

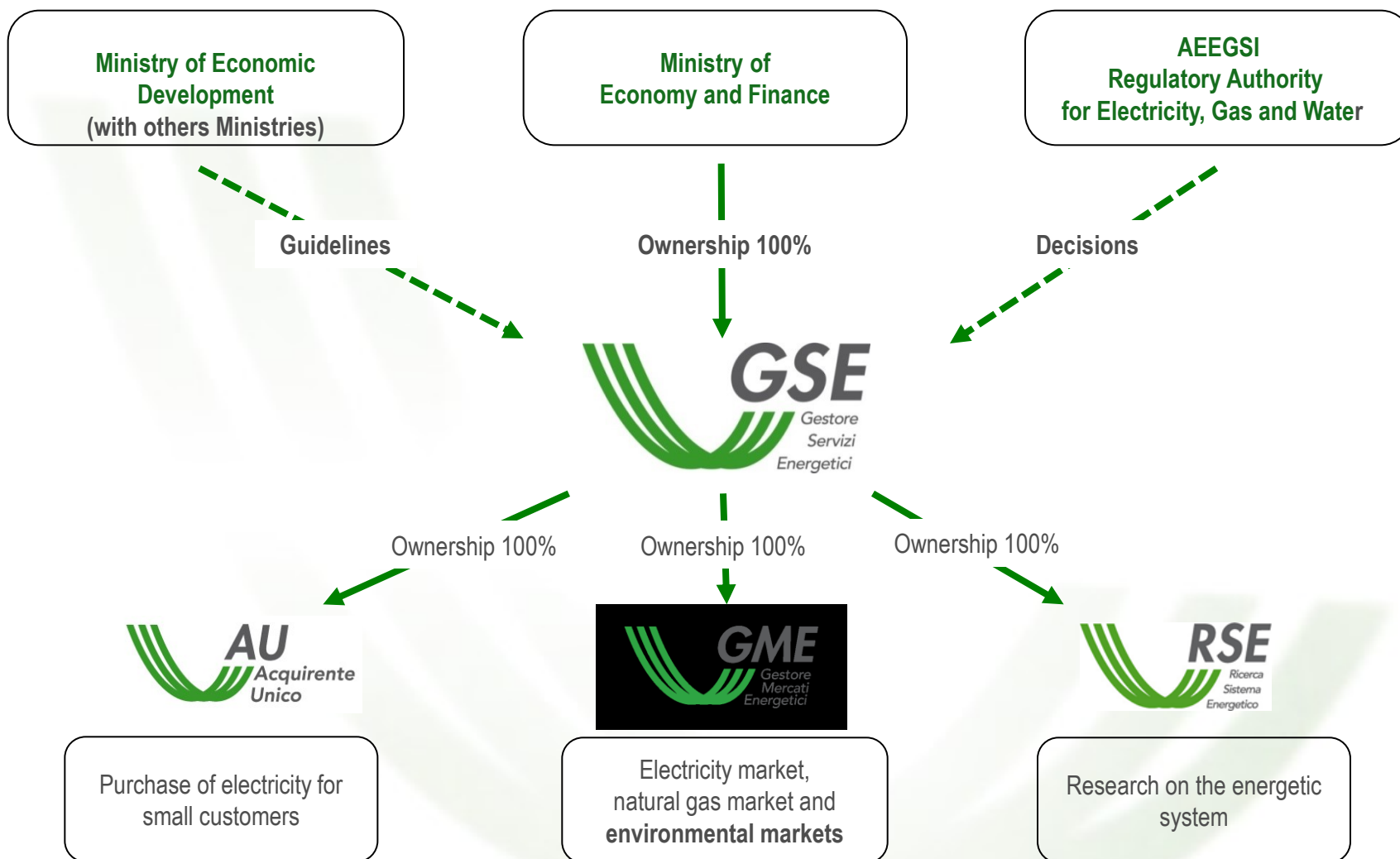


The Italian White Certificates scheme

Alberto Pela, Regulatory Affairs - GSE

Market-based Instruments for Energy Efficiency – Policy Choice and Design for the Energy Transition

Albert Borchette Conf. Centre - Bruxelles
24 January 2017



MISSION: GSE promotes the development of renewable energy sources and energy efficiency in Italy, by granting economic incentives and supporting the policy makers

1 – Italian White Certificates Scheme – Main elements

GSE is in charge for the operative activities of the scheme since 2012, with the support of ENEA and RSE for activities related to the evaluation of proposals. The WhC market platform is provided by GME

- **White Certificates Scheme is the most relevant tool for promoting energy efficiency in Italy** (at least 60% of the target at 2020 of EU directive 2012/27/EU). The main objective of the Italian WhC scheme is the **reduction of primary energy consumption through the implementation of energy efficiency projects**.
- The **electricity and natural-gas distributors with more than 50.000 customers are required to achieve yearly quantitative primary-energy saving targets**, expressed in toe saved. **WC title certifies that a certain reduction of energy consumption has been obtained** (1 WhC = 1 saved toe (tonne of oil equivalent); 1 WhC = 100€ (originally, they are tradable))
- More than **1200 subjects** are active in the WhC scheme (both obligated parties and volunteers: 78% E.s.co).
- WhC scheme is a **market-based instrument**, it is not selective about technologies or sectors. (WhC projects can be implemented in: industries, residential & agricultural sector, local & private transports, public lighting etc). Moreover the Market defines the Whc prices.
- **The Italian WhC are only granted in respect of additional savings**, i.e. *the share of savings above that which would have been achieved even without the project as a consequence of technological, regulatory and market developments*.
- **A tariff contribution** is granted to obligated distribution companies to cover part of the costs incurred to achieve the objectives. **Penalties** are imposed on the obligated parties in cases of non-compliance.

2 - White Certificate Trading markets

Demand

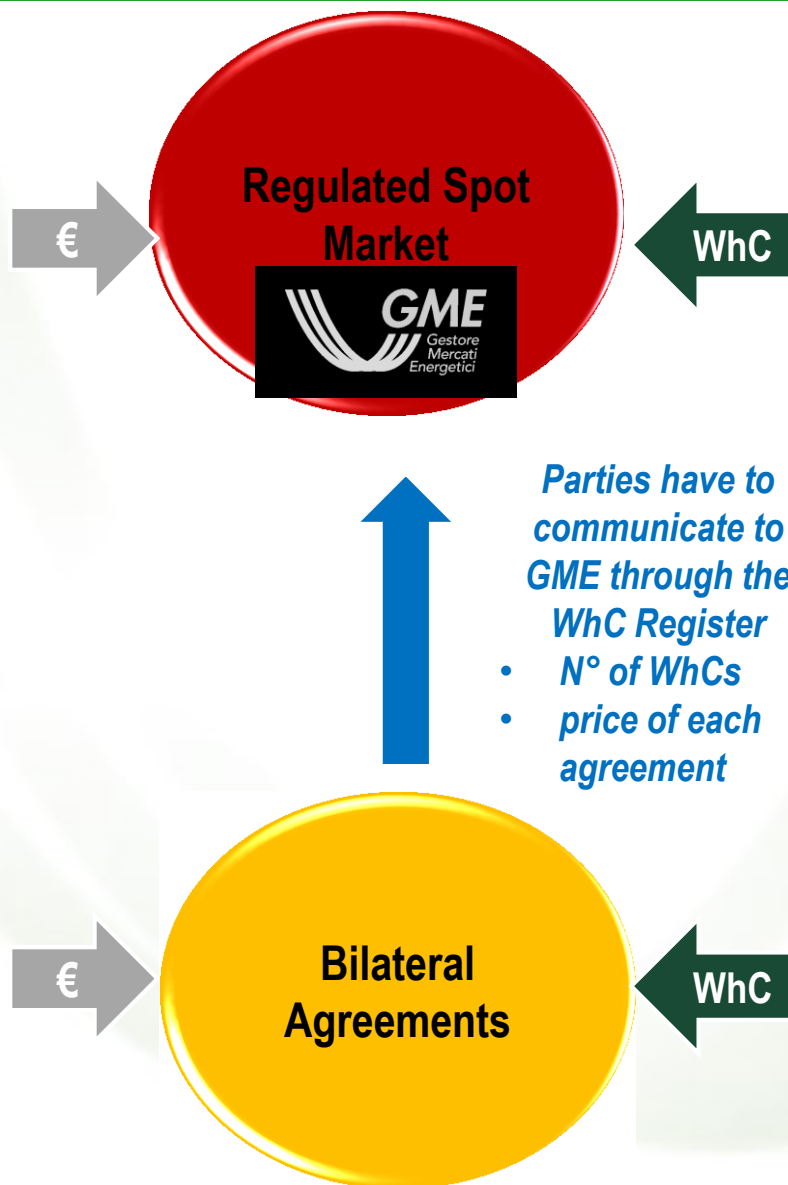
Obligated subjects

EE & Gas Distributors with more than 50.000 customers can fulfill their obligations of WhC through:

- Obtaining WhC from GSE, through the implementation of energy efficiency projects

OR

- Purchasing WhC from third-parties



Supply

Volunteers subjects:

- Non-obliged electricity and natural gas distributors

-E.S.Co
Energy Services Company

-Companies with an energy manager,
appointed according to Law 10/1991

-Companies certified ISO 50001

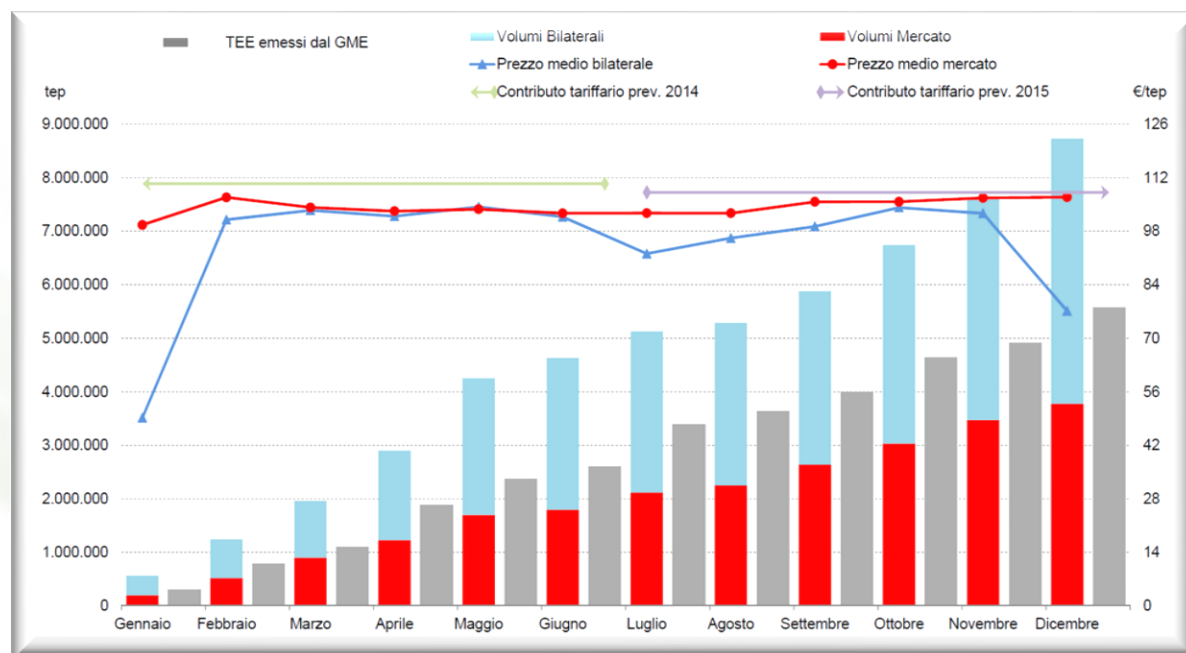
3 - White Certificate Trading markets

- The WhC Register (managed by GME) includes all the EET traded in the markets (both via spot market & bilateral agreements). Each subjects must be enrolled in the WhC Register (GME verifies the documentation & good repute requirements of each applicants).
- Negotiations book: After the WhC Register enrollment, the subject is able to participate to the online session market.

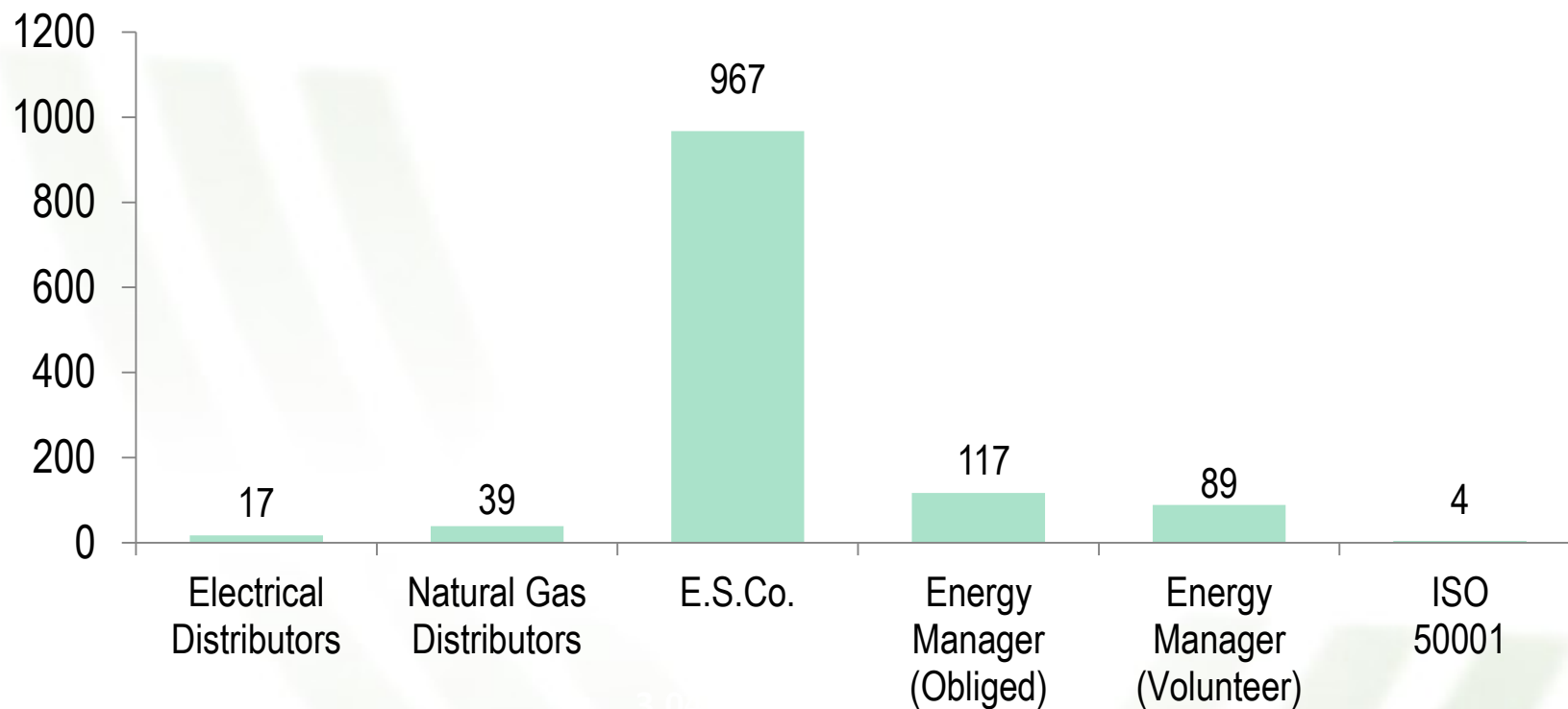
2015 Market Demand: 9,77 MLN WhC
Obliged parties – EI. & Gas Distributors

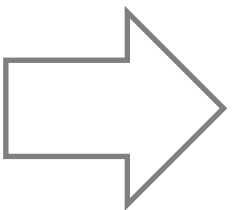
(7,75 MLN National Whc target 2015
+ 2 MLN from 2013-2014 targets)

2015 Market Offer: 5 MLN WhC issued
Subj.: Non obliged parties /traders



4 - Italian WhC active subjects (2015)

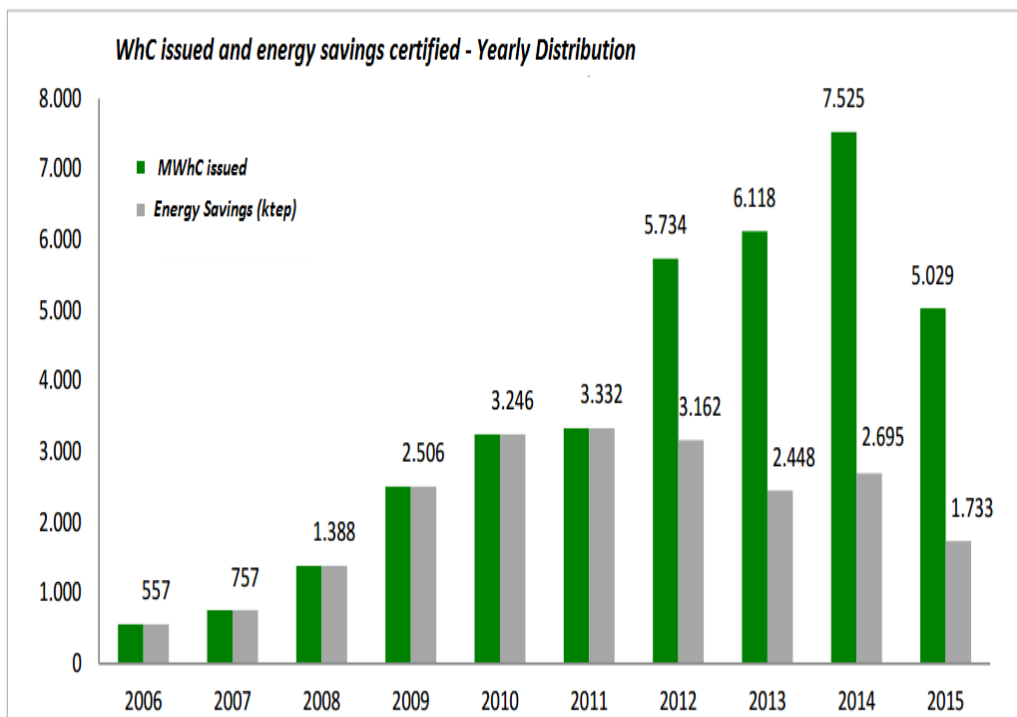


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- **1233 active subjects**
 - **Distributors generate only 4,7% of WhC**
 - **96% of WhC have to be traded**

5 – Results & Energy Savings Achieved

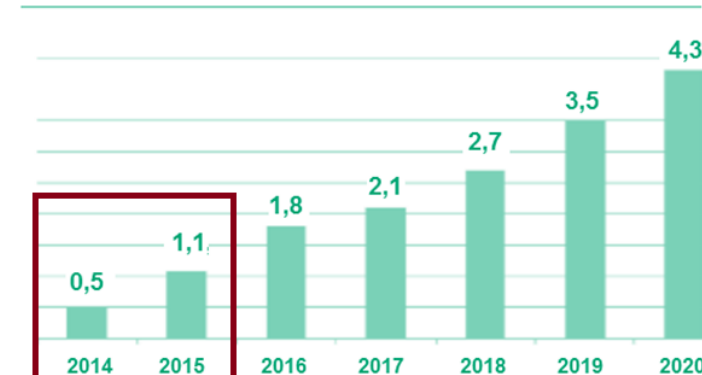
The WhC scheme :

- Final Energy Savings achieved during 2014-2015 and reported to European Commission under the Art 7 : **1,80 Mtoe**
- Expected energy savings (Mtoe) to 2020: **16 Mtoe**



WHITE CERTIFICATES SCHEME

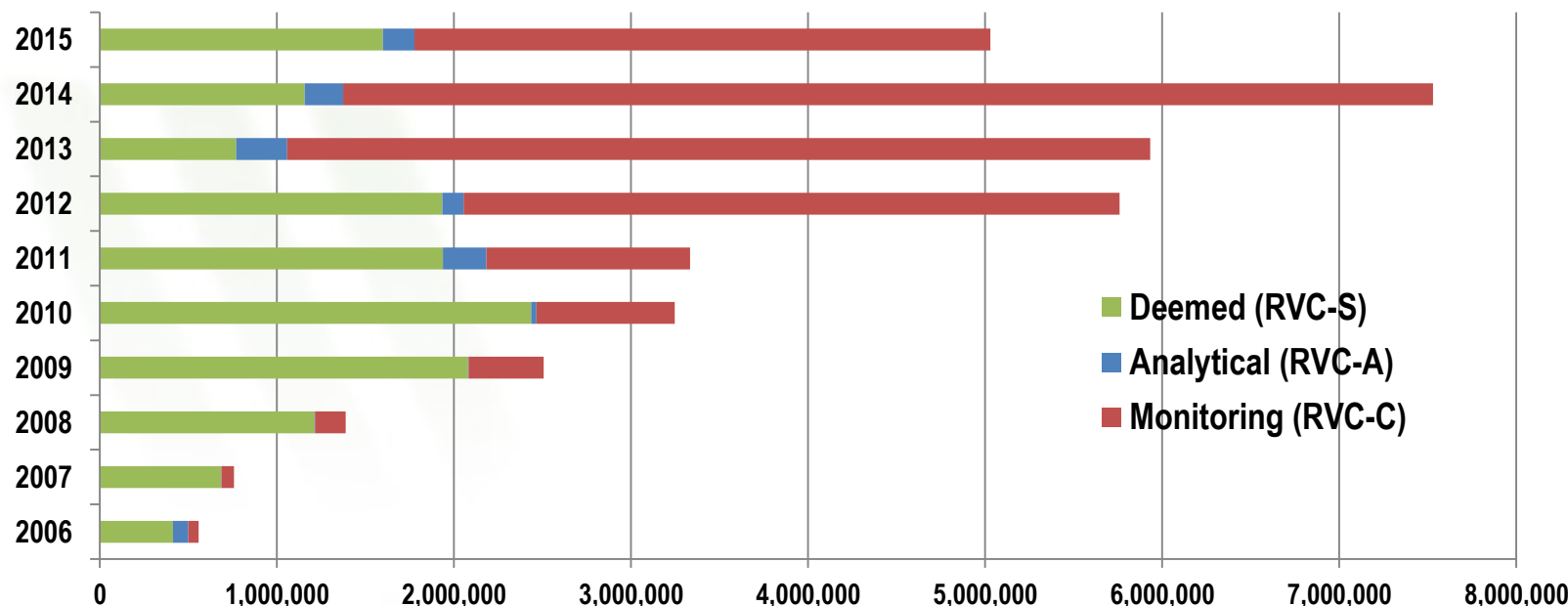
Expected annual energy savings (Mtoe)



Results:

- 2015: + **1,73 Mtoe (additional) savings**, with about **5 million certificates** issued and a cost of around 615 MLN €
- In the 2005-2015 period, WhC contributed to primary energy savings equal to **21,8 Mtoe (36,2 Million WhC issued)**

6 - Italian White Certificates: 10 years of implementation



WC issued	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2015
<i>RVC-C Monitoring</i>	57.007	70.164	174.155	423.848	781.212	1.151.267	3.708.546	4.845.379	6.155.306	3.123.642	
<i>RVC-S Deemed</i>	412.677	684.242	1.211.331	2.079.341	2.436.148	1.936.610	1.910.538	984.972	1.156.294	1.597.855	
<i>RVC-A Analytic</i>	86.928	2.521	2.506	2.888	28.880	245.795	120.396	288.195	217.370	179.327	
Total	556.612	756.927	1.387.992	2.506.077	3.246.240	3.3336.72	5.739.480	6.118.546	7.528.970	5.029.064	36.203.580

2014 - Peak of projects submitted due to: non-overlapping with other incentives (July 2013); WhC recognizable only for new projects, not yet implemented (January 2014)

7 – Italian White Certificates experience: Lessons learned

- Italy has been the first country in the world in the implementation of WhC mechanism, it evolved over the 10 years of experience (2005-2016, Civil sector -> Industrial sector).
- The market selects the technologies and sectors (market-based scheme)
- WhC prices are transparent and public (cfr. GME platform).
- Energy Savings are measured & verified thanks to evaluation methods.
- WhC take into account the **additionality of savings** (related to market & technologies). WhC are only granted in respect of **additional savings**, i.e. *the share of savings above that which would have been achieved even without the project as a consequence of technological, regulatory and market developments.*
- WhC market's options are useful and considered by the obliged parties (65% are traded by bilateral agreements, 35% by spot market).
- High participation from Private Sector thanks to ESCO involvement (cfr also mandatory Quality Certification).
- Frequency of redesign (see regulatory framework), information & verification activities (cfr Online verifications database)





Thank you!

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Backup



The EU Commission adopted the '*Energy efficiency plan 2011*' which was followed in October 2012 by the Directive on EE (2012/27/EU) setting out national EE targets.

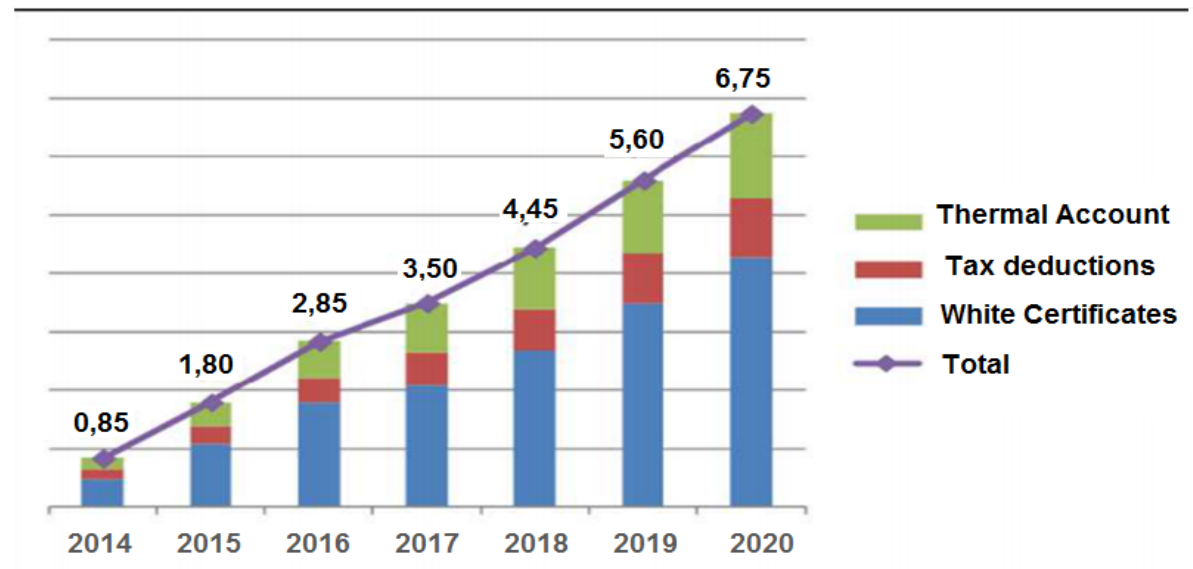
In Italy the EED provisions have been fully transposed into national laws through the Lgs. Decree n. 102/2014



The Italian EEO & EEA schemes should generate cumulative savings of 25.83 Mtoe:

60% of which should result from the white certificate mechanism).

Estimate of the contribution of the main efficiency measures to attainment of the savings target required by Article 7 of Directive 2012/27/EU (Mtoe of final energy)

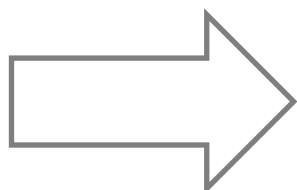


Source: Ministry of Economic Development - ENEA

National EEO & EEA – Energy Savings Achieved

Mandatory Energy Savings set by EED Art 7 & Italian Schemes as notified to the EU Commission

Misure di policy notificate (Schemes)	Risparmi conseguiti Mtep (Energy savings achieved)	Risparmi conseguiti (stimati) Mtep (Energy savings achieved)	Risparmi cumulati 2014-2015 Mtep	Risparmi cumulati attesi al 2020 Mtep (Energy Savings expected - 2020)
	Anno 2014	Anno 2015		
Schema d'obbligo - Certificati bianchi	1,004	0,801	1,805	16,00
Misura alternativa 1 - Conto Termico	0,000005	0,000778	0,000783	5,88
Misura alternativa 2 - Detrazioni fiscali	0,228	0,456	0,684	3,92
Risparmi totali	1,232	1,257	2,490	25,80



Considering the energy savings achieved through the national EEO & EEA mix on 2014-2015, Italy is on track to fulfill the EED Art. 7 2020 targets

The Italian White Certificates Scheme – Main Elements

White Certificates Scheme (WhS)
is the most relevant scheme for promoting **energy efficiency in Italy.**
(at least 60% of the target at 2020 of EU directive 2012/27/EU)

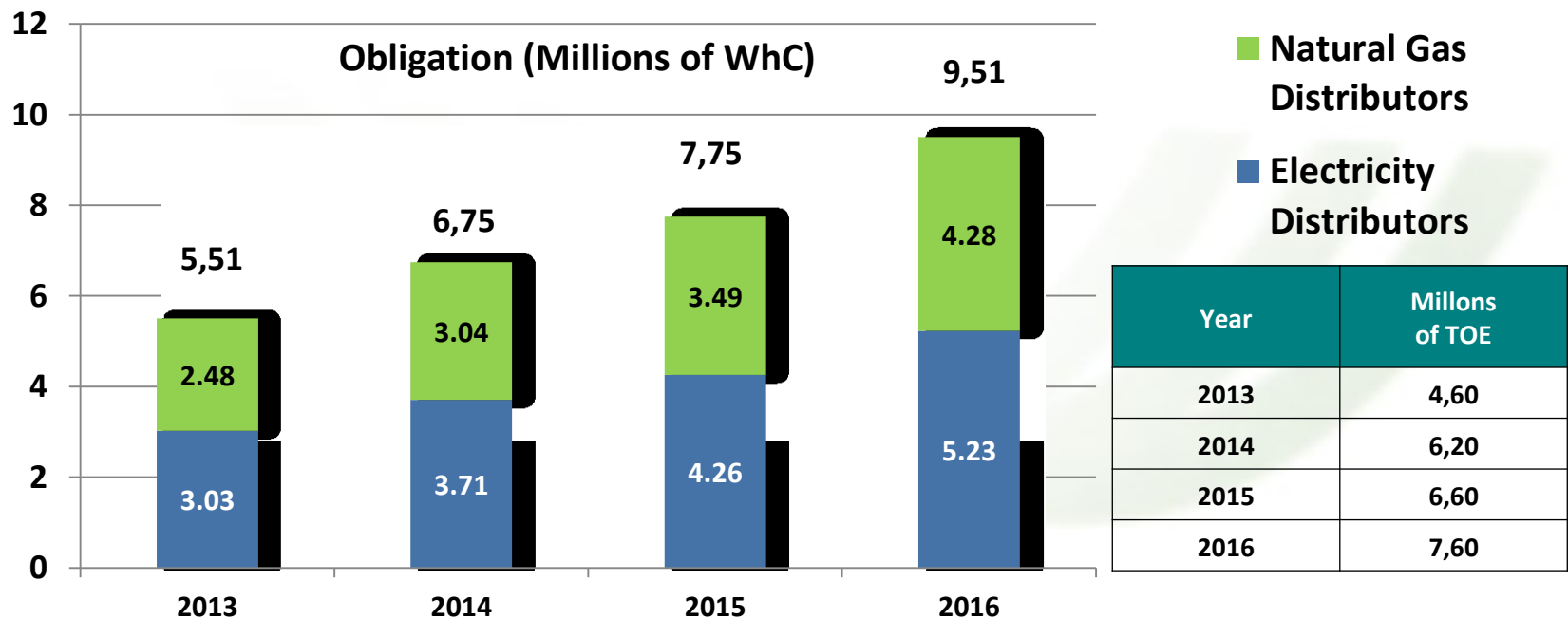
WhS is a scheme **based on the market**
and it is not selective about technologies or payees

All companies and citizens can obtain indirectly benefit from the WhS,
through energy saving companies (eligible subjects)

White certificates attest the achievement of end-use energy savings
through energy efficiency improvement in industry, residential and public sector.
The certificates are tradable instruments.

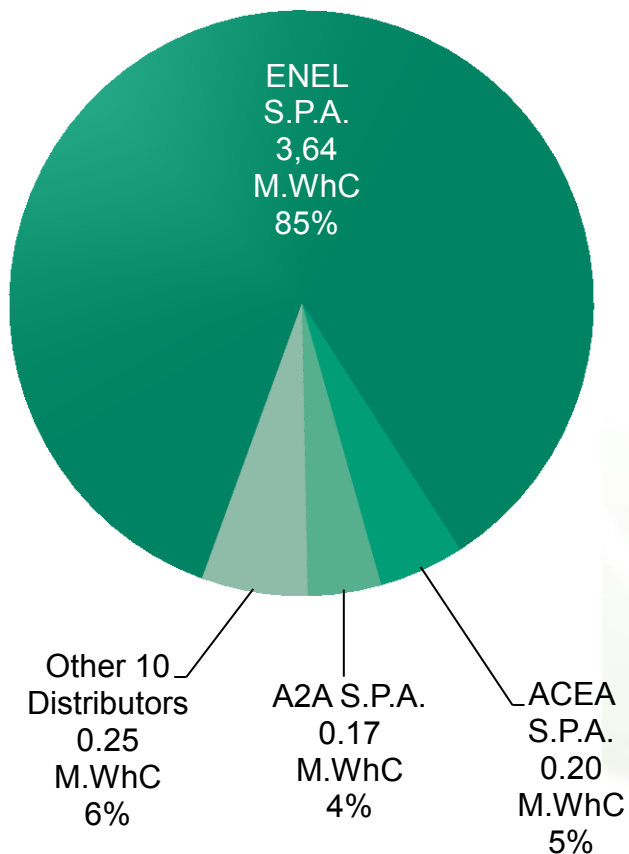
The support scheme is based on the **obligation**, placed on **electricity and natural gas distributors** with more than 50.000 customers, to achieve a quantified target of energy savings yearly (WhC).

Obligation increases over the years, and during each year is divided among distributors according to their market share during previous year.

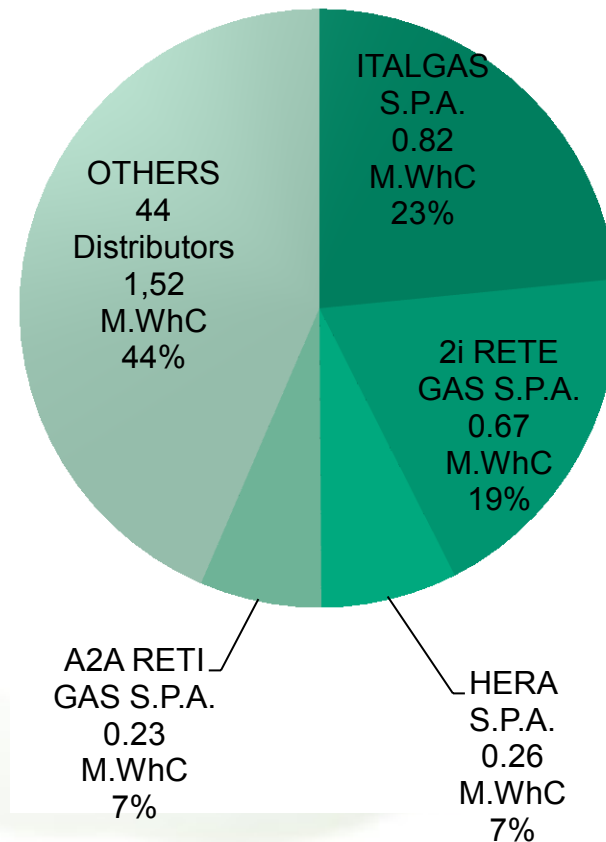


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**13 Electrical Distributors:
4.26 Million of WhC**

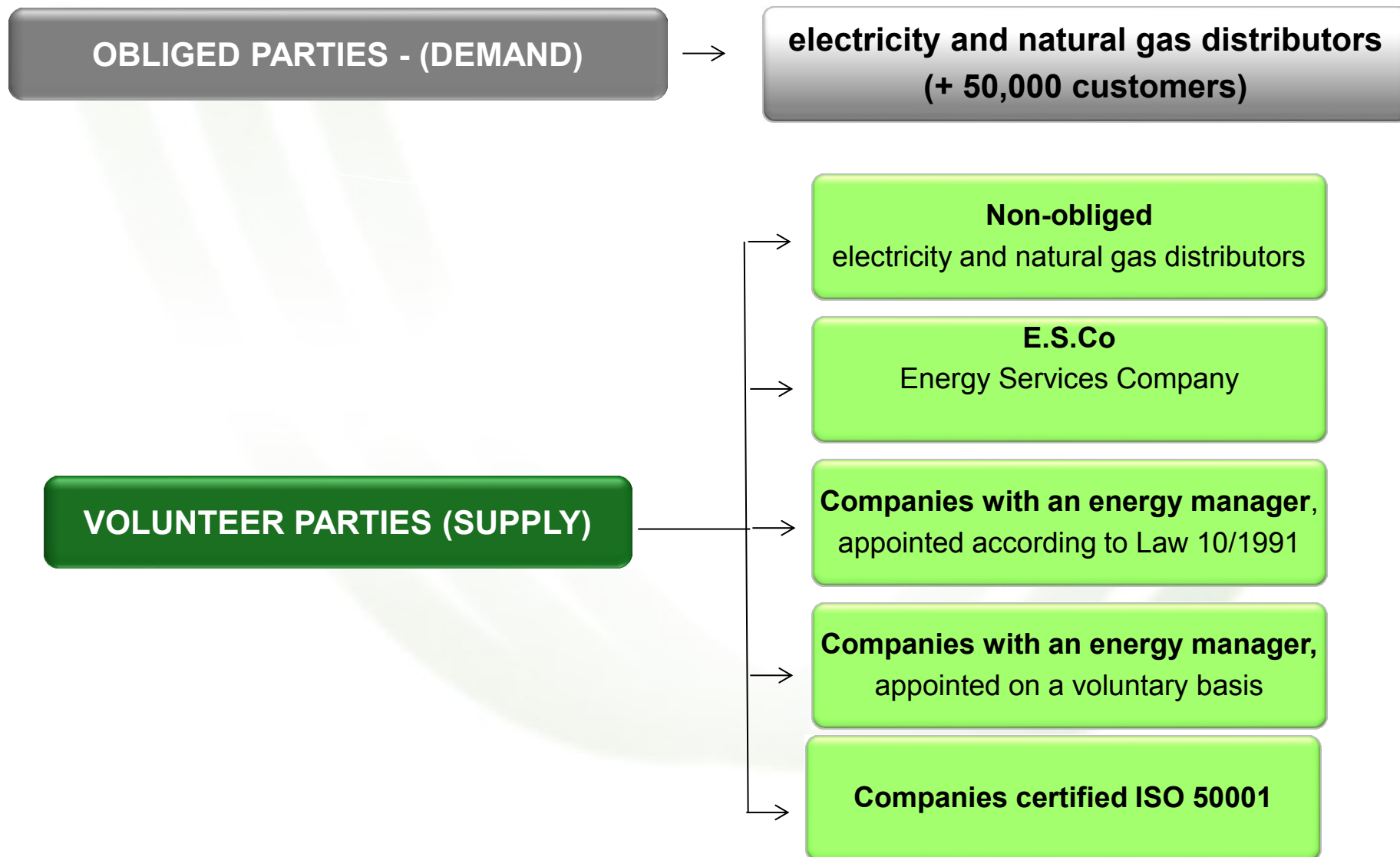


**48 Natural Gas Distributors:
3.49 Million of WhC**



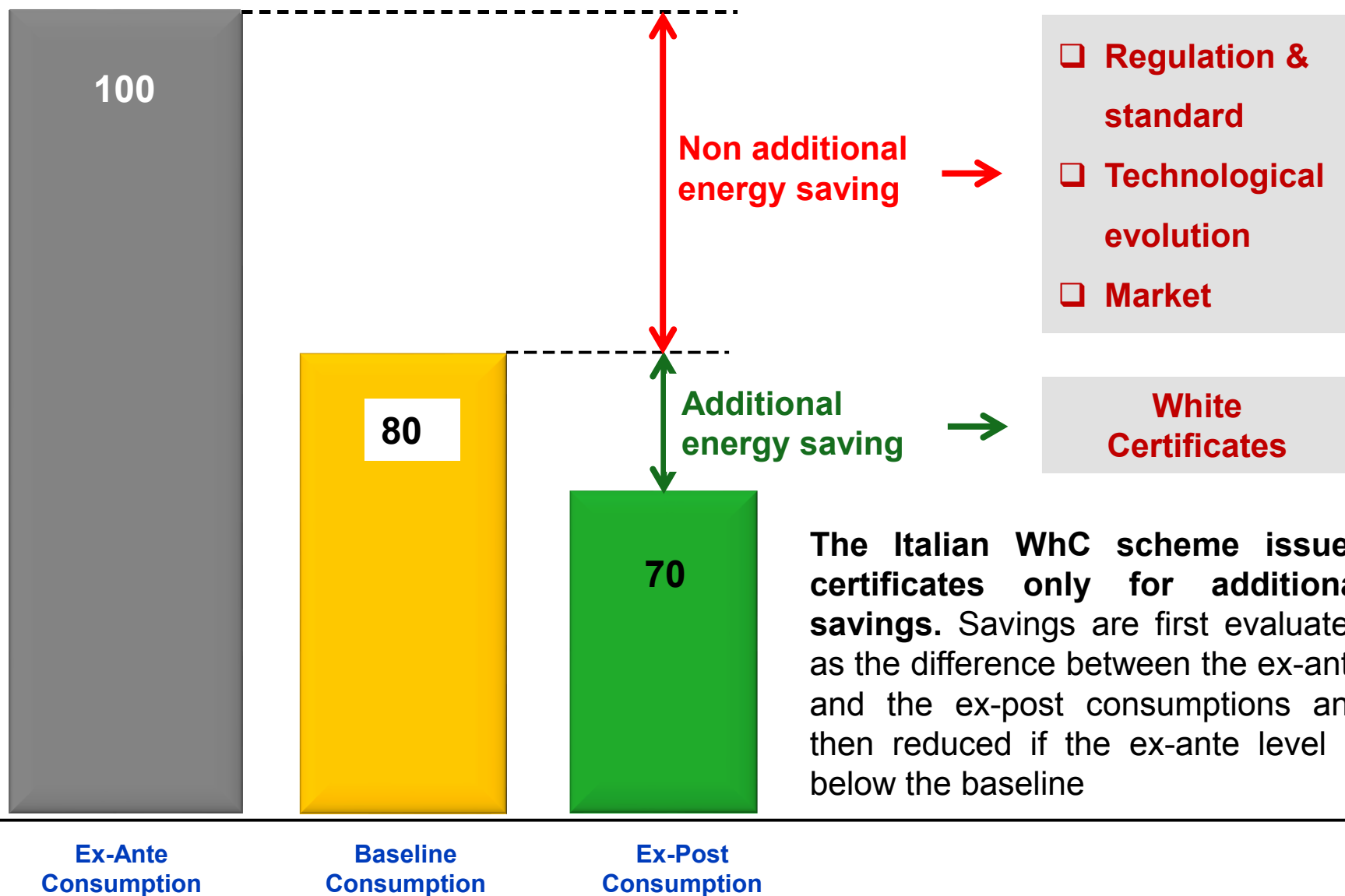
**1 distributor has almost 50% of the obligation
6 distributors have 75% of the obligation**

Italian White Certificates: subjects





Italian White Certificates: only additional energy saving



Deemed Saving (RVC-S)

- Subject matter = **defined** by decree
- Additionality = **defined** by decree
- Energy saving = **estimated**

Analytical (RVC-A)

- Subject matter = **defined** by decree
- Additionality = **defined** by decree
- Energy saving = **measured**

Energy Monitoring Plans (PPPM & RVC- C)

- Subject matter = **customized by proposal**
- Additionality = **proposed by subjects and verified by GSE**
- Energy saving = **measured**

The Italian White Certificates Market

Obligated Parties - (Demand)

Obligated

electricity and natural gas distributors

2015 Market Demand:

7,75 Millions EET (Italian national Whc target 2015)+ 2 M (deriving from 2013-2014 EET targets) = 9,77 Millions

Subjects: Obligated parties - Electricity & Gas Distributors with more 50.000 customers

2015 Market Offer:

5 Millions WhC issued

Subjects: Non obligated parties

Volunteer Parties (Supply)

Non-obliged

electricity and natural gas distributors

E.S.Co

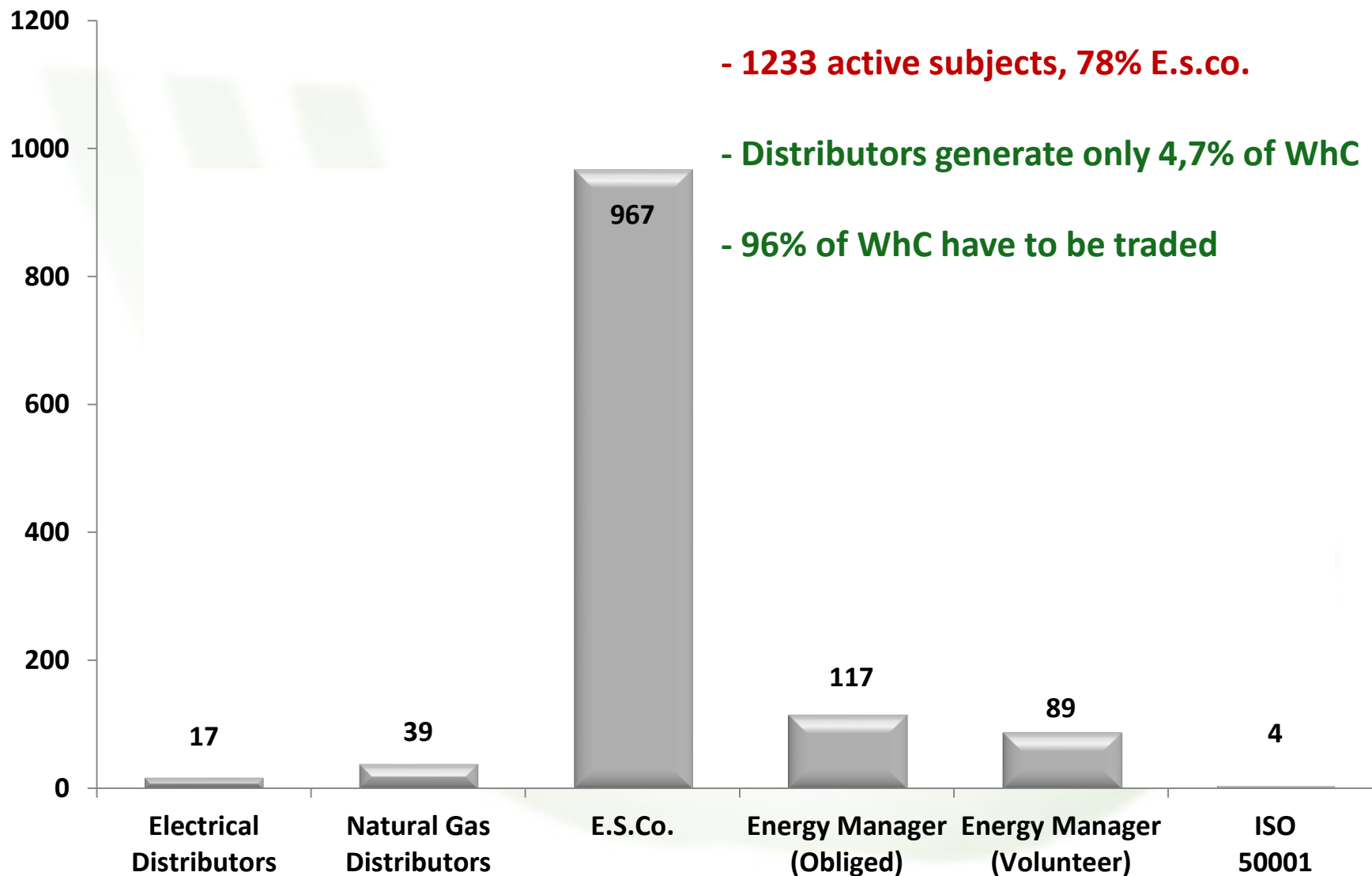
Energy Services Company

Companies with an energy manager,
appointed according to Law 10/1991

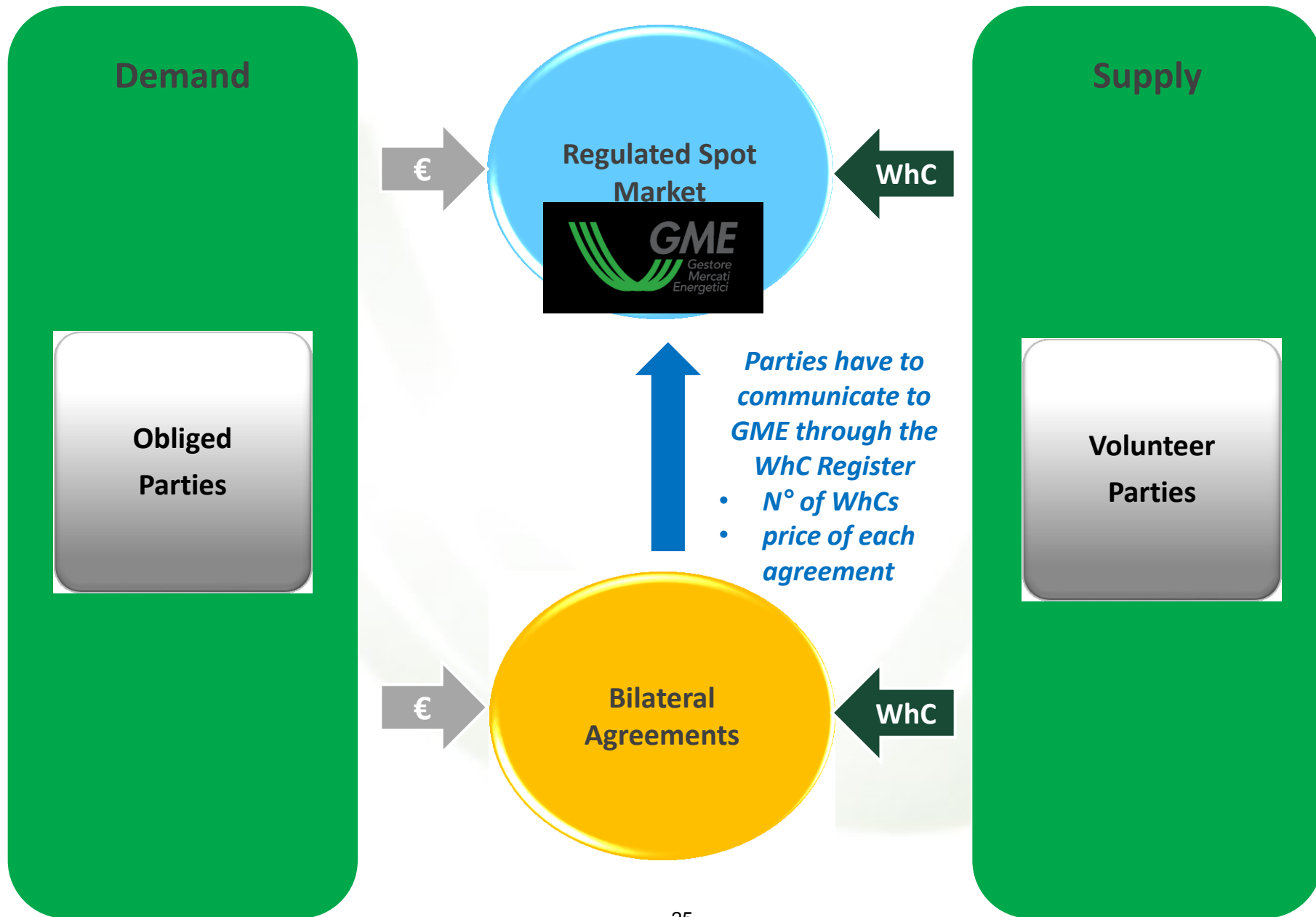
Companies with an energy manager,
appointed on a voluntary basis

Companies certified ISO 50001

Italian White Certificates: active subjects on scheme (2015)



White Certificate Trading System: spot market & bilateral agreements



The WhC Register (managed by GME) includes all the EET traded in the markets (both via spot market & bilateral agreements)

Each subjects must be enrolled in the WhC Register (GME verifies the documentation & good reput requirements of each applicants).

Negotiations book: Once the subject is enrolled in the WhC register, it can participate to the online session market.

<https://www.registrotee.it>



Login

SA3634PKNMCD29

Password



Richiesta Registrazione



Dichiarazione poteri di rappresentanza

Stato: user/password non corretta.



RICHIESTA REGISTRAZIONE SOCIETA'

I campi contrassegnati con (*) sono opzionali.

Informazioni Società

Cognome e Nome ovvero
Denominazione o Ragione Sociale

Legale Rappresentante (o soggetto
munito dei necessari poteri)

(Cognome)

(Nome)

Partita IVA

Codice Fiscale

Tipologia fiscale

Reverse Charge Domestico

Tipologia	Vendite	Acquisti	Corrispettivi
Italiano	22	22	22
Comunitario	0	0	0
Esportatore Abituale	0	0	0
Contribuente minimo/in regime forfetario	0	0	22
ExtraComunitario	0	0	0
Reverse Charge Domestico	0	0	22

☐ Pubblica Amministrazione

Codice IPA

Tipologia

(nessuna)

Indirizzo Sede Legale ovvero
Indirizzo di Residenza

Città

Provincia

CAP

Informazioni Referente Comunicazioni

Referente comunicazioni:

(Cognome)

(Nome)

Indirizzo(*)
(se differente da sede legale)

Telefono

Fax(*)

E-mail

Città (*)

Provincia(*)

CAP(*)

Nazione(*)



GME
Gestore
Mercati
Energetici

TEE – Titoli di Efficienza Energetica

Calendario delle sessioni di collaudo del Mercato dei Titoli di Efficienza Energetica

Settembre 2016 nei giorni: 6, 13, 20, 27
Ottobre 2016 nei giorni: 4, 11, 18, 25
Novembre 2016 nei giorni: 4, 8, 15, 22, 29
Dicembre 2016 nei giorni: 6, 13, 20

Durata delle sessioni: dalle ore 9.00 alle ore 12.00

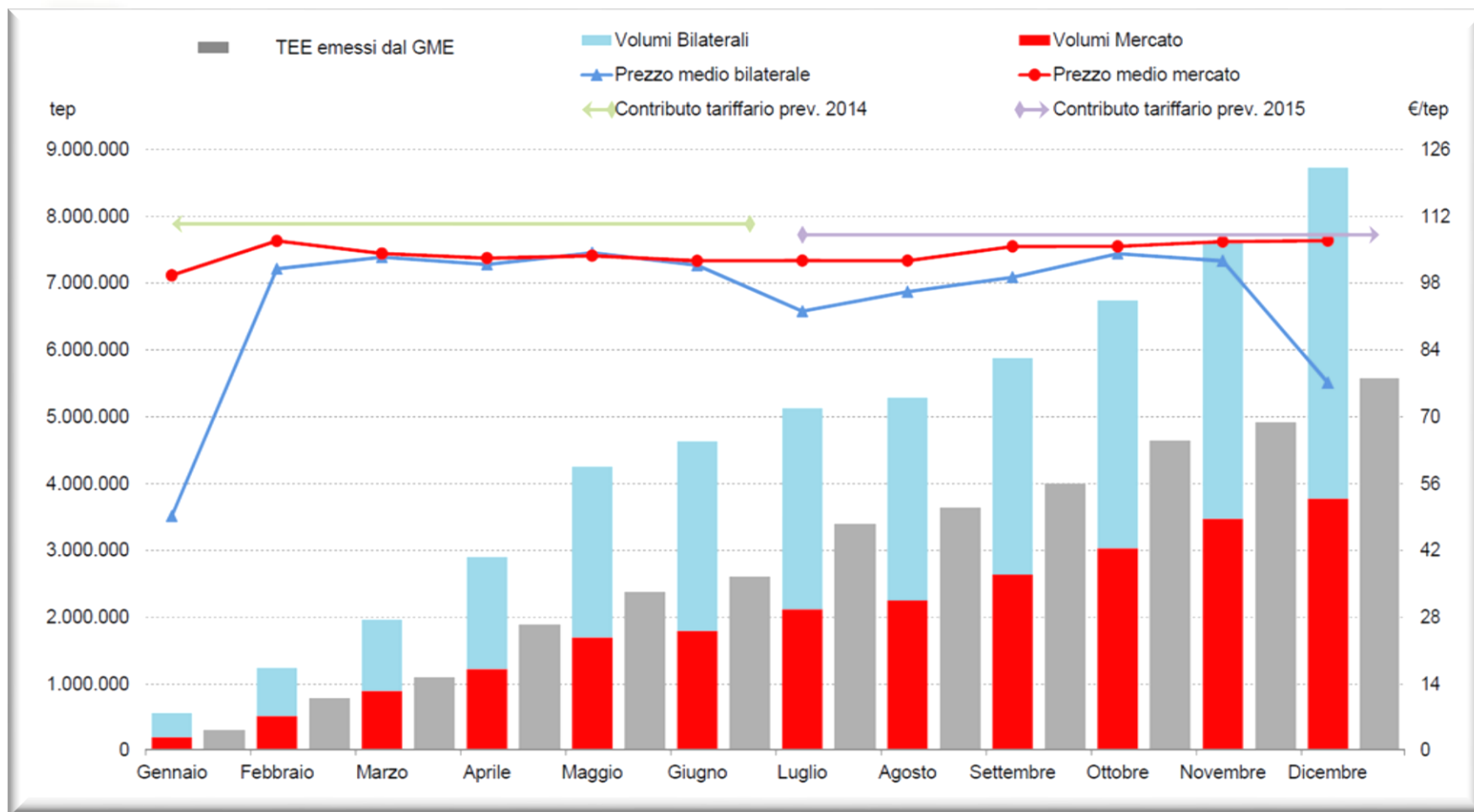
PIN di Accesso



<https://www.mercatotee.it/CBOpWebServer/Login.aspx>

Viewer consultation PIN: **SA3634PKNMCD29IS**

White Certificate Trading System: Prices & Markets (year 2015)





Cost of EEO scheme & cost recovery mechanism

The cost of EET mechanism relapsed on the electricity & gas customer's bills (see acronym UC7 on Italian electricity bill *-spesa per oneri di sistema*; RE and RET for gas bills).

The EET cost is defined by AEEGSI considering the **EET yearly market**:

- The TEE definitive contribution on 2014 was **105,83 €/TEE**
- The TEE prearranged contribution for 2015 was **108,13 €/TEE**
- The TEE definitive contribution on 2015 was **114,83 €**

Pre-arranged contribution

it is defined during the beginning of the year (June1)

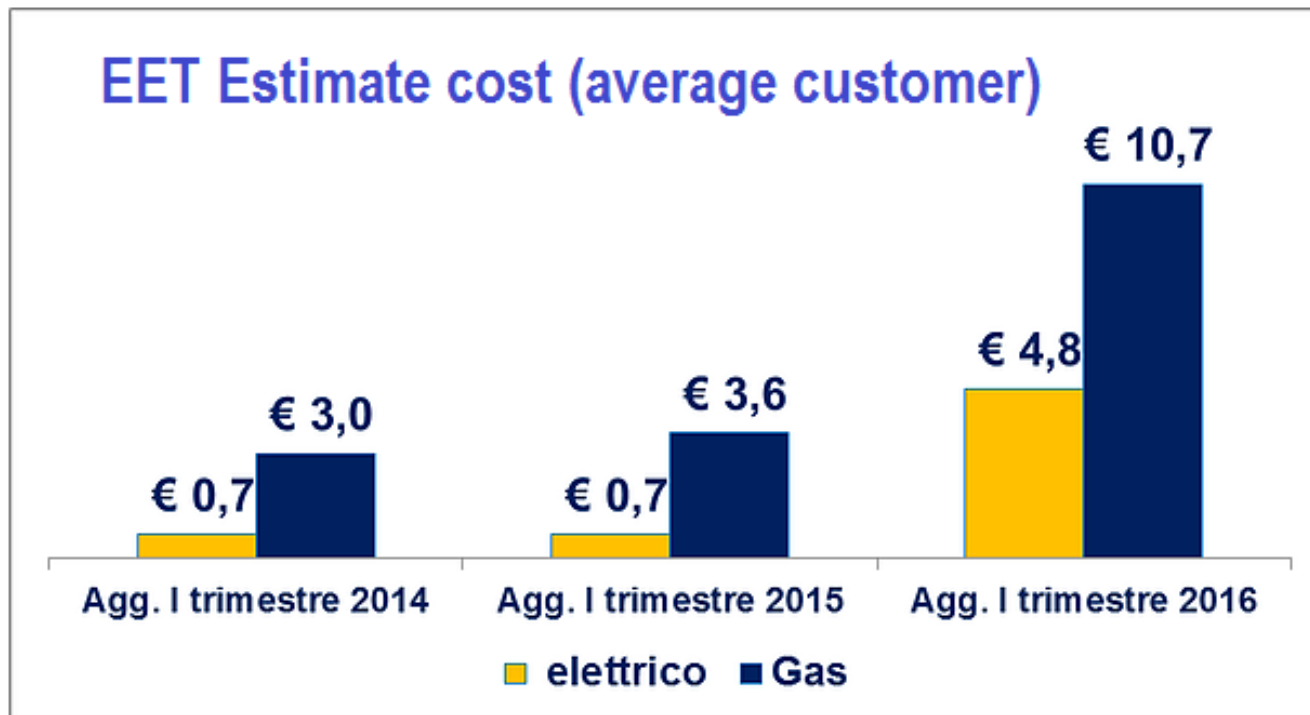
$$\begin{aligned} C_{\text{PREARRANGED}}(t+1) &= \\ &= C_{\text{DEFINITIVE}}(t) * [100 + 0,5 * \\ &\quad * E(t+1)]/100 \end{aligned}$$

Definitive contribution

It is defined at the end of the year (June2)

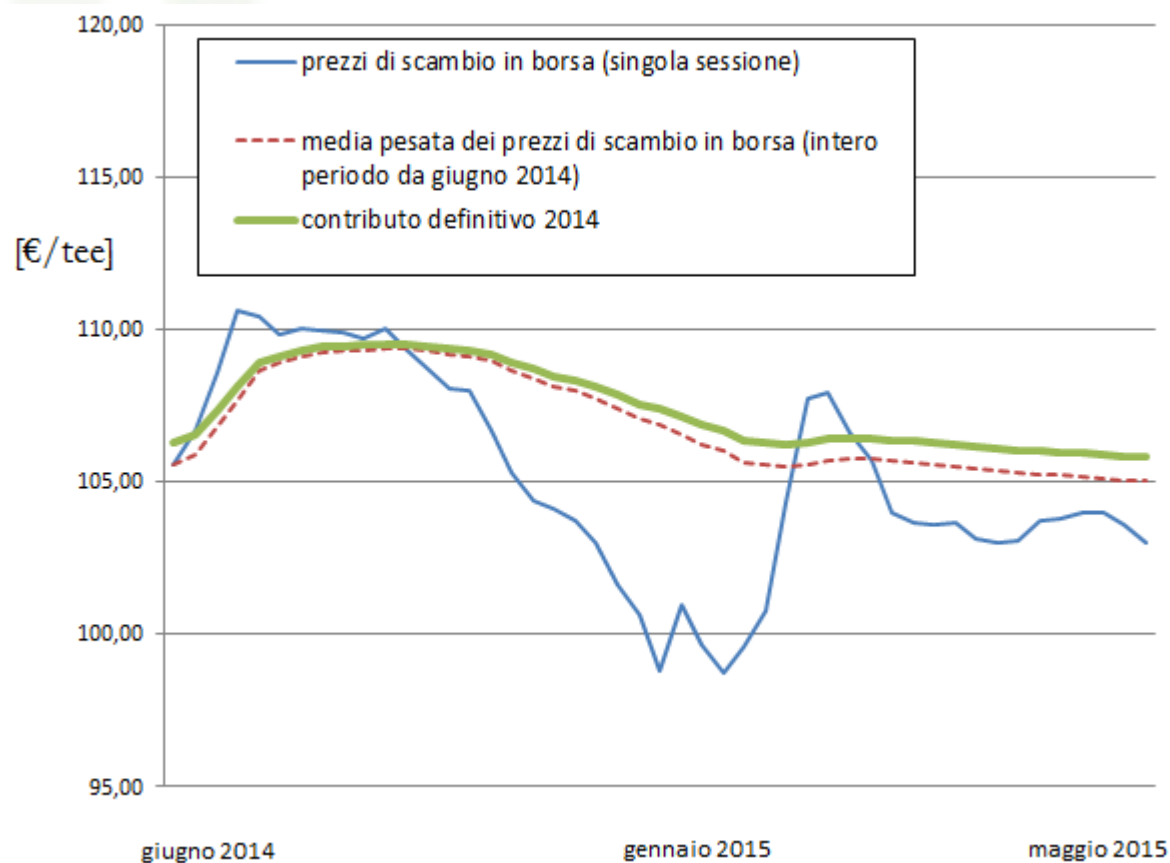
$$\begin{aligned} C_{\text{DEFINITIVE}}(t) &= \\ &= C_{\text{PREARRANGED}}(t) + k * \\ &\quad * [(S(t) - C_{\text{PREARRANGED}}(t))] \end{aligned}$$

Considering the rate contribution of **EUR 105,83 / TEE**, the total economic burden on the fulfillment of the objective 2014 (including the 2013 compensation) amounted to **EUR 617.725 .693** for obliged parties (distributors of electricity and methane gas).



Fonte: elaborazioni su dati AEEGSI relativi al primo aggiornamento trimestrale di ogni anno per cliente domestico tipo (per elettricità 3 KW di potenza e 2.700 KWH di consumo e per il gas 1400 Smc di consumo).

Correlation between the EET market exchange prices of the individual sessions and definitive tariff contribution :



GME data

Proponent costs: Starting from January 2015 GSE's activities and the evaluation activities carried on by ENEA and RSE are covered by a fee the operators/proponents pay when presenting a project or communicating the measures year by year for simplified monitoring plan and monitoring plan projects. The fees are: **Fixed fee** in the range **100-2,500 euro** depending on the size and type of project and **variable fee of 1.1 euro per issued certificate for projects** above 100 certificates per year.

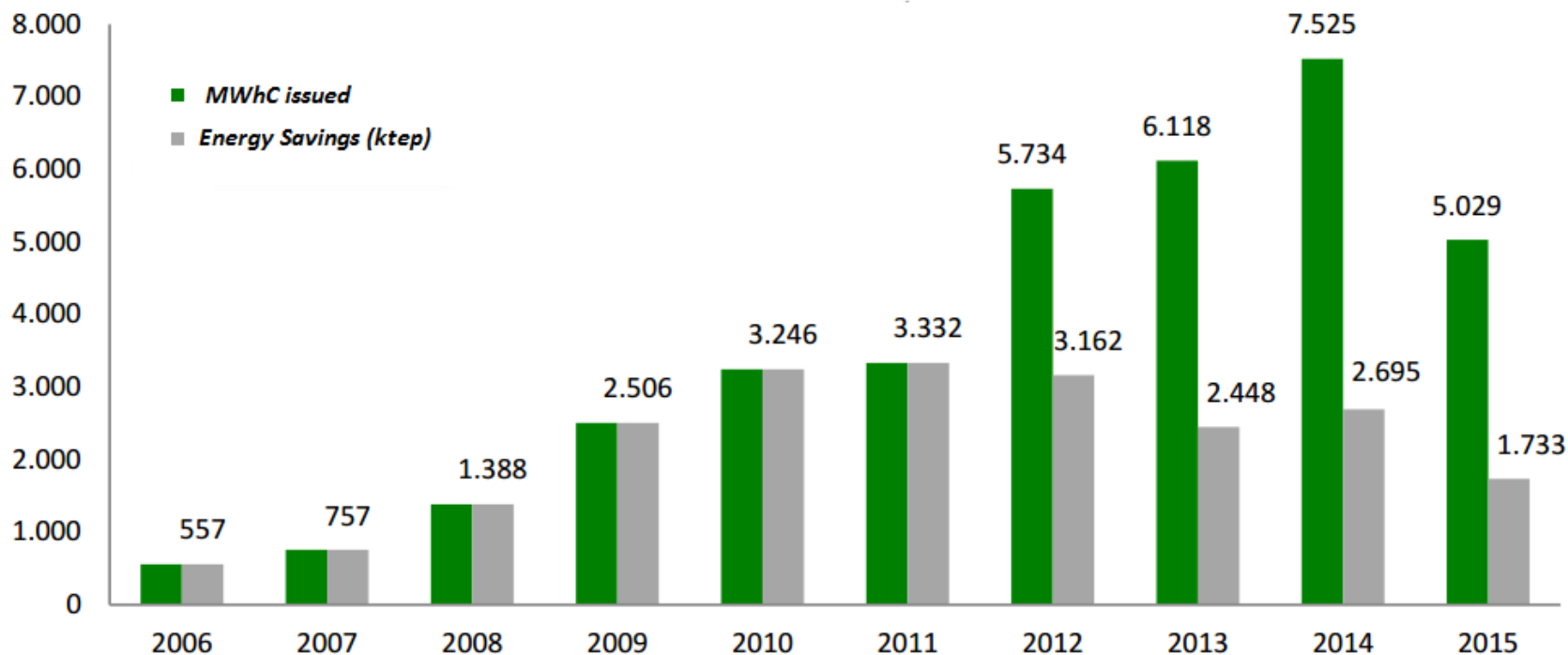
		Corrispettivo fisso PPPM	Corrispettivo fisso RVC	Corrispettivo variabile
		[€]	[€]	[€/TEE riconosciuto]
Titoli di Efficienza Energetica	TEE ≤ 100	200	100	-
	100 < TEE ≤ 1.000	500	200	1,1
	1.000 < TEE ≤ 5.000	750	400	
	5.000 < TEE ≤ 15.000	1500	1000	
	15.000 < TEE ≤ 50.000	2000	1500	
	TEE > 50.000	2500	2000	

Penalties/Fines: in case a DSO does not fulfill at least 60% of its annual target, AEEGSI **will inflict a fine** case by case approach on the basis of the lacking certificates and on the market situation. If 60% of the DSO target is reached, fines are not applied. **In both cases the following year target of the defaulting DSO is increased by the amount of lacking WhC.**

Results

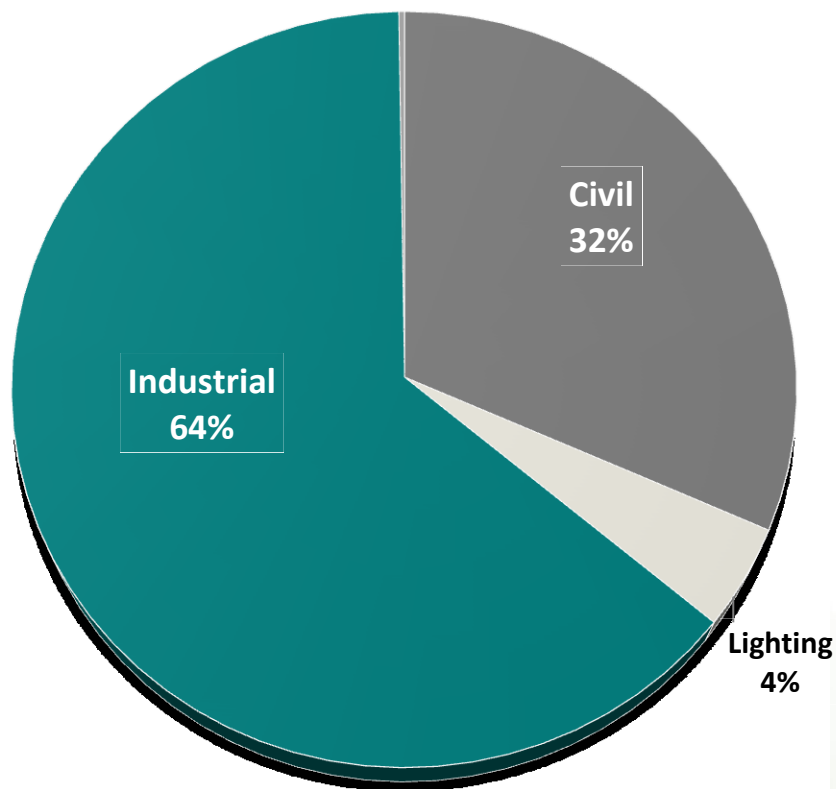
White Certificates issued – 2006 /2015

WhC issued and energy savings certified - Yearly Distribution



WC issued	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006-2015
<i>RVC-C Final</i>	57.007	70.164	174.155	423.848	781.212	1.151.267	3.708.546	4.845.379	6.155.306	3.123.642	
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3.126.101 WhC were issued to the Industrial Sector (64%)



Of which:

- **1.604.891** (IND-T: “Industrial Heat” - Industrial processes: generation or heat recovery for cooling, drying, burning, melting)
- **325.896** (IND-E: “Industrial Efficiency” - Industrial processes: efficient dry systems (motors, etc.) automation and power factor measures)
- **165.748** (IND-GEN: “Industrial Generation” - Industrial processes: electricity generation from renewable sources, heat recovery or cogeneration)
- **1.029.566** (IND-FF: “Industrial FF” Industrial processes: interventions other than the above, for the energy optimization of production processes and plant layout designed to achieve a lasting energy consumption reduction normalized by quantity and quality of production)



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Germany, Italy, and Japan Top World Energy Efficiency Rankings

July 20, 2016

According to the **2016 International Energy Efficiency Scorecard** published by the nonprofit **American Council for an Energy-Efficient Economy (ACEEE)**, Italy ranks **2nd** concerning Energy Efficiency world ranking.

ACEEE evaluated each country using 35 policy and performance metrics spread over four categories: buildings, industry, transportation, and overall national energy efficiency efforts.

“It is an important recognition of the efforts made by the country to promote energy efficiency and accelerate the transition to a low carbon economy”