

## **SEMINAR FOR FINANCIAL ANALYSTS**

### ***Financing the water sector***

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Water System Directorate

***12th October 2015***



# FIRST REGULATORY PERIOD



## Authority approach to Water regulation

### **Piecemeal activity within a comprehensive strategy**

- Local decision making process
- Empowerment: self determination at decentralized level
- Coherency

### **Cost reimbursement rules**

- Constraints on Operating Costs (endogenous vs. exogenous)
- Priority to Investments
- Price Cap and Full Cost Recovery

### **Pricing to end-users**

- Tariff multiplier
- Reorganise tariff structure applied to consumers

### **Rebalancing past disequilibria**

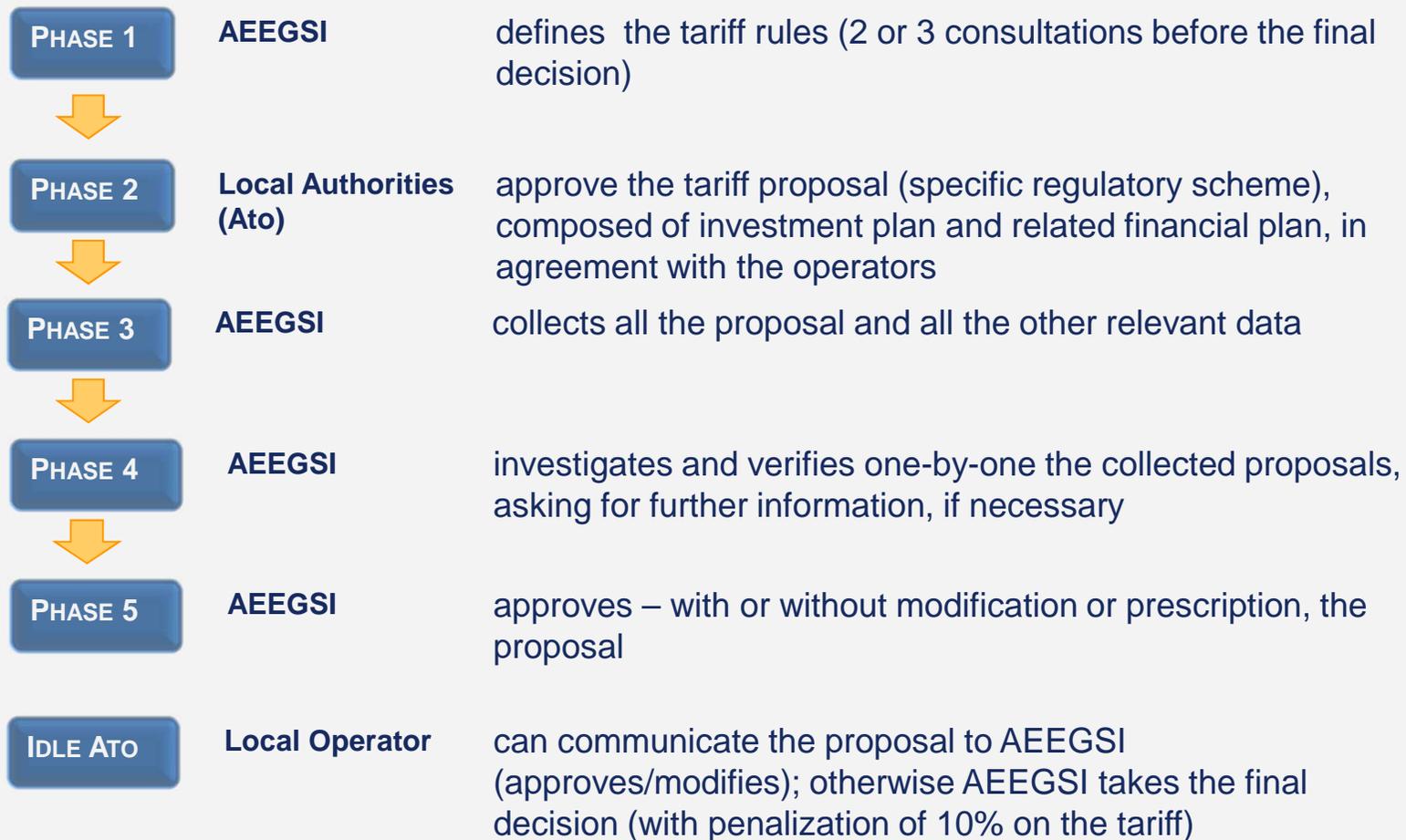
- Past credit billing
- Investigation on above-the-cap proposals

### **Measures to avoid default**

- Urgent equalisation



## MTI REGULATORY PROCESS





# COST REIMBURSEMENT RULES DEPEND ON REGULATORY SCHEMES FOR THE YEARS 2014-2015



not a constraint,  
but a way to  
evaluate the  
most appropriate  
regulatory option

		OPERATING COSTS	
		NO VARIATIONS IN THE OPERATOR'S OBJECTIVES OR ACTIVITIES	PRESENCE OF VARIATIONS IN THE OPERATOR'S OBJECTIVES OR ACTIVITIES
INVESTMENTS	$\frac{\sum_t^{t+3} IP_t^{exp}}{RAB_{MTT}} \leq 0,5$	<p><b>SCHEME I – ordinary case</b></p> <ul style="list-style-type: none"> <li>✓ <i>Opex</i>: more push on operating efficiency through a rolling cap, assuming the invariance over the period</li> <li>✓ <i>Capex</i> recognised ex post using technical lives</li> </ul>	<p><b>SCHEME II</b></p> <ul style="list-style-type: none"> <li>✓ <i>Opex</i>: possibility to cover more <i>opex</i> motivating the request (and taking in consideration scale economies)</li> <li>✓ <i>Capex</i>: same as ordinary case</li> </ul>
	$\frac{\sum_t^{t+3} IP_t^{exp}}{RAB_{MTT}} > 0,5$	<p><b>SCHEME III</b></p> <ul style="list-style-type: none"> <li>✓ <i>Opex</i>: same as ordinary case</li> <li>✓ <i>Capex</i>: more accelerated depreciation admitted, together with (limited) anticipation on investments</li> </ul>	<p><b>SCHEME IV</b></p> <ul style="list-style-type: none"> <li>✓ <i>Opex</i>: possibility to cover more <i>opex</i> motivating the request (and taking in consideration scale economies)</li> <li>✓ <i>Capex</i>: more accelerated depreciation admitted, together with (limited) anticipation on investments</li> </ul>

Ordinary case is sufficient to finance investments

Ordinary case not sufficient to finance investments



More investments



## DEFINITION OF THE COST COMPONENTS IN MTI (2014-2015)

$$VRG^a = \underbrace{Capex^a}_{[1]} + \underbrace{FoNI^a}_{[2]} + \underbrace{Opex^a}_{[3]} + \underbrace{ERC^a}_{[4]} + \underbrace{RC_{TOT}^a}_{[5]}$$

[1] IMMOBILIZATION COSTS

$$Capex^a = AMM^a + OF^a + OFisc^a + \Delta CUIT^a$$

[2] COMPONENT IN SUPPORT OF SPECIFIC OBJECTIVES

$$FoNI^a = FNI_{FoNI}^a + AMM_{FoNI}^a + \Delta CUIT_{FoNI}^a$$

[3] OPERATING COSTS

$$Opex^a = Opex_{end}^a + Opex_{al}^a$$

[4] COMPONENT TO COVER ENVIRONMENTAL AND RESOURCE COSTS

$$ERC^a = EnvC^a + ResC^a$$

[5] COMPONENT TO BALANCE THE REVENUES LIMIT FOR THE OPERATOR IN THE PREVIOUS YEARS

$$RC_{TOT}^a = \left( Rc_{VOL}^a + Rc_{EE}^a + Rc_{ws}^a + Rimb_{335}^a + Rc_{ALTRO}^a \right) * \prod_{t=a-1}^a (1 + I^t)$$

**NEW WATER TARIFF METHOD MTI - 2**

- AEEGSI intends to confirm the general structure of VRG for the period 2016-2019



## TARIFF MULTIPLIER FOR THE YEARS 2014-2015

- Tariffs applied in 2012 (calculated on the base of the old Method MTN) have to be updated multiplying them by a factor  $\vartheta$

$$\vartheta^a = \frac{VRG^a + 0,5 * (R_b^{a-2} - C_b^{a-2})}{\sum_u \underline{tarif}_u^{2012} \cdot (\underline{vsca}_u^{a-2})^T + R_b^{a-2}}$$

Half margin from competitive water activities is used to reduce the tariffs of monopoly water activities

- **Maximum limit** to the variation of the tariff multiplier, except for any specific inquiry in case the limit needs to be passed in order to ensure that specific objectives are met

	Cap to the variation of the tariff multiplier	
Schemes I e II	$\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K)$	6,5%
Schemes III e IV	$\frac{\vartheta^a}{\vartheta^{a-1}} \leq [1 + rpi + (1 + \gamma) * K]$	9,0%

### NEW WATER TARIFF METHOD MTI - 2

- AEEGSI intends to confirm the general update mechanism of tariffs, based on the *tariff multiplier*

## MEASURES FOR AN EFFICIENT FINANCIAL SUSTAINABILITY

### ➤ *Terminal value*

Residual value for the operator of the Integrated Water Services (SII) in case of replacement is calculated:

- a) from a **minimum value**, equal to the residual value of assets of the SII operator, according to the following formula:

$$VR^a = \sum_c \left\{ \sum_{t=1961}^a [(IP_{c,t} - FA_{IP,c,t}) - (CFP_{c,t} - FA_{CFP,c,t})] * dfl_t^a \right\} + LIC^a$$

- b) up to a **maximum value** that includes a), the value of past accounts that have already been quantified and approved by the competent entities, and any guarantees possibly required by the lender

### ➤ *Arrearage costs*

Arrearage costs ( $CO_{mor}^a$ ) defined as Unpaid Ratio (UR) in 24 months, are recognised as a parameter in order to encourage an efficient credit-recovery activity, and they are differentiated across geographical macro-areas, as a function of the different average incidence on the revenues.



### ➤ *Past credit billing*

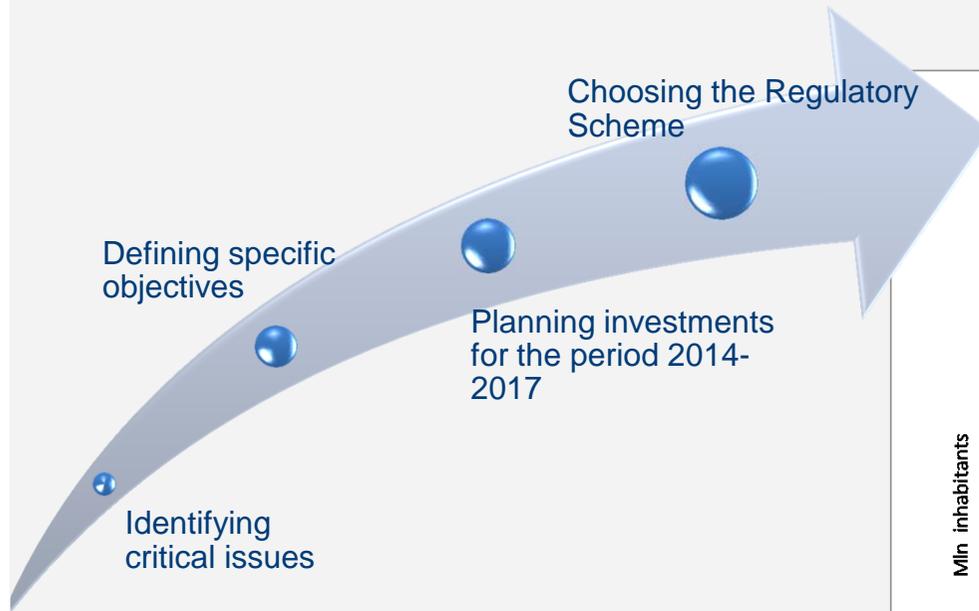
Any possible balancing with periods preceding the attribution of sector regulation and monitoring powers to AEEGSI, and not yet considered in the calculation of past tariffs, is quantified and approved **by 30 June 2014** by the entitled entity or any other competent entity, and they are communicated to AEEGSI



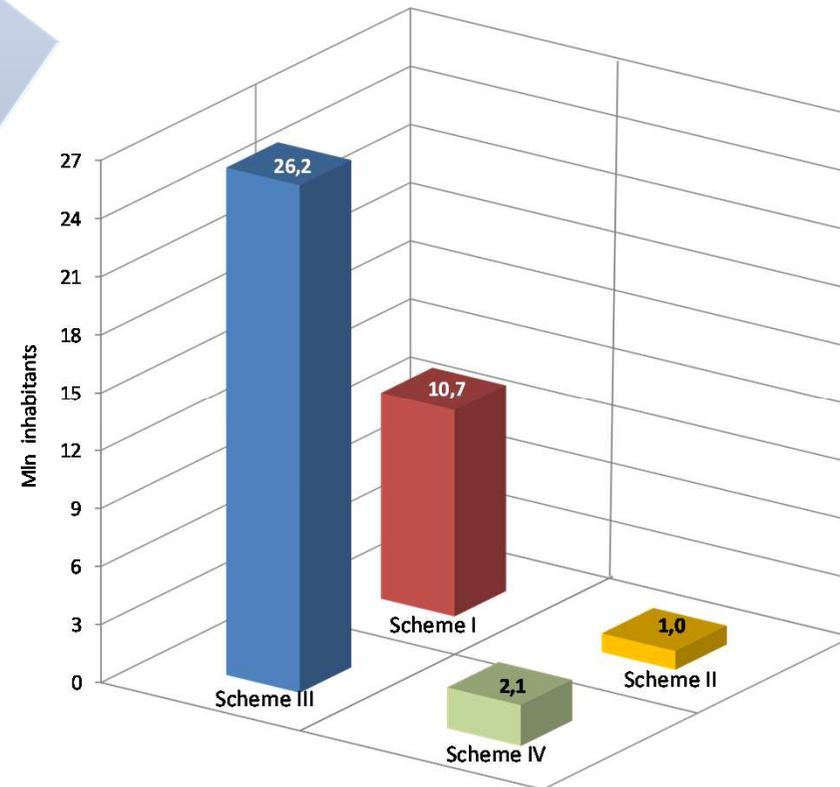
# RESULTS



## OUTCOME OF THE DECISION-MAKING PROCESS OF THE LOCAL AUTHORITIES [YEARS 2014-2015]



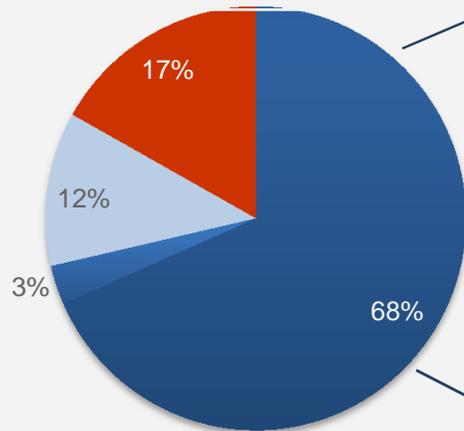
*Regulatory Schemes selected by local Authorities*



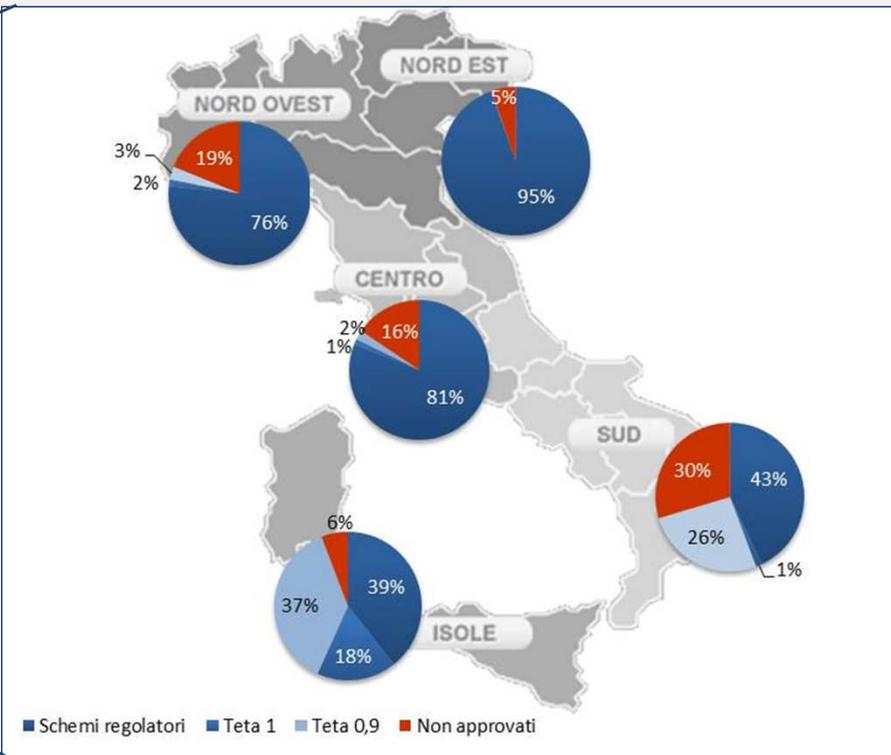
## FOCUS ON TARIFFS APPROVED BY AEEGSI [YEARS 2014-2015]

- AEEGSI approved tariffs for **1.961 operators** regarding **49.820.708 inhabitants**.
- The **new tariffs** had an average yearly increase of 4.04% in 2014 and 4.46% in 2015

Tariffs approved (% inhabitants)



■ Schemi regolatori 
 ■ Teta 1 
 ■ Teta 0,9 
 ■ Non approvati





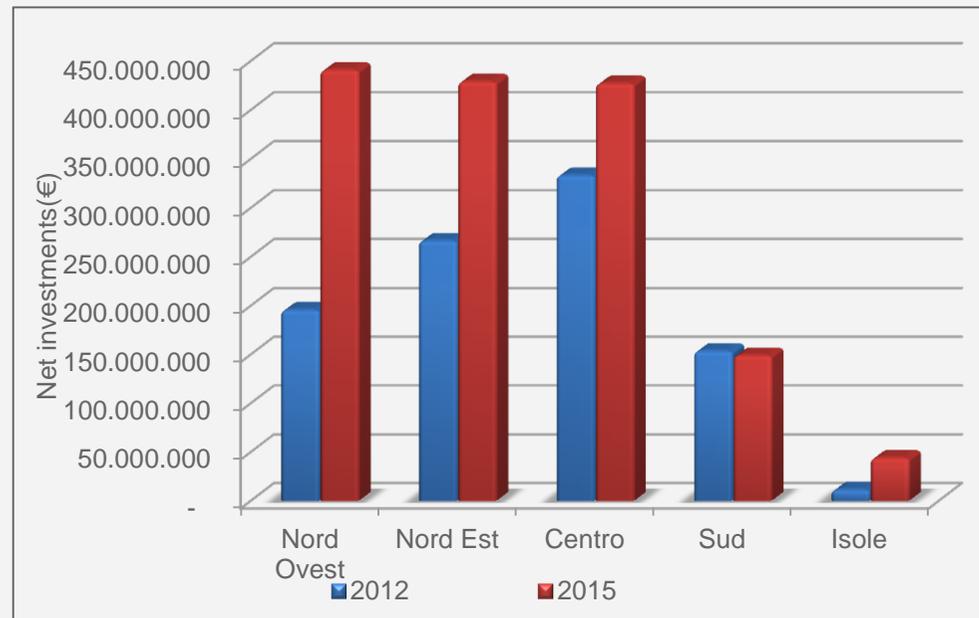
## TREND OF INVESTMENTS AFTER THE ACTION OF A CENTRAL REGULATOR

	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
Nord-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
<b>Italy</b>	<b>960.954.196</b>	<b>927.473.430</b>	<b>1.201.592.401</b>	<b>1.490.674.201</b>

+55%

Data referred to:

- **127 operators**
- **40 mln inhabitants (2/3 of Italian population)**





## CRITICALITY & PLANNED INVESTMENTS FOR THE PERIOD 2014-2017

### CRITICAL ISSUES:

Old networks and plants;  
Partial coverage of the  
sewerage and waste  
water treatment (wwt);  
Water losses;  
Lacking of metering  
systems

### PLANNED ACTIONS:

Maintenance of water  
supplying systems and  
plants;  
Development of new  
sewerage nets and wwt  
plants (higher  
compliance rates);  
Placing of metering  
systems

### PLANNED INVESTMENTS FOR THE PERIOD

2014-2017:

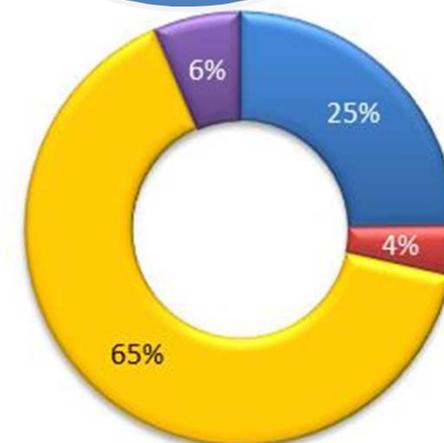
€ 5.506.412.296\*

■ Scheme I

■ Scheme II

■ Scheme III

■ Scheme IV



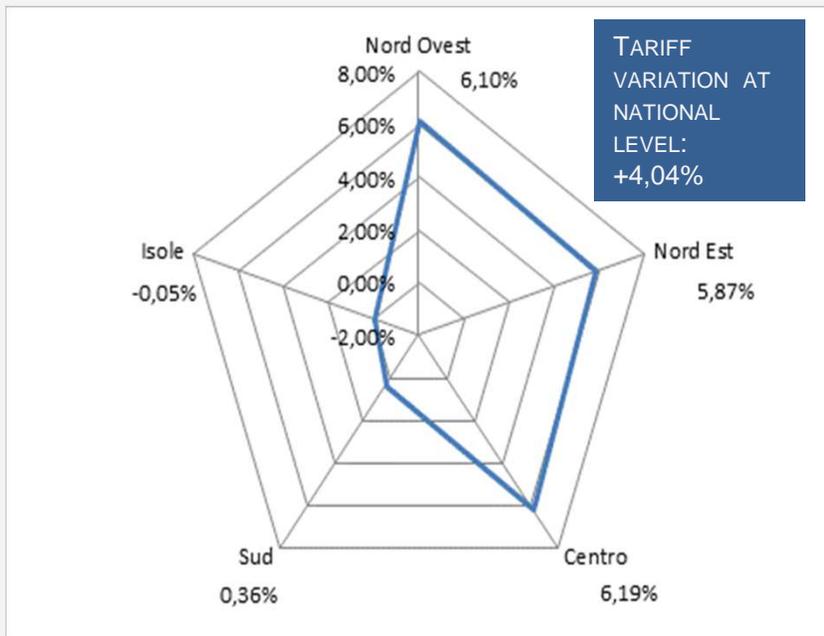
*Planned investments (%) for regulatory Scheme*

[\* data referred to 127 operators; 40 mln inhabitants]

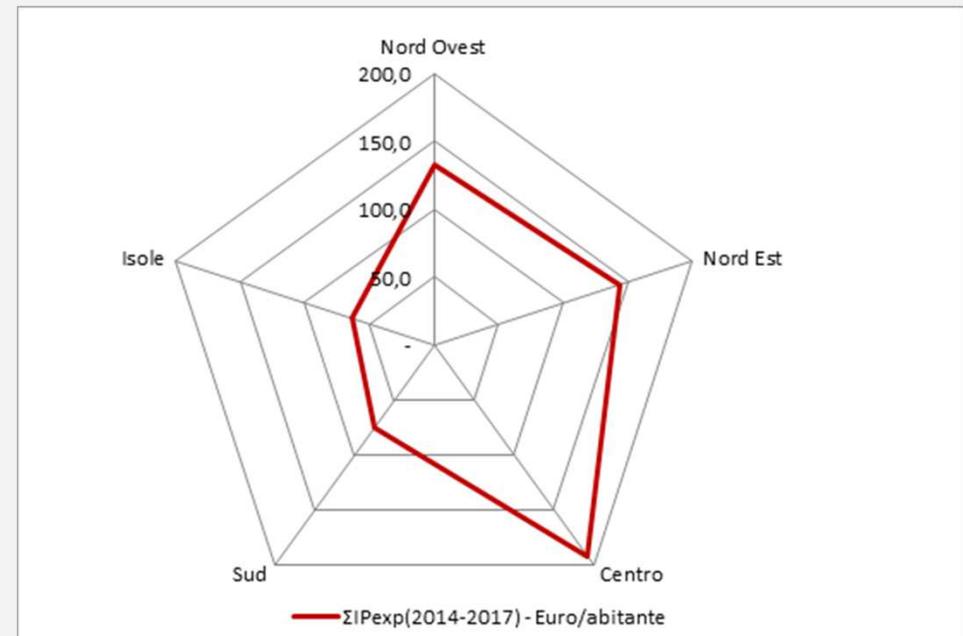


# TARIFF SUSTAINABILITY & RESILIENCE OF INVESTMENTS

*Tariff variation - year 2014*



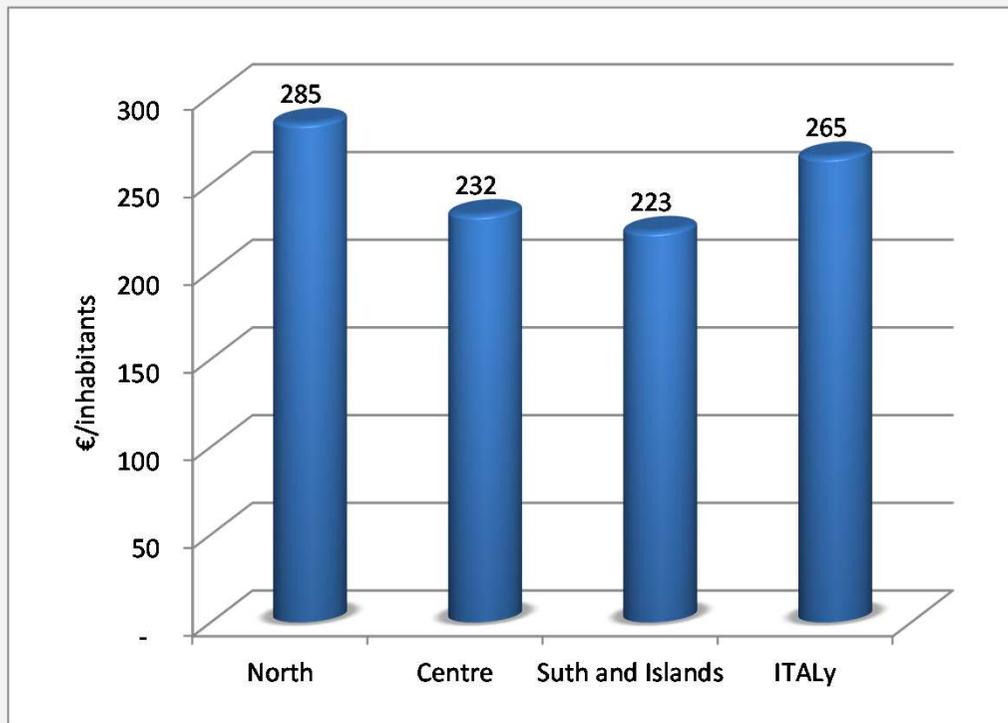
*Planned investments for the period 2014-2017*



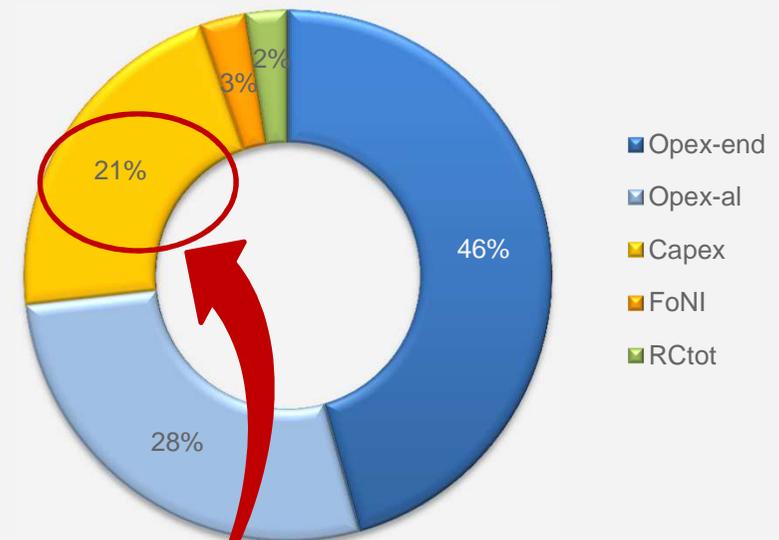


## VALUE OF RAB & NEED TO INVEST IN WATER INFRASTRUCTURES

RAB per capita for geographic area



VRG configuration (%)



➤ Low value of Regulatory Asset = 13 Billion euros



Autorità per l'energia elettrica il gas  
e il sistema idrico

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# SECOND REGULATORY PERIOD

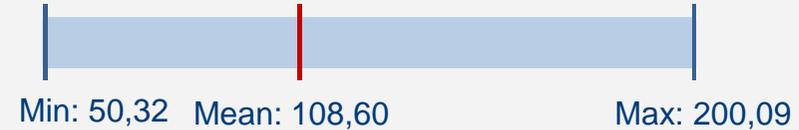


## DEVELOPMENT OF THE NEW TARIFF METHOD ON THE BASE OF THE COLLECTED INFORMATION

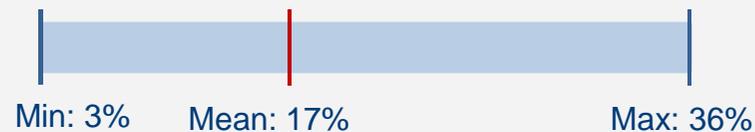
**OPEX/PROVIDED UNITS OF WATER (€/mc)**



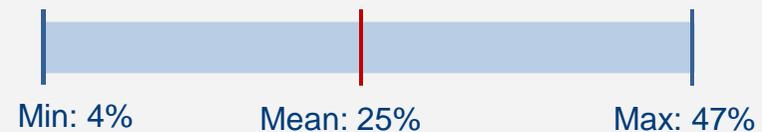
**OPEX/SERVED INHABITANTS (€/per capita)**



**ENERGY COSTS/OPEX**



**LABOUR COSTS/OPEX**



*Cross Section Analysis for the year 2014 [data referred to 105 operators, 32 mln inhabitants]*



## Regulatory Schemes for the second regulatory period

Mean of Opex  
per capita

		$\frac{Opex^{2014}}{pop} \leq OPM$	$\frac{Opex^{2014}}{pop} > OPM$	AGGREGAZIONI, VARIAZIONI NEGLI OBIETTIVI O NELLE ATTIVITÀ DEL GESTORE
INVESTIMENTI	$\frac{\sum_{2016}^{2019} IP_t^{exp}}{RAB_{MTI}} \leq \omega$	<p>SCHEMA I</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K - X)$	<p>SCHEMA II</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K - 2X)$	<p>SCHEMA III</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K)$
	$\frac{\sum_{2016}^{2019} IP_t^{exp}}{RAB_{MTI}} > \omega$	<p>SCHEMA IV</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + 1,5 * K - X)$	<p>SCHEMA V</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + 1,5 * K - 2X)$	<p>SCHEMA VI</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + 1,5 * K)$

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



## Limite di prezzo per tipo di Schema regolatorio

		$\frac{Opex^{2014}}{pop} \leq OPM$	$\frac{Opex^{2014}}{pop} > OPM$	AGGREGAZIONI, VARIAZIONI NEGLI OBIETTIVI O NELLE ATTIVITÀ DEL GESTORE
INVESTIMENTI	$\frac{\sum_{2016}^{2019} IP_t^{exp}}{RAB_{MTI}} \leq \omega$	<p>SCHEMA I</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K - X)$	<p>SCHEMA II</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K - 2X)$	<p>SCHEMA III</p> <p>Limite di prezzo:</p> $\frac{\vartheta^a}{\vartheta^{a-1}} \leq (1 + rpi + K)$
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## OTHER FIELDS OF ACTION

### for the definition of a clear and coherent framework of rules

#### NEW OBLIGATIONS FOR SUPPLIERS

- Regulation of **quality** of water service [DCO 665/2014/R/idr and DCO 273/2015/R/idr];

- Rules about **collection expenditure** [Del. 7/2015/R/idr]

#### SHARING THE RISK IN THE NEW REGULATORY FRAMEWORK

- **Schemes of standard agreement** between ATO and service providers [DCO 171/2014/R/idr and DCO 274/2013/R/idr]

#### INCREASING PRICE REFLECTIVITY AND PROMOTING BETTER STANDARD FOR ENVIRONMENTAL PROTECTION

- Definition of **tariffs for sewerage and treatment of industrial wastewater** [DCO 299/2014/R/idr and 620/2014/R/idr]

- Explicit identification of **environment and resource costs** [DCO 539/2014/R/idr and Del. 662/2014/R/idr]

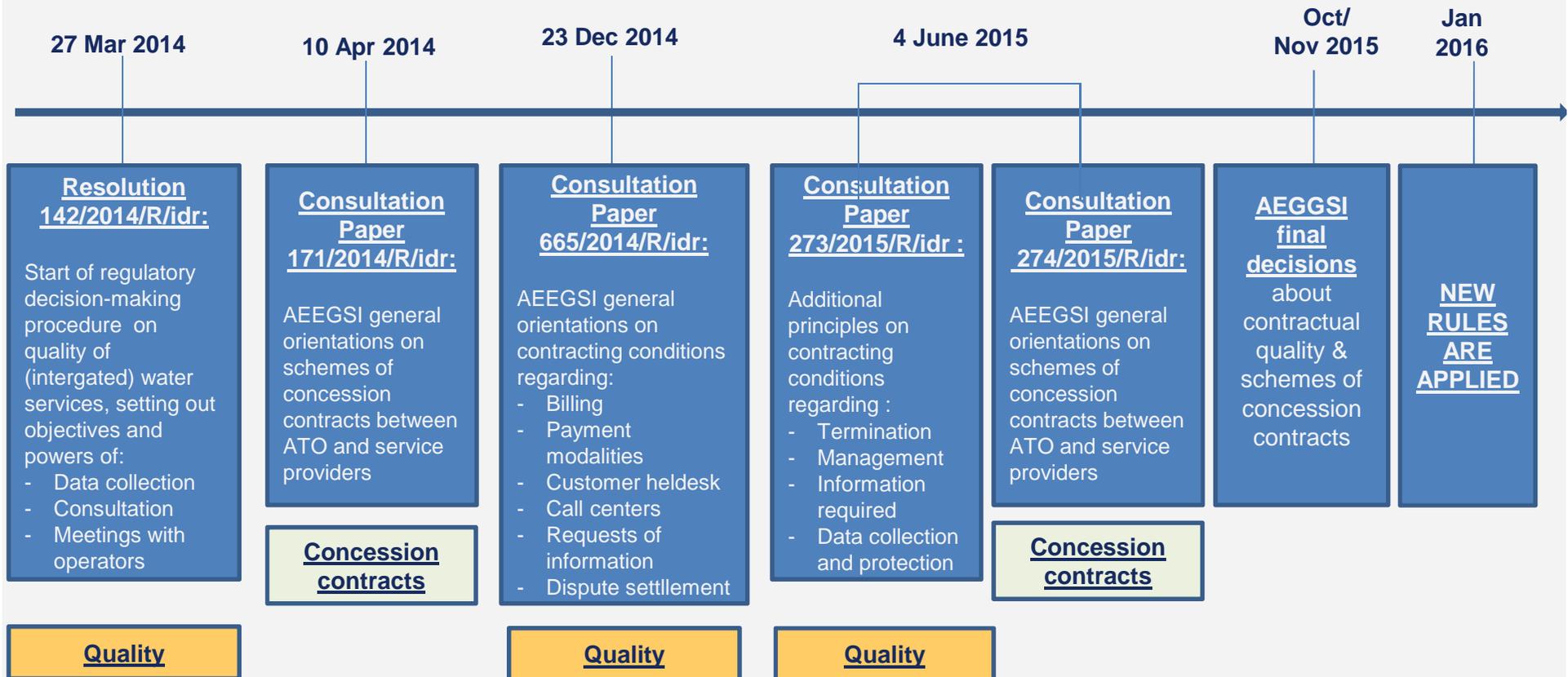
- **Unbundling** (with definition of the “integrated water service” perimeter) [DCO 379/20145R/idr]

- Strategic guidelines for the next regulatory period (**Water Tariff Method MTI - 2**), starting in 2016 [DCO 406/2014/R/idr]

- Promoting efficiency;
- Increasing investments (also following an “output-based” approach);
- Reorganizing water industry (from 2500 to less than 100...)



# ROADMAP FOR A NEW REGULATION OF QUALITY & STANDARD AGREEMENTS





## QUALITY OF WATER SERVICES

- **Commercial** (in water we use the term **contractual**) and **technical**
- **Further dimensions** of water service (other than **quantity**)
- **Mechanism proposed in Consultation Paper 273/2015/R/idr** (contractual quality):
  - 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**



## QUALITY OF WATER SERVICES (2)

- The current consultation process on **commercial quality** aims at regulating the following contracting conditions:
  - **Billing**
  - **Connection to the networks**
  - **Management of helpdesk and website**
  - **Management of call center**
  - **Request of information**
  - **Reimbursement for consumers**
  - **Management of complaints**
  - **Dispute settlement**



## STANDARD AGREEMENTS

- AEEGSI draws up also standard agreements (SA) to regulate contractual relations between local authorities and undertakings
  - SA is an important tool to define the contractual framework at local level and ensure certainty and affordability of the general regulatory framework
  - In particular, the SA sets:
    - maximum duration of public concessions and conditions for their possible extension;
    - terms and procedures for asset payment at the end of public concession (terminal value) to ensure the maintenance of economic-financial viability;
    - risk sharing between undertakings and public system, which is diversified in accordance with the organisational model chosen
- ➔ AEEGSI is defining SA by the end of the year (cfr. consultation paper 274/2015/R/idr)