water industry and the natural monopoly concept

Water Utility is a **local natural monopoly**. The competition in this capital-intensive sector is costly. Society benefits by allowing operations of a sole provider.



Unregulated monopoly is considered a **potential threat** to customers. It can exert market-power through high tariffs and poor quality services.



A **proper regulation** has to define right price to water supply and which controlling quality through administrative and financial incentives

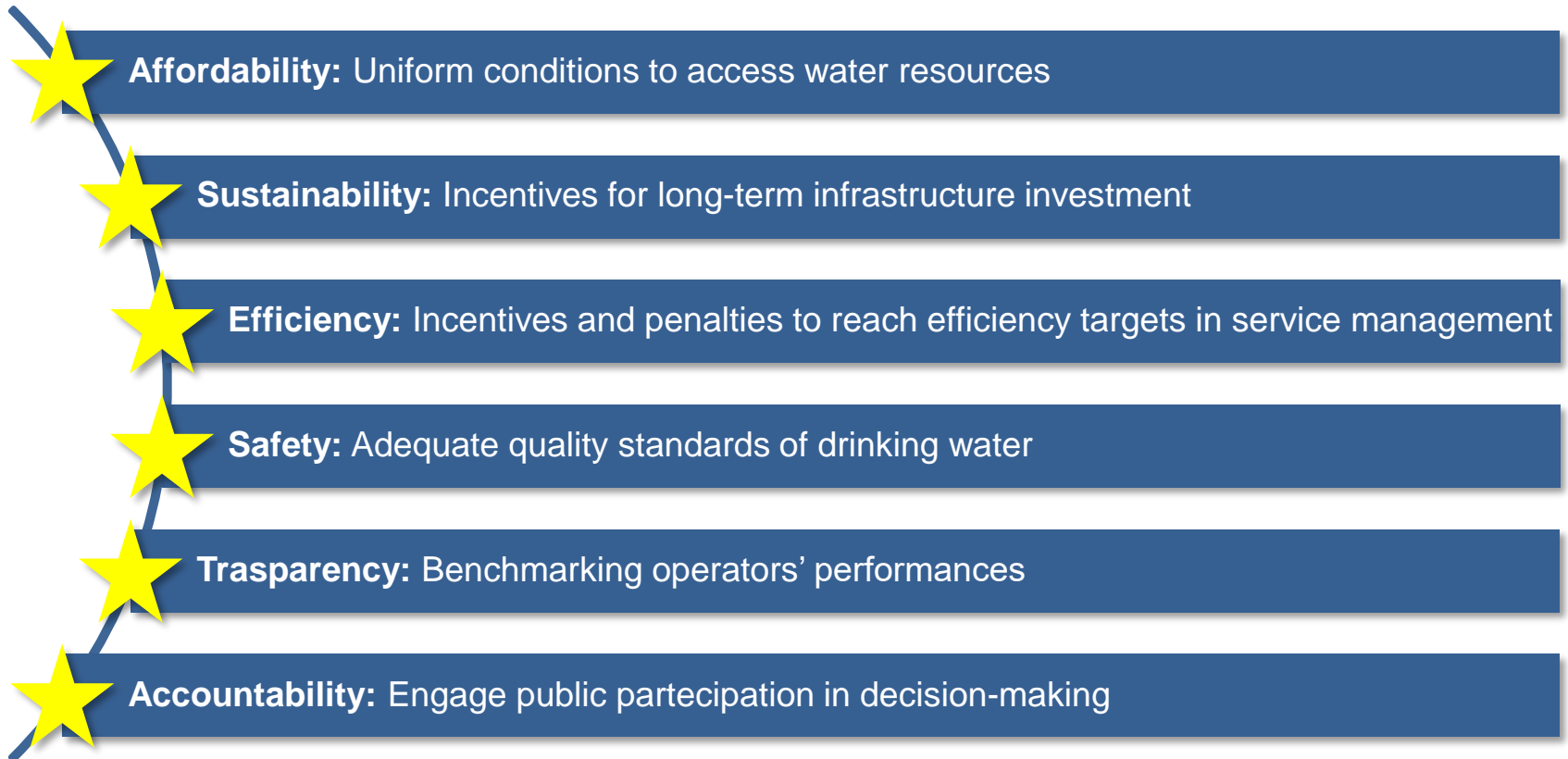
Regulation objectives

Regulation has to balance different interests in water sector:



European Regulation key concepts

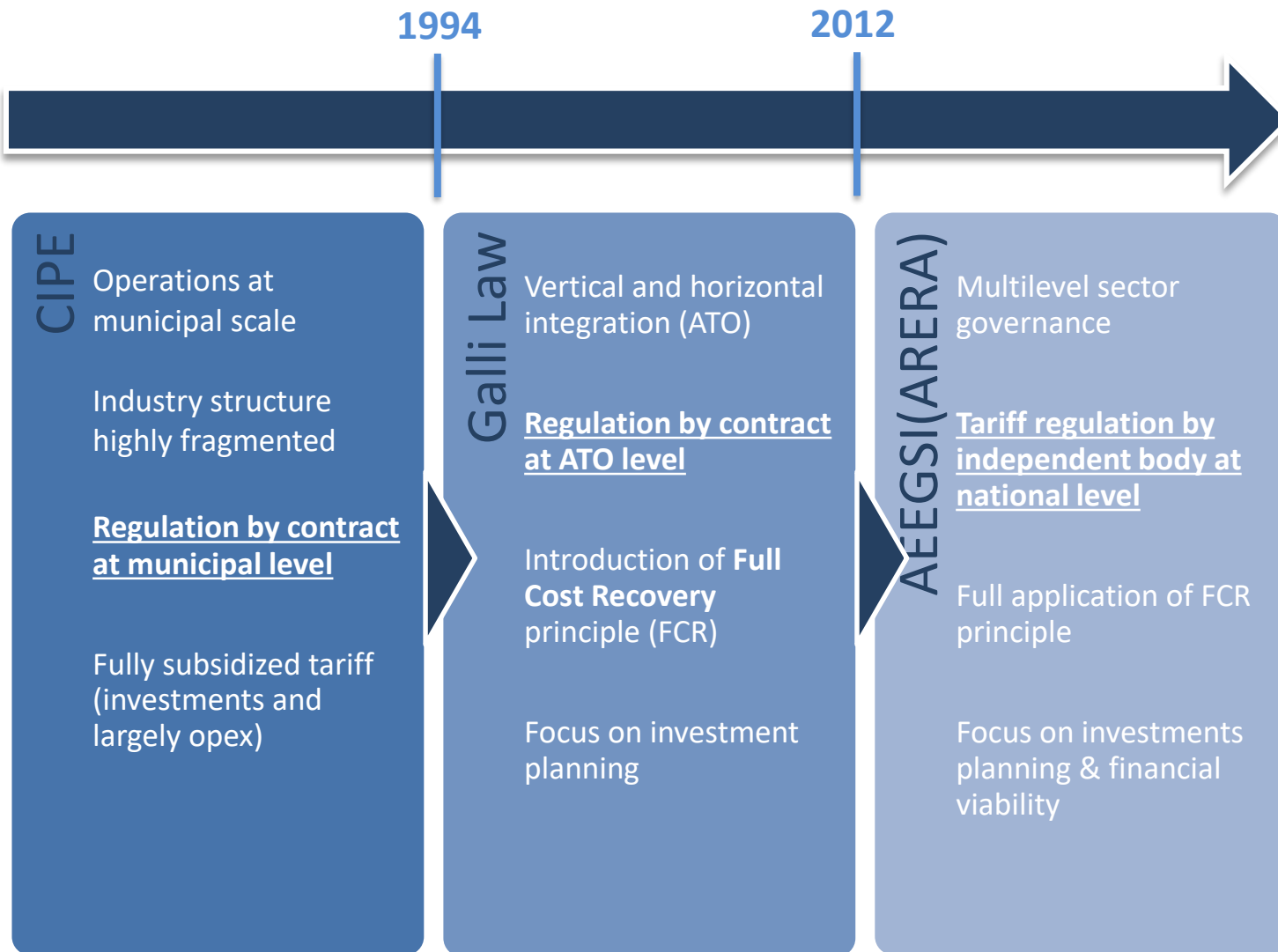
Concerns of EU Institutions and stakeholders:



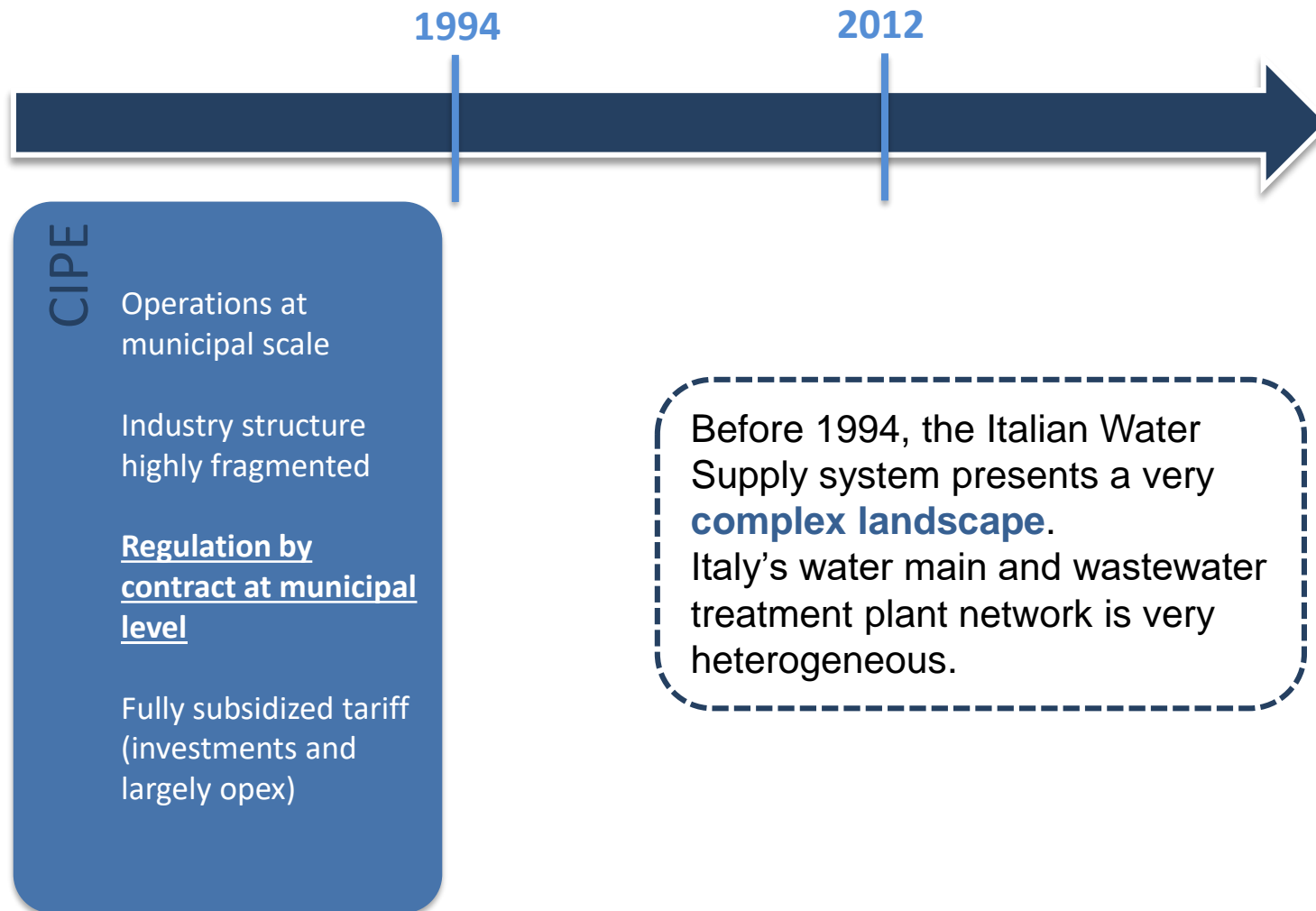
- **Water Framework Directive (Dir. 2000/60/EC, art. 9)**
- **Communication on the European Citizen's Initiative (COM 2014/177), the European Commission envisaged further objectives**

Legal & Regulatory evolution

Legal & regulatory evolution (1/4)



Legal & regulatory evolution (2/4)



Legal & regulatory evolution (3/4)

1994

2012



GALLI Law

Vertical and horizontal integration (ATO)

Regulation by contract at ATO level

Introduction of Full Cost Recovery principle (FCR)

Focus on investment planning

In the **1994**, the Italian Parliament enacted the first law for the **reorganization** of the **integrated water supply system** in response to the emergency situation affecting a large part of the Country.

- **Vertical integration** (introduction of Integrated Water Service –SII)
- **Horizontal integration** (elimination of all direct municipal management and all the micro-enterprises).
- The regions have the duty of identifying «**optimal areas**» (**ATO**) to be managed under the supervision of a local public Authority for water services (**EGAs**).
- The Galli Law provided for the establishment of a tariff system based on the principle of a **single tariff for each ATO** to ensure full coverage of the operating costs and investments.

Vertical integration: What is «Servizio Idrico Integrato»

The integrated water service (SII) covers the public collection, transportation, and distribution of water for civil use as well as sewerage and wastewater treatment for both mixed-use residential and industrial clients



Legal & regulatory evolution (4/4)

2012



AEEGSI (ARERA)

Multilevel sector governance

Tariff regulation by independent body at national level

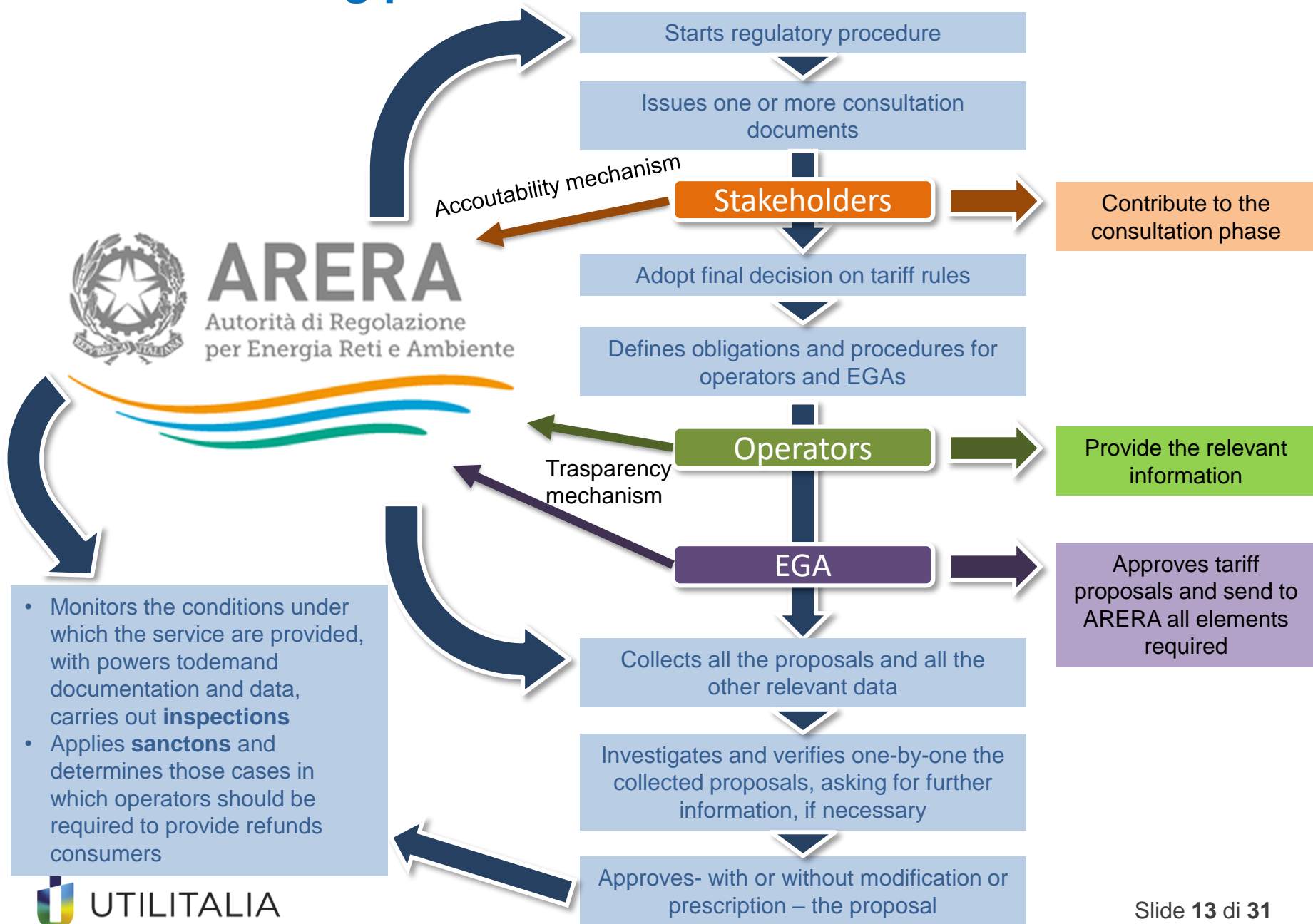
Full application of FCR principle

Focus on investments planning & financial viability

In **2011**, the reform adopted in 1994 was only **partially implemented**, leaving a large part of the Country in a never-ending transition period.

- So the Government proposed assigning water tariff regulation, standard contract design, monitoring and regulatory enforcement to an **independent regulator**, the Italian Electricity and Gas Authority.
- Two years later, the regulator's name was changed accordingly to the Independent Regulatory Authority for Electricity, gas and Water – **AEEGSI**.
- From 1st January 2018, also the Waste management was transferred to AEEGSI, so the name was changed again accordingly to **ARERA**

Decision-making process



Pillars of the regulatory architecture

Revenue and tariff calculation

In order to determine caps both on revenue and on end – users tariffs

Contractual quality discipline

In order to identify thresholds for services standards to be provided to end - users

Technical and infrastructural quality regulation

In order to define lower limits for technical and infrastructural standard to be granted to end - users

Quality of water services

2012

2015

2017

Revenue and tariff calculation

Contractual quality discipline

Technical and infrastructural quality regulation

Tariff proposal

ARERA adopted a comprehensive definition of a tariff proposal, called the «**specific regulatory scheme**», to be adopted by EGAs, with involvement of the service supplier, and to be detailed for four-year regulatory period.

The specific regulatory scheme includes:

Financial and Economic Plan (FEP)

specifying revenues, average tariff for end-users and all of the costs to be reimbursed to the supplier

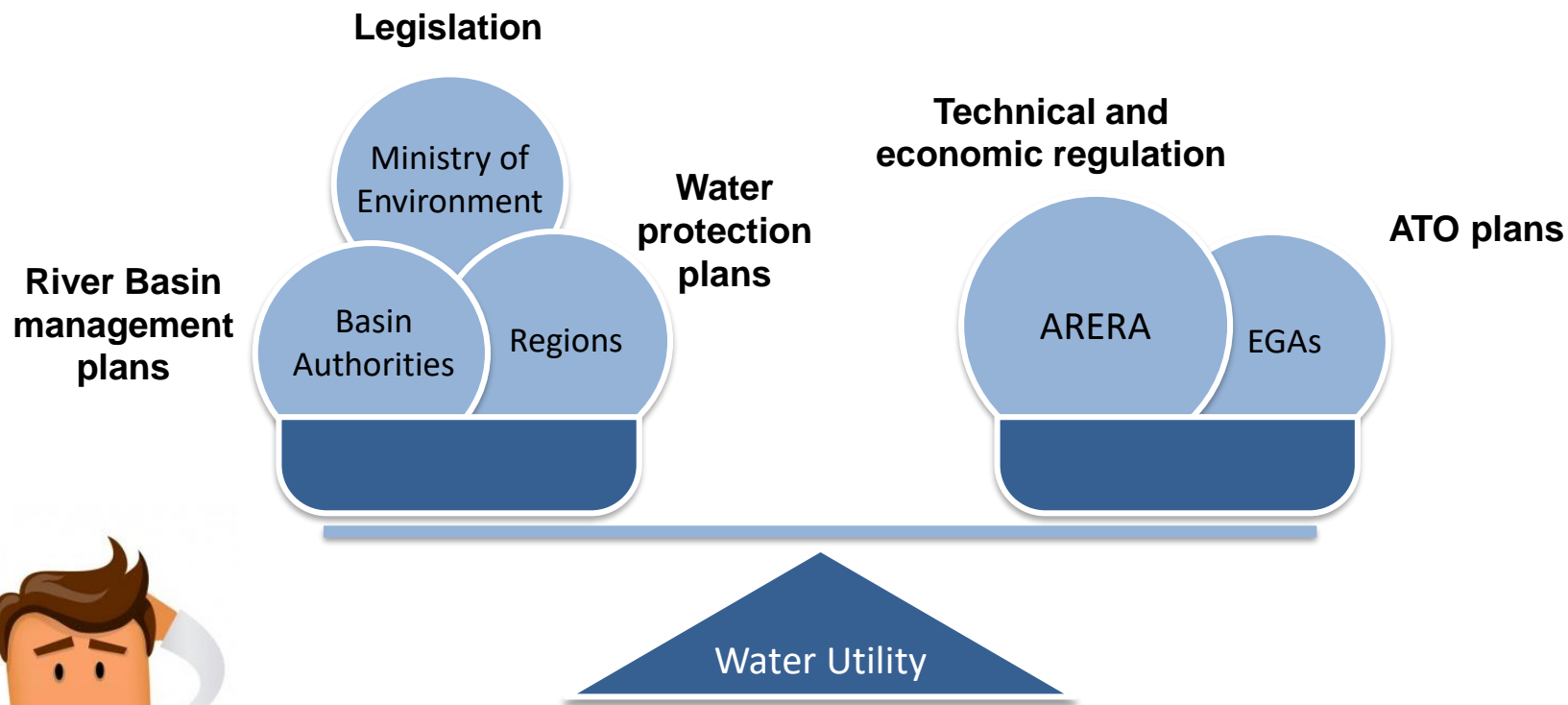
Infrastructure and management programme (IMP)

making a list of all the relevant measures to be implemented in order to achieve the predefined quality objectives

Entrustment contract (EC)

Entrustment contract (EC), clarifying liabilities of the EGA and the service supplier according to the standard framework defined by ARERA

Multi-level governance



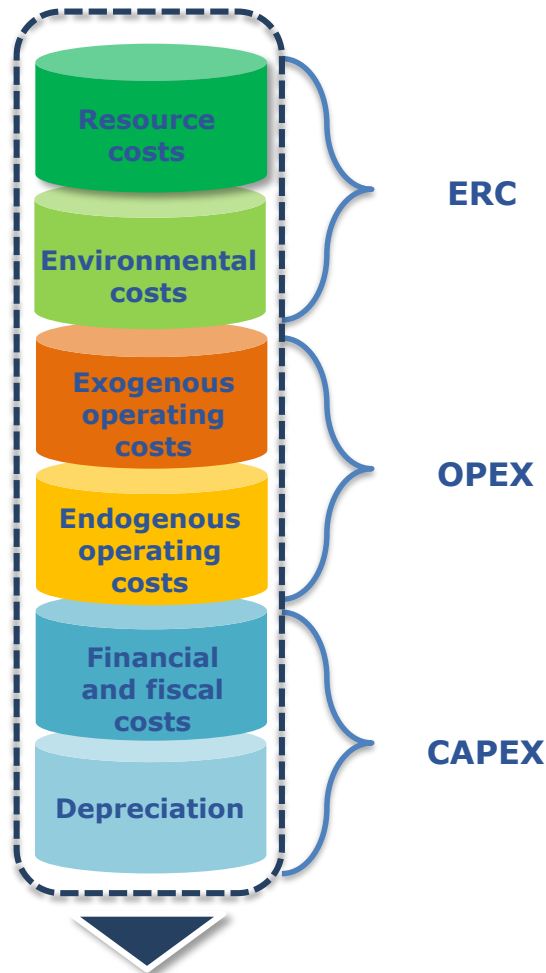
ARERA has worked over the years to define a robust regulatory framework.

Although there is margin to improve the multi-level governance, the work by ARERA has paid off and regulatory uncertainty has progressively reduced

The recent high court ('**Consiglio di Stato**') ruling on the robustness of the Tariff Method contributes to consolidating the current regulatory framework

Water Tariff Structure of ARERA

Economic regulation – Tariff Structure



Allowed
revenue

Resource costs: They represent the costs of foregone opportunities which other uses suffer due to the depletion of the resource beyond its natural rate of recharge or recovery (e.g. linked to the over-abstraction of groundwater)

Environmental costs: They represent the costs of damage that water uses impose on the environment and ecosystems and those who use the environment (e.g. a reduction in the ecological quality of aquatic ecosystems or the salinisation and degradation of productive soils)

OPEX: Costs incurred to carry out the entity's core business

Exogenous costs: non-controllable operating costs (includes electricity cost and wholesale purchases of water)

Endogenous costs: controllable operating costs

Financial and fiscal costs: Costs incurred for the acquisition of long-term assets where the useful life does not expire over one reporting period

Depreciation: the systematic allocation of the depreciable amount of an asset over its useful life

Tariff mechanisms

2012

2014

2016

Temporary Tariff mechanism (MTT)

- *Ex-ante* method of tariff calculation (using expected costs) was turned into an ***ex-post method*** (using measured costs).
- Revenue Cap and Full Cost Recovery
- EGA defines tariff proposal and ARERA approves the proposal
- Coherency in Planning: infrastructural interventions – economic and financial variables

Water Tariff mechanism (MTI)

- MTT framework confirmed
- Specific regulatory scheme
- Accelerated depreciation
- Revenue cap and Full cost Recovery
- EGA defines tariff proposal and ARERA approves the proposal
- Coherency in Planning: infrastructural interventions – economic and financial variables

Water tariff mechanism for the second regulatory period

- MTI framework confirmed
- Specific regulatory scheme.
- Revenue cap
- Contractual and Technical Quality

Tariff mechanisms – MTI (2014-2015)

2014

2016



A new overall framework was designed to introduce a set of innovative and asymmetric rules, which provided incentives for investment and rationalization of operating activities.

- Water Tariff mechanism (MTI)**
- MTT framework confirmed
 - Specific regulatory scheme
 - Accelerated depreciation
 - Revenue cap
 - EGA defines tariff proposal and ARERA approves the proposal
 - Coherence in planning

		More activities	
		NO VARIATIONS IN THE OPERATOR'S OBJECTIVES OR ACTIVITIES	PRESENCE OF VARIATIONS IN THE OPERATOR'S OBJECTIVES OR ACTIVITIES
Investments	$\frac{\sum IP_t^{exp}}{RAB_{MTI}} \leq \omega$	SCHEME I – ordinary case <i>Opex</i> : more push on operating efficiency through a rolling cap, assuming the invariance over the period <i>Capex</i> recognised ex post using technical lives	SCHEME II <i>Opex</i> : possibility to cover more opex motivating the request (and taking in consideration scale economies) <i>Capex</i> : same as ordinary case
	$\frac{\sum IP_t^{exp}}{RAB_{MTI}} > \omega$	SCHEME III <i>Opex</i> : same as ordinary case <i>Capex</i> : more accelerated depreciation admitted, together with (limited) anticipation on Investments	SCHEME IV <i>Opex</i> : possibility to cover more opex motivating the request (and taking in consideration scale economies) <i>Capex</i> : more accelerated depreciation admitted, together with (limited) anticipation on investments

Ordinary case is sufficient to finance investments

Ordinary case not sufficient to finance investments

More Investments

RAB (Regulatory asset base): Value of net invested capital for regulatory purposes, calculated on the basis of the rules defined by ARERA for determining base revenues for the regulated businesses

Trend of investments after the action of a central regulator

	NET INVESTMENTS 2012 (€)	NET INVESTMENTS 2013 (€)	NET INVESTMENTS 2014 (€)	NET INVESTMENTS 2015 (€)
North-West	195.741.644	184.324.445	350.241.242	440.956.598
North-East	266.595.624	332.483.991	323.830.781	429.109.401
Centre	333.369.137	344.173.029	387.298.944	427.190.417
South	153.725.206	60.434.581	108.306.589	149.297.118
Islands	11.522.585	6.057.384	31.914.845	44.120.667
Italy	960.954.196	927.473.430	1.201.592.401	1.490.674.201

+55%



Tariff mechanisms – MTI2 (2016-2019)

2016

2019

Tariffs applied in this period (calculated on the base of the MTI) have to be updated multiplying them by a multiplier, the so called ϑ - factor, for each year $a=(2016;2019)$.

Water tariff mechanism for the second regulatory period

- MTI framework confirmed

- Specific regulatory scheme.

Revenue cap

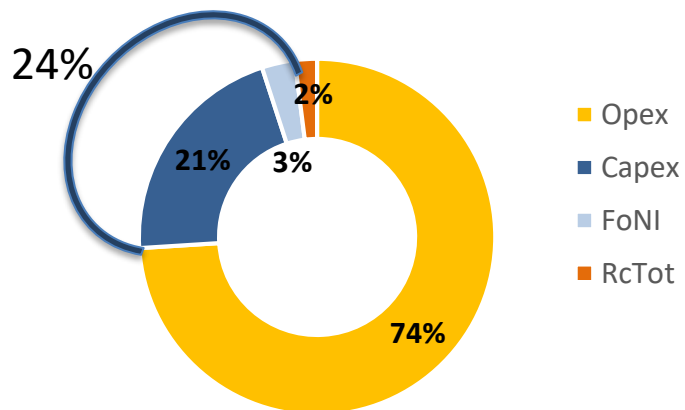
Contractual and Technical Quality

Investments	No variations in the operator's objectives or activities		PRESENCE OF VARIATIONS IN THE OPERATOR'S OBJECTIVES OR ACTIVITIES: - Water system integration - Improvements of quality
	$\frac{Opex}{pop} \leq OPM$	$\frac{Opex}{pop} > OPM$	
$\frac{\sum IP_t^{exp}}{RAB_{MTI}} \leq \omega$	Scheme I 6,0% Limit to price variation: $\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + K - X]$	Scheme II 5,5% Limit to price variation: $\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + K - 2X]$	Scheme III 6,5% Limit to price variation: $\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + K]$
$\frac{\sum IP_t^{exp}}{RAB_{MTI}} > \omega$	Scheme IV 8,5% Limit to price variation: $\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + 1,5K - X]$	Scheme V 8,0% Limit to price variation: $\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + 1,5K - 2X]$	Scheme VI 9,0% Limit to price variation: $\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + 1,5K]$

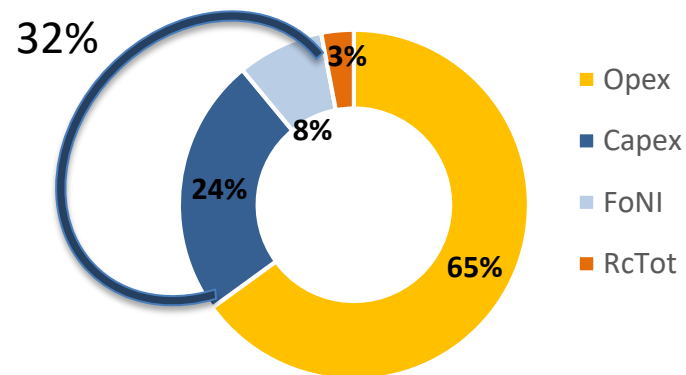
Sharing factor, named as X, is applied to the maximum limit allowable increase for every single year considered.

Preliminary Outcomes of the Second Period

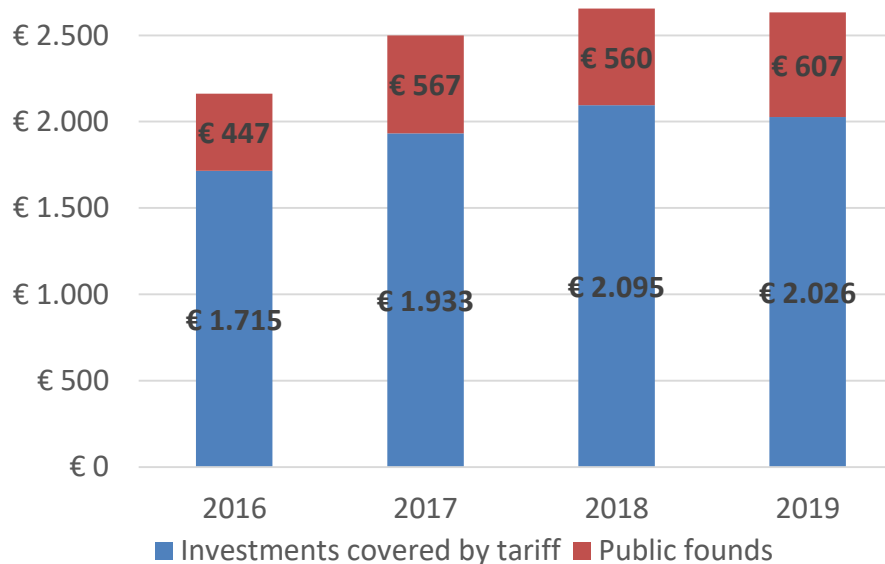
Incidence of cost component on Revenue - 2014



Incidence of cost component on Revenue - 2019



Planned investments need (Million €)

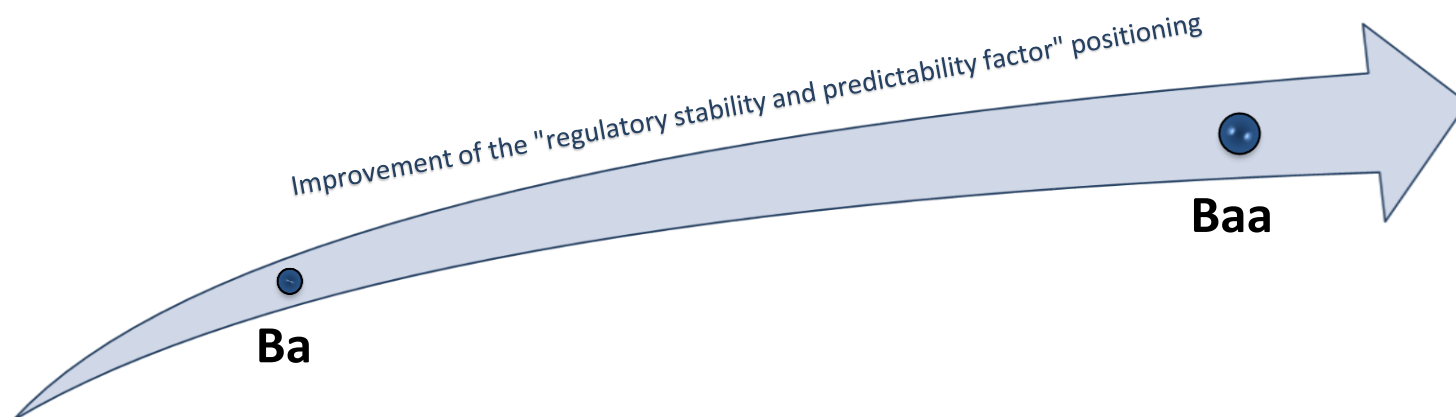


Regulatory stability and business rating

Temporary Tariff
Mechanism (MTT)
2012-2013

Water Tariff
MEchanism (MTI-1)
2014-2015

Water Tariff
Mechanism 2 (MTI-
2) 2016-2019

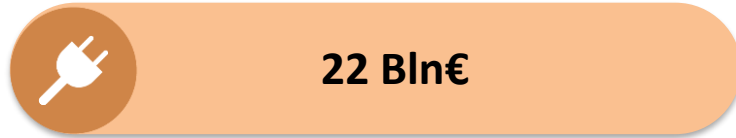


The change reflects the positive evolution of the regulatory framework, the adoption of defined methodologies and the presence of a credible regulator

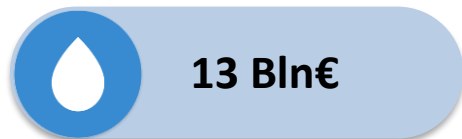
*Source: Adapted from Moody's
(Blue Book presentation January 2017)*

RAB comparison between Regulated sectors

RAB value in Regulated industries

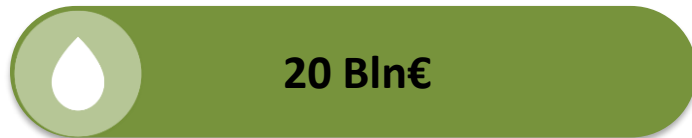


«steady» RAB with renewal/replacement need

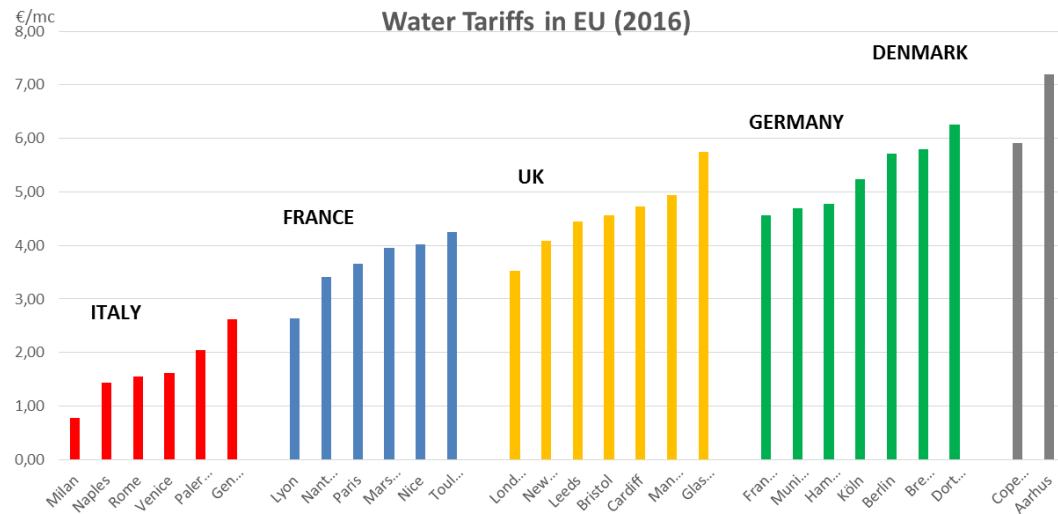


«undersized» RAB with development/upgrade need

Water infrastructural gap forecast in the next 4 years



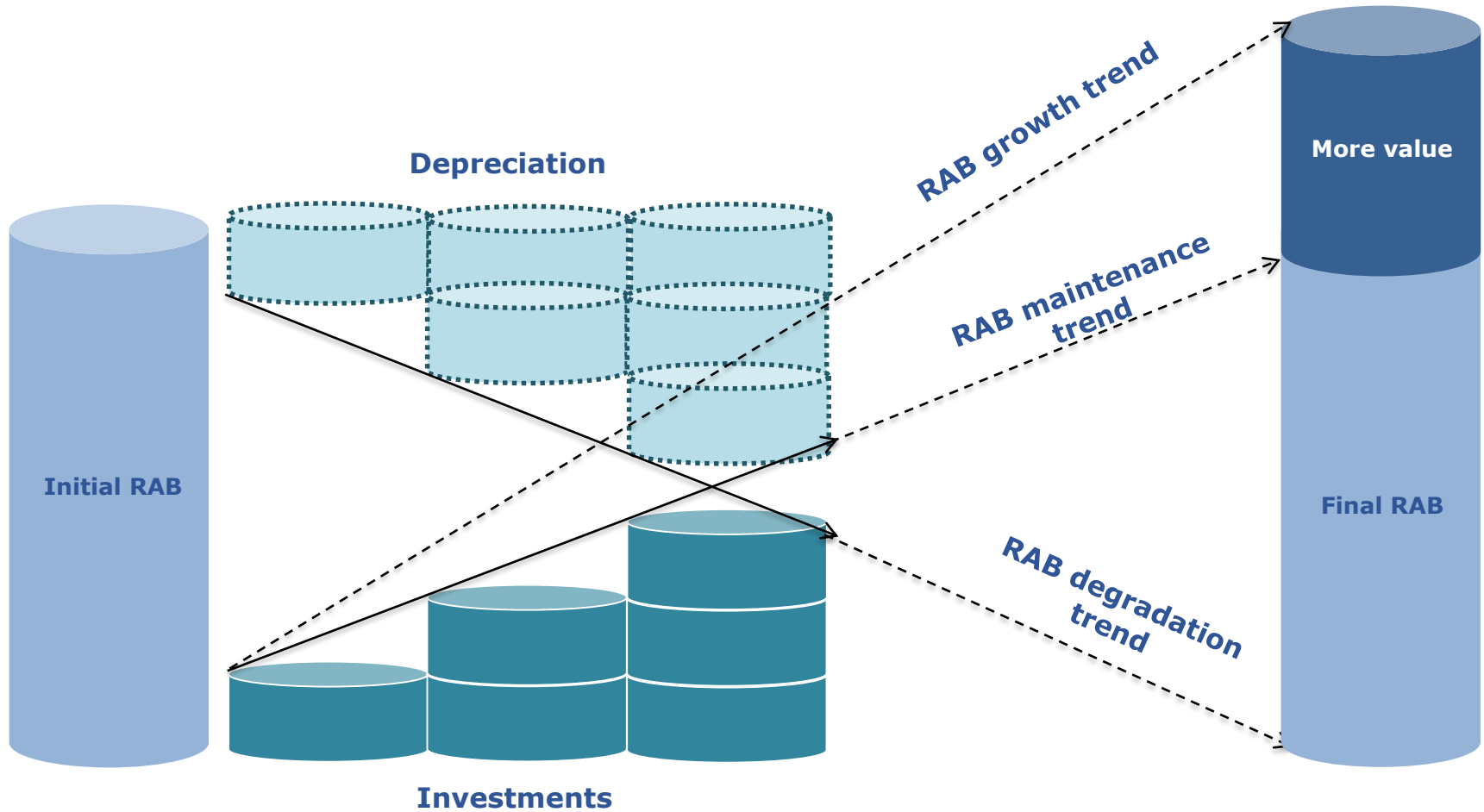
Cash flows produced by the current tariffs are inadequate to cover Investments need.
The Italian tariffs should more than double to align them with EU average tariff.



Source: GWI, 2016

Terminal value: *more investments = more value*

RAB (Regulatory asset base): Value of net invested capital for regulatory purposes, calculated on the basis of the rules defined by ARERA for determining base revenues for the regulated businesses



Other important subjects regulated by ARERA

Other important subjects regulated by ARERA (1/2)

Quality of water services

Contractual quality discipline

- Minimum level of quality granted **homogeneously** for all Italian consumers, paid in **tariff** (in the so called VRG)
- **Penalties** for operators if quality under the minimum threshold with prohibition to recover in tariff any penalty
- Possibility to ask for **premium** if quality above threshold and after cost – benefit analysis of the underlying investments
- Premium paid by all served consumers through a **specific tariff component**

Technical and infrastructural quality regulation

- Advanced mechanism of output – based regulations
- Identification of **a set of indicators** able to illustrate the main characteristics of the service provision.
- Identification of different objectives for each indicator.
- Different **levels** of **premiums and penalties** related to the distance between each indicator and own objective

Other important subjects regulated by ARERA (2/2)

Reform of End-Users Tariff Criteria

Existing tariff structures do not appear satisfactory, because of underlying political economy-created cross subsidies and limited cost reflectivity.



The main elements of the reform are the following:

- Definition of a fixed and variable tariffs, establishing an incidence of the former no higher than 20% of the total expenditure;
- Definition of variable tariffs on the basis of an increasing block model, but limiting the degree of progressivity and homogenizing the consumption intervals to be considered;
- Introduction of **per-capita application** of the tariff structure, to protect large families;
- Refinement of criteria for the differentiation of tariffs for different users in light of their environmental impact.

Next steps

Next steps

- In the near future, in Italy the main issue for regulation will be the **increasing of tariffs** due to new investments. It will be important to evaluate the social and political sustainability of this process.
- Reorganizing water industry in order to have a number of operators from **2500** to less than **100**



- Improving the **role** of the Governance (e.g, develop EGAs into technical branches of the ARERA)
- Evaluation of the effects of a possible decrease in both **domestic and industrial consumption** (deepened by a higher tariff...)
- Enhancing water uses coordination to make the system more **resilient** to recent climate changes