The role of a distributor in a white certificate system: Enel's experience

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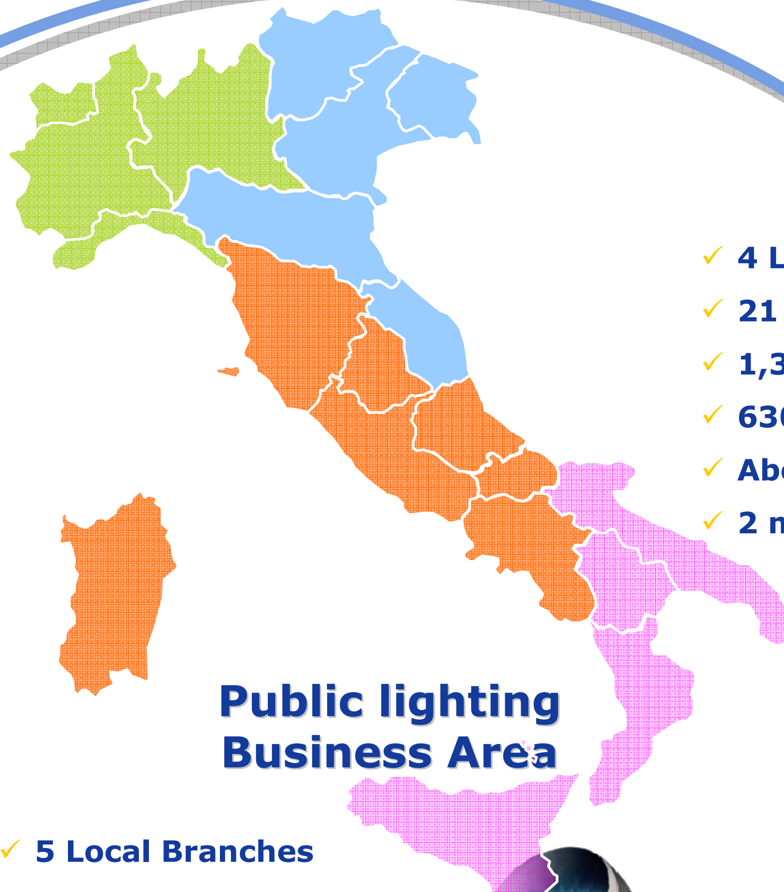
Electricity networks Business Area

- 4 Macro-Regions
- 11 Local Branches
- 11 Control Centers
- 115 Offices
- 19,000 Employees
- Over 1,100,000 km lines
- About 2,000 HV/MV Substations
- Over 400,000 MV/LV Substations
- 31.5 million customers



Gas network Business Area

- 4 Local Branches
- 21 Control Centers
- 1,300 employees
- 630 Primary Plants
- About 30,600 km gas pipelines
- 2 million customers

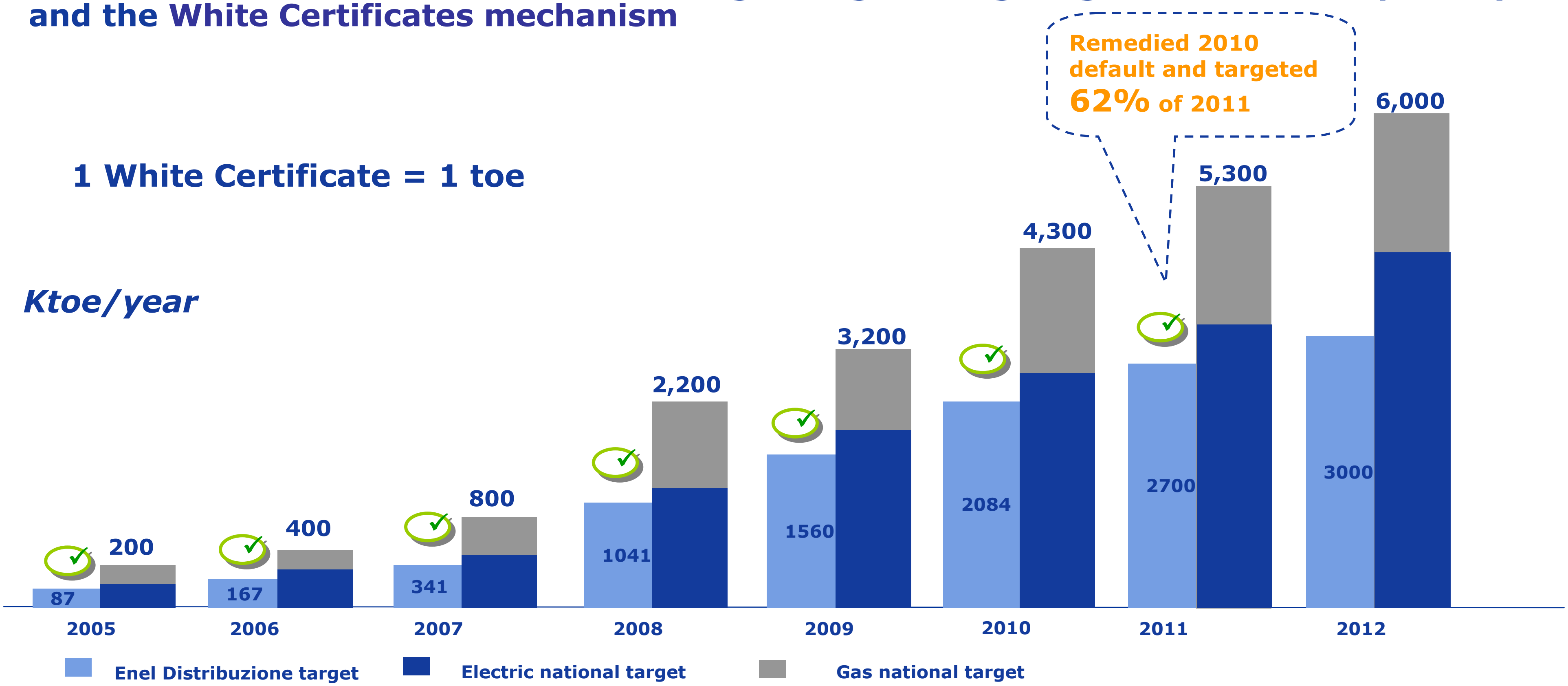
Public lighting Business Area

- 5 Local Branches
- 330 Employees
- 1,925,000 Spot-lights
- 4,000 Municipalities served

The 2° largest Distribution Operator in Europe

White Certificates scheme and national binding targets

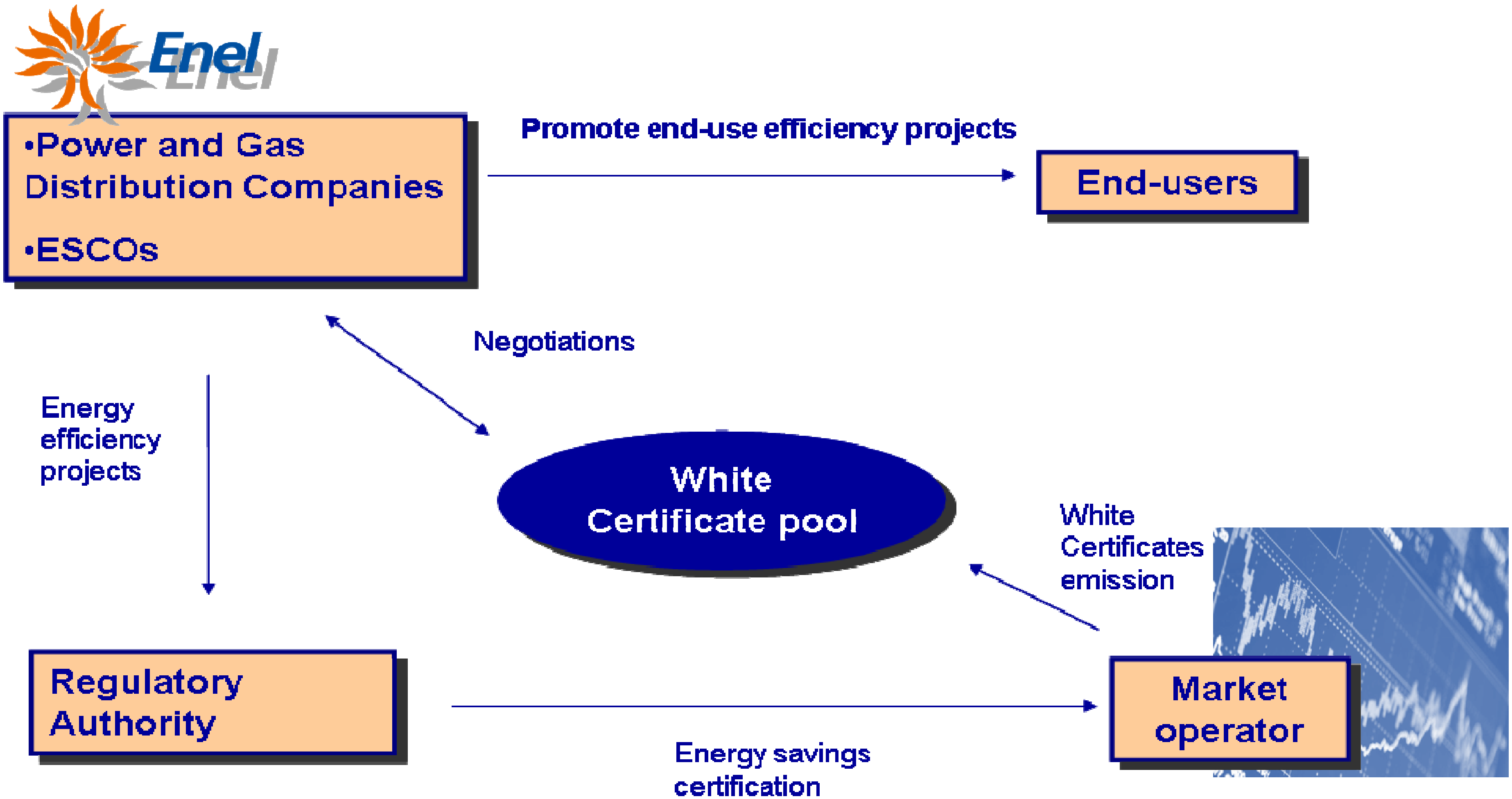
- **1999:** Electric market liberalization Decree established that **Concessions for Distribution Companies shall contain actions to increase energy efficiency on "end uses"**
- **2004 and 2007:** New Decrees established **growing binding targets in terms of primary energy and the White Certificates mechanism**



Enel is in charge of more than 50% of total national obligations and 87% of electric targets

Trading systems and operators involved

- To achieve the annual target Distribution Companies can either **promote energy efficiency actions** or **buy White Certificates** on a dedicate trading market



Some details about White Certificates mechanism

What type of certificates are available?

1. Reductions of **electricity**
2. Reductions of **natural gas**
3. Different reductions **not used for transport**
4. Different reductions **used for transport** (still not considered for national targets)

Duration

- Depends on related energy savings: generally **5 or 8/10 years**

Who can get certificates?

- **Energy power and gas Distributors** (trough their controlled company or subsidiaries for activity post-meter)
- **Energy Service Companies**
- **Companies or P.A. with Energy manager** (energy-intensive)

How do we evaluate energy savings?

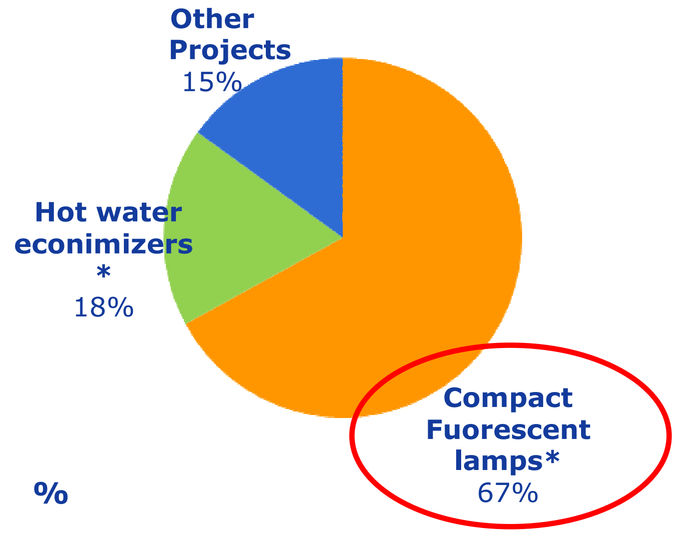
1. **Deemed savings*:** simple calculations based on predefined format (no measuremen
2. **Analytical* :** savings calculated with a predefined algorithm and periodic measureme
3. **Energy monitoring plans:** personalized energy monitoring plans authorized by AEEC

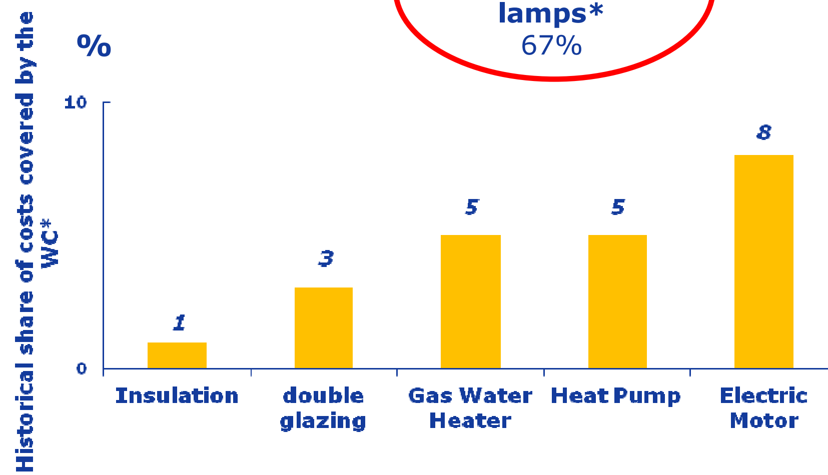
*Predefined data sheets (25 total)

Ene
L'ENERGIA CHE TI ASCOLT

Trends and perspective

	Regulation	Market
Up to 2009	• Availability of standard projects with high returns	• Availability of WC • Both market prices and cost-recovery for DSO allowed full financing of energy efficiency projects
From 2010 **SHORTAGE**	• Some standards projects not allowed any more (in particular CFLs)	• **Shortage** • High market prices vs low DSO cost-recovery • WC value too low to really promote energy efficiency structured projects



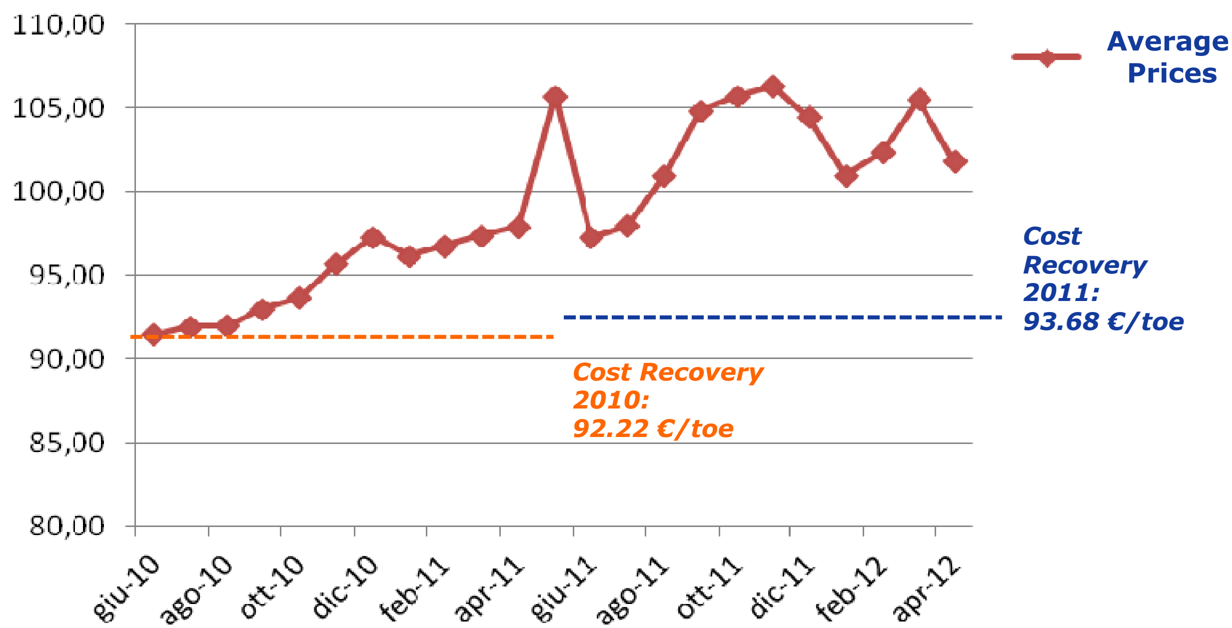


Current regulatory framework must be improved to allow compliance and all opportunities related to energy efficiency

White Certificates market trend vs DSO Cost Recovery

€

Average Market Prices (jan 2010 - apr 2012)



Average prices €/toe (jun 2010 – may 2011)

Market Price	97.3
Bilateral Negotiations [1]	91.9
Average Price	94.3
Cost Recovery 2010	*92.2*

Market shortage implies market prices always higher than cost-recovery for DSO

[1] *Only for obligated parties*

Source: GME; AEEG

Lesson learned, improvements and further actions

Lesson Learned

White Certificates have been introduced to promote energy efficiency **but there are still critical issues to be addressed.**

Recent Improvments

RECENT IMPROVEMENTS ***(Decree 28/11 and new WC Guide Lines)***

- Higher valorization of savings according to "technical life" of each measure
- Availability of 15 new deemed projects (including efficiency on grids) → **Still waiting for projects approval from Ministry**
- Simplification of bureaucracy (decreasing minimum project dimension)

Further actions needed

FURTHER ACTIONS NEEDED

- Definition of long term energy efficiency targets (2020),
- Definition of efficiency targets taking into account other incentive mechanism
- Against speculation, deadline for certificates negotiation (one or two years)
- Needs for new projects, more profitable (electric grids included)
- New methods for cost recovery definition
- For DSOs penalty should be linked to effective availability of certificates

As of today, needs for a stable, long-term and defined white certificates regulatory framework

How Enel Distribuzione is promoting energy efficiency

Services along the value chain

Audit → **Engineering** → **Development and Promotion** → **White Certificates valorization**

Audit	Engineering	Development and	Promotion	White Certificates valorization
Partner	Partner	Partner	Enel Distribuzione	Enel Distribuzione

Sectors

Residential

Commercial

Public Administration

Industry

Enel I&N activities in progress for White Certificates valorization

Actions	Enel D proposal
1. Direct Actions for energy final use	• Implementation of a new tool to aggregate energy efficiency fractionated projects in order to obtain relative White Certificates
2. Partnership with subjects entitled to obtain White Certificates (ESCo, Energy-intensive industries, etc)	• As an alternative to bilateral negotiations, we offer in advance in the 1st year a quota of total White Certificates incentive that the project is supposed to obtain in 5/8 or 10 years*
3. Direct actions based on core business technologies	• Smart grids, power factor correction, low losses transformers, Public Lighting, E-mobility, Home Automation, etc.

otes: * The amount will be based on the total amount of WC achievable by the project and price will be related to EnelD contribution rate.

Enel I&N expertise beyond White Certificates

Smart Meter

- ✓Telegestore is fully operational on > 32 Mln customers in Italy
- ✓**13 Mln of new generation meters will be installed in Spain before the end of 2015**
- ✓Customers will have access to all information about their consumptions

Smart Grids and Storage

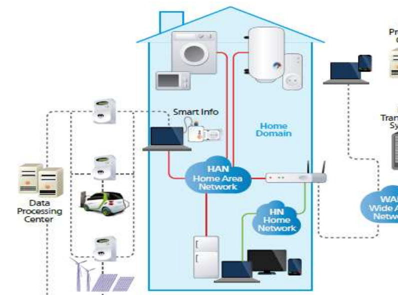
- ✓HV and MV network remotely operated
- ✓More than 100.000 MV substations remotely controlled
- ✓**Isernia pilot project** to test different smart grids technologies **for renewable integration, storage, Active Demand and electric mobility**

Public Lighting – Archilede

- ✓**80.000 LED sold**
- ✓**Energy saving -55%**
- ✓CO_2 emissions avoided > 12.800 ton
- ✓New Archilede line with more saving

Electric Mobility

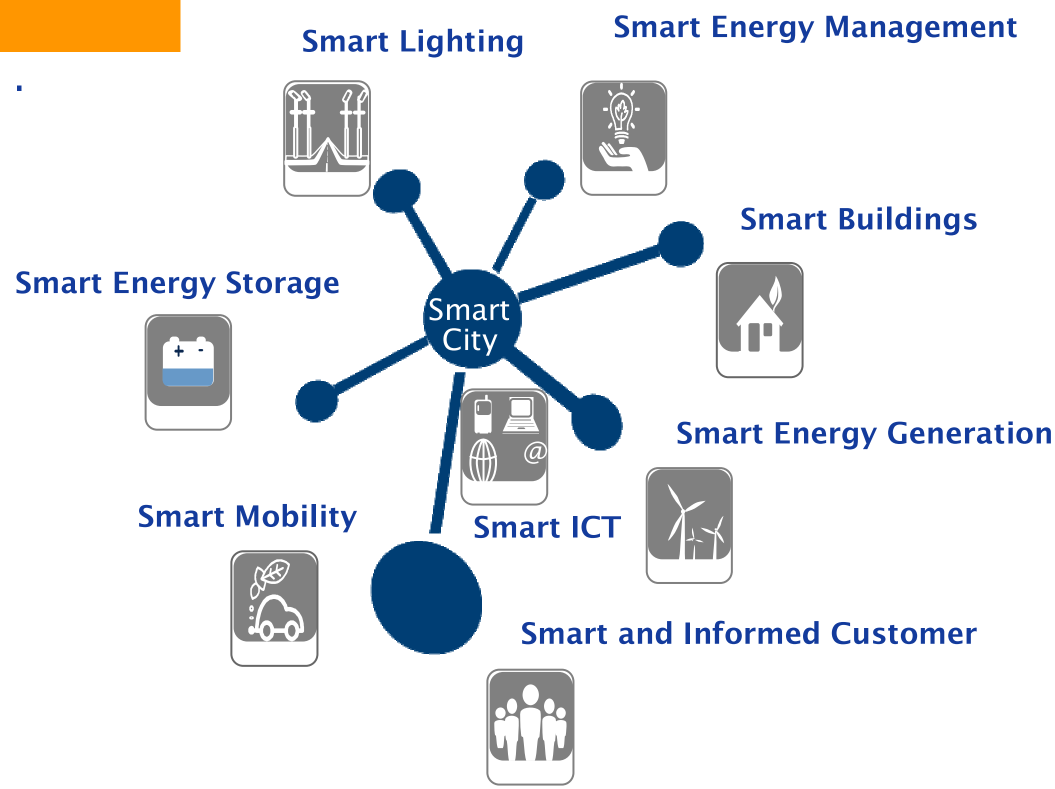
- ✓**E-Mobility project (Pisa-Rome-Milan) – 400 PoR**
- ✓**Pilot projects in Spain: Movele** (11 PoR Enel) **and Carrefour** (18 PoR Enel)
- ✓**Pilot project, funded by italian Regulator, to install 300 PoR in different cities** (Bologna, Bari, Genoa, etc.)

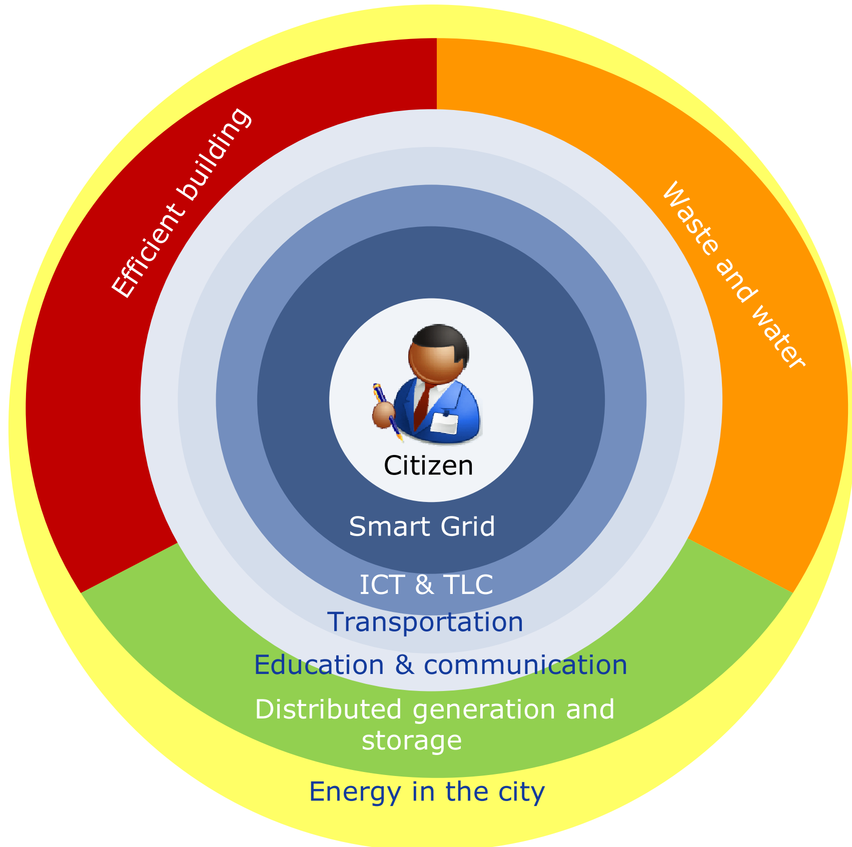


Home Automation

- ✓ Developed "Smart Info"
- ✓**Pilot test in 2011**
- ✓Metering data provided within customer premises by standard interfaces
- ✓Enable integration with domotic systems or directly with domestic devices

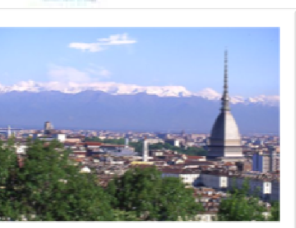
Smart Cities





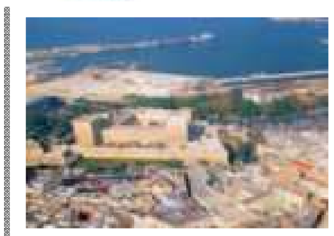
MAIN PROJECT IN PROGRESS

Torino



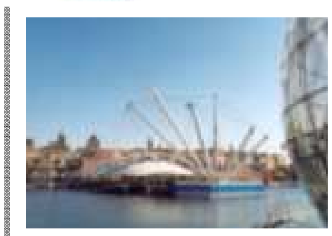
Italy

Bari



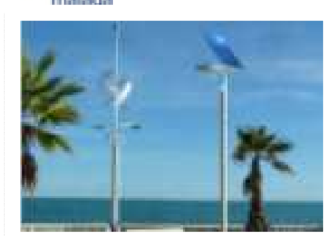
Italy

Genova



Italy

Málaga



Spain

Búzios

Brazil

Barcelona

Spain

Thanks for your attention