

Regulation of distribution service for LNG isolated networks

Stefano Caruggi

*The Italian Regulatory Authority for Electricity Gas and Water
(AEEGSI)*

Infrastructure Department

***CONFERENZAGNI 2017 - Small Scale to large Market
Strategies & Technologies towards the Mediterranean Area***

Mostra d'Oltremare – Naples

11 May 2017

AGENDA

- The role of the Italian Regulatory Authority for Electricity Gas and Water (AEEGSI)
- Legislative decree 257/16
- The regulation of LPG networks
- Principles for the regulation of LNG isolated networks
- Small scale LNG

The role of AEEGSI

- **Law n. 481** (November 14 1995) establishes the Regulatory Authority for Electricity and Gas, setting its main objectives:
 - “guaranteeing the promotion of competition and efficiency” in the regulated sectors;
 - “ensuring adequate service quality standards in the regulated sectors”;
 - “ensuring uniform level of the services throughout the country, by establishing a clear and transparent tariff system based on ex ante criteria”;
 - “promoting the interests of users and consumers”.
- Following a referendum on the public management of water services held **in June 2011**, **Law n. 214** (December 22nd, 2011) eliminates the National Agency for Regulation and Supervision on Water and transfers its functions and powers to AEEGSI; the general principles and objectives of electricity and gas markets regulation are going to be applied also to **water infrastructures and water services**.
- The legislative decree **4 July 2014, n. 102**, implemented the European Directive 2012/27/UE on the promotion of energy efficiency in the Italian legislative framework and attributed to AEEGSI specific functions to regulate **district heating and cooling**. AEEGSI regulates the sector as foreseen by **the decree n. 102/2014** and has inspection sanctioning and supervisory powers as established by the AEEGSI institutional law n. 481/1995.

The main functions of the regulator (I)

Regulatory functions:

- Setting **tariffs** for protected markets and for the use of monopoly infrastructures, updated by a *price cap methodology*
- Setting conditions for third party **access to the network**
- Setting compulsory standards for **quality of service**, based on **incentives, penalties and refunds**
- Setting rules for **administrative and accounts unbundling** of vertically integrated energy companies
- Setting conditions for electricity and gas **service supply and contracts** (e.g. transparency of billing and other supply issues).

The main functions of the regulator (II)

Monitoring and enforcement functions:

- Monitoring the **compliance of regulation**, also through the **collection of relevant data and access to information**
- Monitoring **liberalisation process** and **wholesale markets**
- Protection of **consumers**
- Setting **sanctions** in case of infringement of AEEGSI orders
- Settling **disputes** and collecting **consumers complaints**

Advising functions:

- Opinions to Government and Parliament on **market structure** and **promotion of competition**

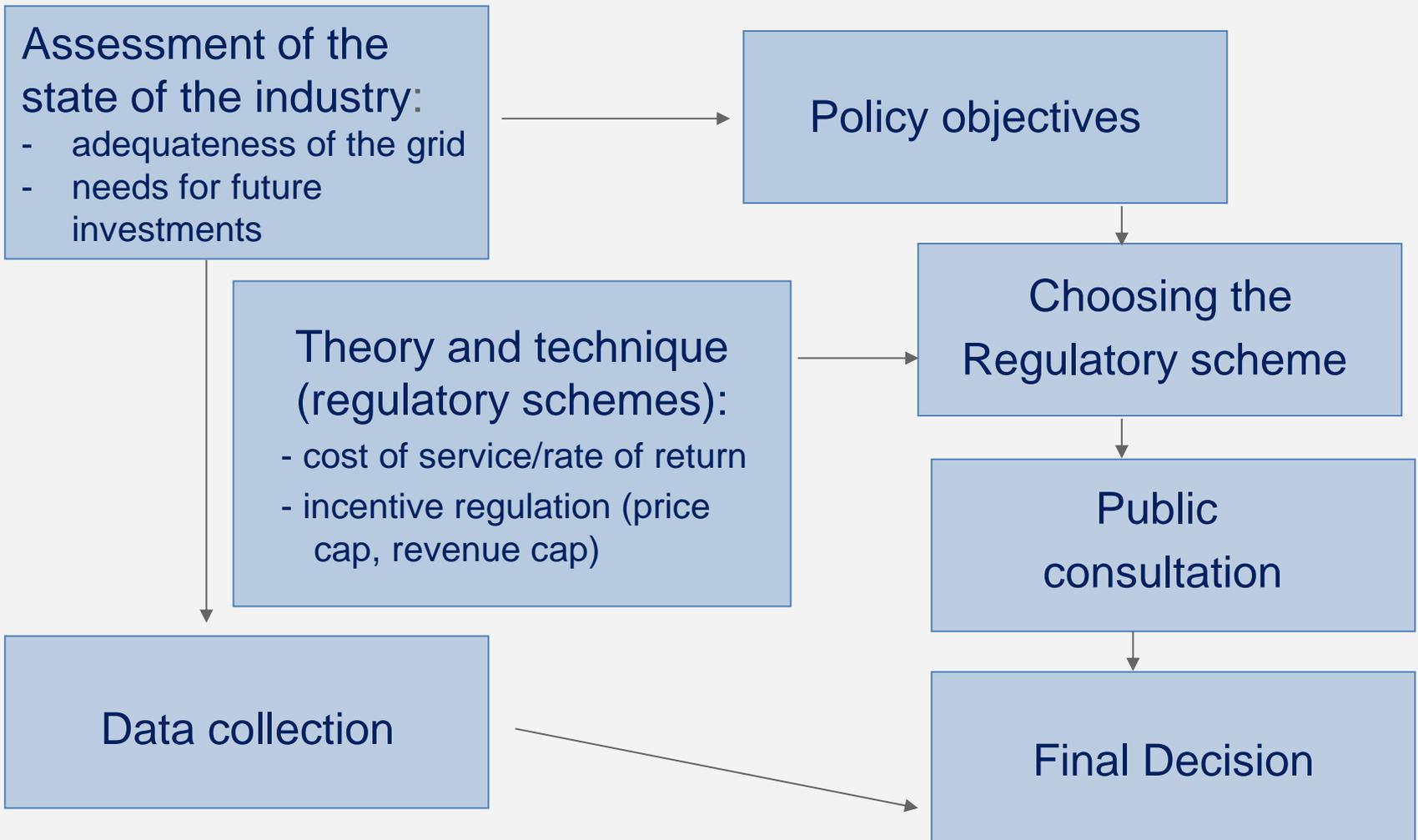
Governance

Three different entities are involved in the governance of the gas distribution sector:

- the **Regulatory Authority**
 - tariff setting
 - quality regulation
 - consumers protection
- **Ministry of economic development**
 - strategic co-ordination of the Italian gas sector
- **municipal local authorities** (over 8.400 in Italy)
 - programming and controlling functions
 - development of the network



Regulatory process: tariff setting



The consultation process (I)

- Main functions of the consultation process:
 - obtain **data and information** held by stakeholders, reducing information asymmetries;
 - guarantees **representation** of the interests of individuals within the regulatory process;
 - increase the degree of **voluntary compliance** with standards in the implementation phase
- Laws of the independent authorities don't require stakeholders participation in regulatory procedures.
- AEEGSI adopted Resolution 61/97, subsequently replaced by GOP Resolution 46/09 and, lastly, by Resolution 649/2014/A. It represents a comprehensive discipline that recognizes the participation of individuals, guarantees the transparency of the decision-making process and establishes consultation arrangements.

The consultation process (II)

- For independent authorities, participation has a special role to play other than ensuring transparency and stakeholders engagement in regulatory processes.
- The definition of a complete discipline of regulatory proceedings **justifies the attribution of regulatory powers** to regulators.
- Administrative law is in line with the doctrine: the contradictory and stakeholders involvement represent a legitimizing legacy that can bridge the democratic deficit connoting regulatory authorities

Legislative Decree 257/16 (I)

- **Directive 2014/94/EU** established a common framework for the implementation of an alternative fuels infrastructure in the European Union to minimize dependence on oil and mitigate the environmental impact of transport
- **Legislative Decree 257/16**, implementing Directive 2014/94/EU, established minimum requirements for the construction of alternative fuel infrastructures, including charging points for electric vehicles and filling stations for liquefied and compressed natural gas, hydrogen and liquefied petroleum gas, to be implemented through the National Strategic Framework referred to in Article 3 of the same Legislative Decree, as well as the common technical specifications for charging points and refilling stations and information requirements for users.

Legislative Decree 257/16 (II)

- In particular, Article 14 of Legislative Decree 257/16, on isolated LNG networks, stipulates that AEEGSI, in addition to updating, in line with the provisions for the regulation of isolated networks, the economic conditions for the supply of gases different from natural gas, determines the parameters and the calculation criteria for the remuneration of:
 - **distribution and measurement services;**
 - as regards vulnerable customers only, **retail service** of natural gas also derived from LNG through the same networks

LPG networks regulation

- Provisions on the economic supply conditions for the sale of natural gas and other gases are contained in the **TIVG** (Annex A to decision ARG/gas 64/09)
- In particular, according to the TIVG, supply economic conditions are articulated into the following components:
 - components for the **supply and transport service**;
 - components for the **distribution and measurement services**;
 - **retail** component.
- Components relative to supply, transport and retail are set by the same TIVG and are defined in accordance with efficiency criteria
- Components for the distribution and measurement of gas are defined by the **RTDG** (Annex A to decision 775/2016/R/GAS, for years 2017-2019)

TIVG regulation

a) Supply and transport service

LPG: $QEPROPMC + ACC + QTCA_i$

Manufactured gases (MG): CMP_i

- Component $QEPROPMC$ and CMP_i (in case of MG mainly composed of propane) are updated on the basis of FOB prices of propane in international market
- Component CMP_i for MG mainly composed of natural gas or of gas from refining is updated on the basis of TTF prices
- Component ACC is determined on the basis of fiscal legislation
- Component $QTCA_i$ is updated with price-cap mechanism; in case of start up, for new tariff zones, is set equal to $CMP_i - QEPROPMC - ACC$

b) Distribution and measurement service

Components set by the RTDG

c) Retail service

LPG: QVD^{gpl} (euro/delivery point/year)

MG: $QVD^{gasmanifatturati}$ (euro/delivery point/year)

- Components relative to LPG supply and transport for networks not subject to RTDG are freely determined by the supplier; their values, however, must be coherent to levels applied with reference to network subject to RTDG regulation

RTDG regulation: scope

- Gases different from natural gas are divided into the following categories:
 - a) **liquefied petroleum gases** are liquefied petroleum gases and their mixtures, whether or not with air;
 - b) **manufactured gases** are manufactured gases predominantly composed of propane or natural gas and refillable condensable gases.
- Networks subject to RTDG regulation are those that are managed under **concession** and serve at least **300 delivery points**, from the first year after reaching this threshold.

RTDG regulation: general principles (I)

- **Tariff options** for year t are set by 15 December of year $t-1$, on the basis of provision data relative to year $t-1$
- The components relative to distribution and measurement services cover the costs of network infrastructures, operating and maintenance costs of canalized networks and the cost of fuel tanks directly connected to the same distribution networks. They don't cover the costs relative to the commercialization of distribution service.
- Cost of services covered by tariffs are relative to:
 - **operating costs**, mainly costs for external services, the cost of personnel and the cost of materials;
 - **return on invested capital**, calculated on the basis of net invested capital and WACC;
 - **depreciation of assets**

RTDG regulation: general principles (II)

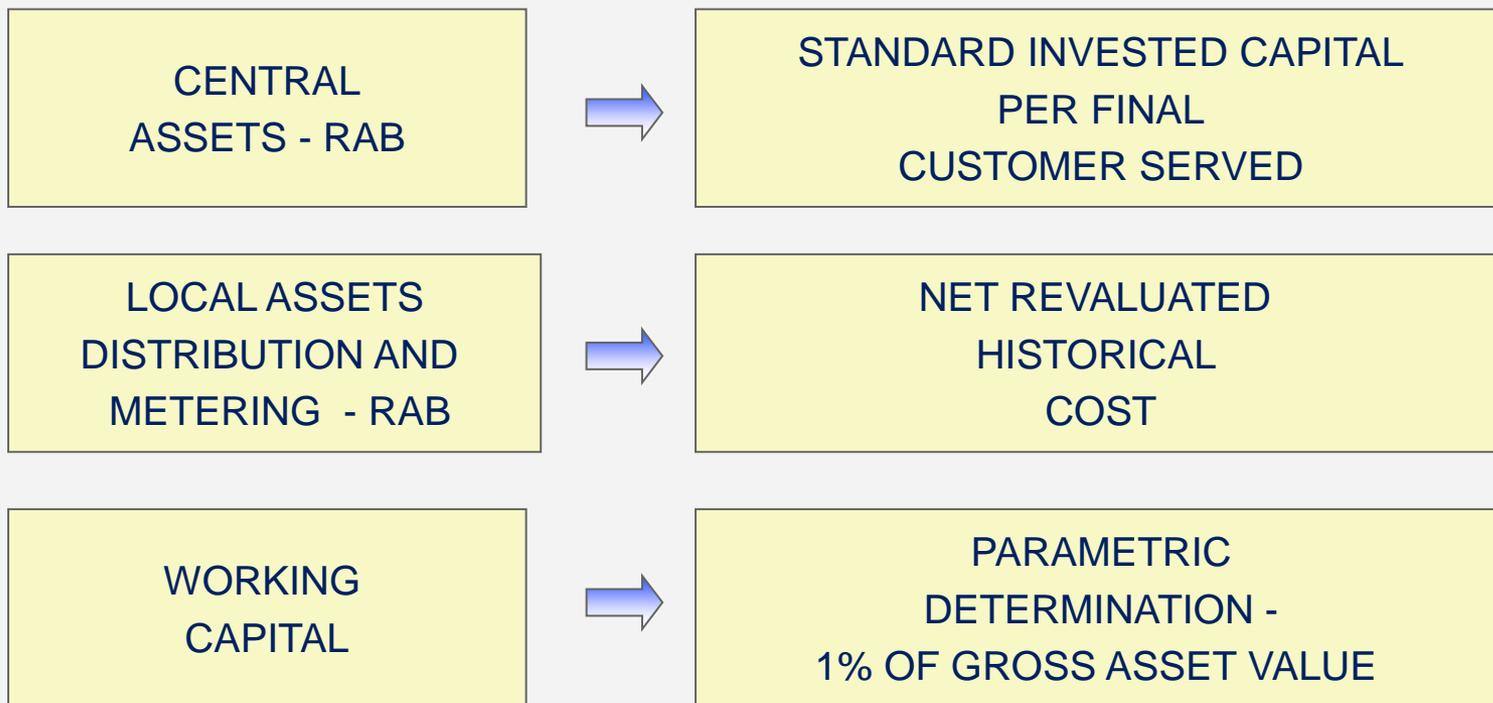
Operating costs related to distribution and measurement are:

- defined on parametric basis (euro/delivery point);
- updated with the price cap mechanism, with an X fixed equal to zero.

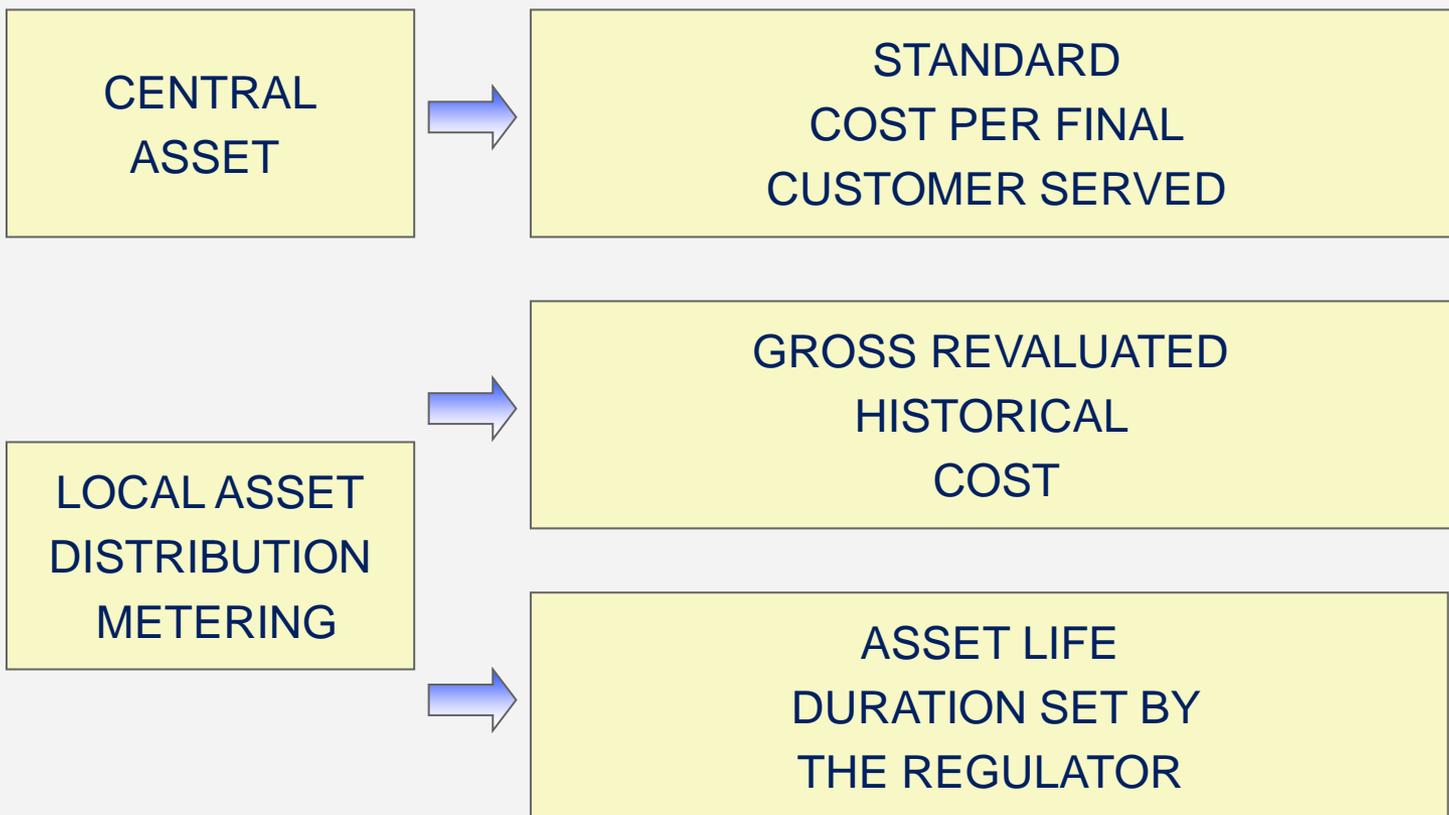
Return on invested capital is defined:

- applying a **WACC** for years 2016-2019 equal to:
 - 6,1 % for distribution;
 - 6,6% for metering;
- distinguishing between **central assets** and **local assets** (ground and buildings, citygates, mains, customers connections, conventional and electronic meters);
- determining **invested capital** as the algebraic sum of:
 - a) local net invested capital (+)
 - b) local assets under construction (+)
 - c) public grants and connection charges (-)
 - d) net working capital (+)
 - e) share of adjustments such as the lump sum paid on pensionable retirement
- yearly updating the value of invested capital using the *Gross Investment Deflator Index* taking into account new investments/divestitures, depreciation and changes in public grants and connection charges

RTDG regulation: invested capital



RTDG regulation: depreciation



RTDG regulation: tariff options (I)

- Service costs are socialized by **tariff areas** (“ambiti gas diversi”), formed by isolated canalized networks belonging to the same Region and served by the same distribution company;
- Tariff options reflect service costs as determined by AEEGSI, are differentiated by territorial units and consist of the following components:
 - **ot_1** , expressed in euro per delivery point; each operator may differentiate the component per eight consumption bands;
 - **ot_3** , expressed in euro cents/ standard cubic meter; each operator may set fees for a maximum of eight consumption bands, within set limits;
 - **$\tau_1(mis)$** .

RTDG regulation: tariff options (II)

- If the distribution company intends to apply values of the components ot_1 , ot_3 and $\tau_1(mis)$ lower than those fixed by AEEGSI, it shall give written notice by 31 March of the year of application.
- The distribution company in the first three years from the start of the supply of gas in each location (**start-up period**) applies fees for distribution and measurement services freely determined
- AEEGSI annually updates the components ot_1 , ot_3 and $\tau_1(mis)$

Regulation of isolated LNG networks: next steps

- Adoption of a decision to **initiate the procedure** for the implementation of the provisions of Article 14 of Legislative Decree 257/16 on isolated LNG networks: definition of general criteria for costs recovering (to be adopted shortly)
- Issue of one or more **consultation documents** containing AEEGSI's guidelines
- **Final decision** planned by the end of 2017

General principles

- **Isolated LNG networks** are natural gas distribution networks fed by LNG which are not directly or indirectly interconnected with the natural gas national transport network or regional transport networks
- The development of isolated LNG networks must comply with **cost-efficiency criteria**, taking into account the territorial peculiarities of areas, typically mountainous or hilly, where these networks are likely to be developed.
- The adoption of regulatory frameworks that reflect service costs can favour an efficient and cost-effective development of the service.

General principles: distribution and measurement

- In analogy with regulation of canalized networks for gases different from natural gas, tariff components relative to distribution and measurement services:
 - should cover the costs of network infrastructures, operating and maintenance of canalized networks and the cost of **cryogenic storages** and **local regasification facilities** directly connected to the same distribution networks;
 - should apply in each **tariff area** formed by isolated canalized networks fed by LNG belonging to the same Region and served by the same distribution company; such tariff areas are distinct from tariff areas applying with reference to LPG tariff areas

General principles: retail service

- Parameters and calculation criteria for the remuneration of the retail service should:
 - be defined in accordance with **efficiency criteria**;
 - reflect the **specificity of the cost** of that service.

Small scale LNG (I)

- According to Article 10, paragraphs 2 and 3 of legislative decree 257/16, holders of permissions for LNG regasification terminals may apply for the authorization to carry out plant modifications aimed at the supply of So-called "**Small Scale LNG**" services;
- The provision of such services, which imply the management of small/medium quantities of LNG directly in liquid form and consist of loading, storage and subsequent unloading on ships or tank trucks of part of the LNG not intended for the national gas transmission network, is **not among the regulated activities** and is carried out under a regime of **separate accounting**
- AEEGSI determines the rules relative to accounting separation, in order to avoid costs to be attributed to the regulated system

Small scale LNG (II)

- Small Scale LNG services may affect the operation of services offered by Gnl terminals subject to regulation and contractual conditions of Small Scale LNG service may interfere with access and delivery conditions of regulated services, as integrated by each company in its own regasification code.
- For these reasons, AEEGSI is required to exercise its regulation functions to ensure effective **coordination between services**, in the perspective of the promotion of:
 - the regasification service efficiency;
 - competition;
 - the protection of final consumer and of users of the regulated services offered by LNG terminals.

Small scale LNG (III)

- With decision 141/2017/R/GAS AEEGSI initiated a procedure for the adoption of provisions related to tariffs for the use of LNG terminals for the fifth period of regulation (from 2019), considering it necessary to analyze the perimeter and activities related to the LNG Small Scale services provided by LNG terminals, in order to:
 - adopt an appropriate discipline with reference to **accounting separation** obligations;
 - verify the existence of any **coordination needs** between these services and regulated services, in the perspective of promoting efficiency, competition and customer protection.
- With the same decision AEEGSI initiated a procedure for the adoption of measures with regard to accounting separation obligations, in order to transpose the provisions of legislative decree 257/16 on the separation of accounting for assets related to the LNG Small Scale services provided by LNG terminals



BACK UP

AEEGSI Independence: the Board and self-organising powers

- AEEGSI is composed by the **President and three Members** (after the resignation of one member in January 2016) selected among highly competent professionals
- The Board is appointed on **proposal by Government approved with a two third majority vote of competent Parliamentary Committees**; formal appointment by Decree of the President of the Republic
- **Seven year mandate** (no possibility for a second term)

- The **Regulator** sets its own organisation and its internal rules and procedures for the decision-making process, based on transparency criteria
- The Regulator is **self-financed** by contributions from regulated companies: levy $< 0,1\%$ on regulated operators' turnover (actual levy $0,028\%$ of revenues from electricity and gas sector and $0,025\%$ from water service)
- The **Government** sets general policy in the energy sector and environment

Tariff options: depreciation

- The yearly allowance for asset depreciation is the ratio between the gross revaluated historical cost and the regulatory life

ASSET	REGULATORY LIFE (years)
Buildings	40
Mains	50
Customer connections	40
Citygates	20
Other tangible assets and intangible assets	7
Remote meters	15
Concentrators	15
Electronic meters	15
Traditional meters (>G6)	20
Traditional meters (<=G6)	15
Volumes converter with a data transmission system	15

Tariffs options: consumption bands

Consumption band (scm/year)
0-120
121-480
481-1,560
1,561-5,000
5,001-80,000
80,001-200,000
200,001-1,000,000
More than 1,000,000