The Italian White Certificates scheme

Alberto Pela, Regulatory Affairs - GSE

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

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

**Demand**

- **Obliged 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
    - 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

**Regulated Spot Market**

- Parties have to communicate to GME through the WhC Register
  - N° of WhCs
  - Price of each agreement
- 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 subject must be enrolled in the WhC Register (GME verifies the documentation & good repute requirements of each applicant).

- 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 – El. & 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
- 1233 active subjects
- Distributors generate only 4,7% of WhC
- 96% of WhC have to be traded
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

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

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)
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!

alberto.pela@gse.it
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.

Source: Ministry of Economic Development - ENEA
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
Italian White Certificates Scheme

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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Millions of TOE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>4,60</td>
</tr>
<tr>
<td>2014</td>
<td>6,20</td>
</tr>
<tr>
<td>2015</td>
<td>6,60</td>
</tr>
<tr>
<td>2016</td>
<td>7,60</td>
</tr>
</tbody>
</table>
Italian WhC: obliged distributors (2015)

13 Electrical Distributors: 4.26 Million of WhC

- ENEL S.P.A.
  - 3.64 M.WhC
  - 85%

- A2A S.P.A.
  - 0.17 M.WhC
  - 4%

- ACEA S.P.A.
  - 0.20 M.WhC
  - 5%

- Other 10 Distributors
  - 0.25 M.WhC
  - 6%

48 Natural Gas Distributors: 3.49 Million of WhC

- ITALGAS S.P.A.
  - 0.82 M.WhC
  - 23%

- OTHERS
  - 44 Distributors
  - 1.52 M.WhC
  - 44%

- 2i RETE GAS S.P.A.
  - 0.67 M.WhC
  - 19%

- A2A RETI GAS S.P.A.
  - 0.23 M.WhC
  - 7%

- HERA S.P.A.
  - 0.26 M.WhC
  - 7%

1 distributor has almost 50% of the obligation
6 distributors have 75% of the obligation
Italian White Certificates: subjects

OBLIGED PARTIES - (DEMAND)

Electricity and natural gas distributors (+ 50,000 customers)

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
Distributors can fulfill their obligations of WhC (each year by 31 May) by

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

Purchasing WhC from third-party

Spot Market, managed by GME, and regulated by AEEGSI

Bilateral Agreements with eligible parties (voluntary or obliged)
**Italian White Certificates: only additional energy saving**

The Italian WhC scheme issues certificates only for additional **savings**. Savings are first evaluated as the difference between the ex-ante and the ex-post consumptions and then reduced if the ex-ante level is below the baseline.
Italian White Certificates: Evaluation of Energy Savings

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
Italian White Certificates: eligible subjects

Obliged Parties - (Demand)

Oblied
electricity and natural gas distributors

Volunteer Parties (Supply)

Non-obliged
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: Obliged parties - Electricity & Gas Distributors with more 50,000 customers

2015 Market Offer:
5 Millions WhC issued
Subjects: Non obliged parties

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)

- 1233 active subjects, 78% E.s.co.
- Distributors generate only 4.7% of WhC
- 96% of WhC have to be traded
White Certificate Trading System: spot market & bilateral agreements

Demand

Regulated Spot Market

Supply

Parties have to communicate to GME through the WhC Register

- N° of WhCs
- price of each agreement

Obliged Parties

Volunteer Parties

Bilateral Agreements

WhC

WhC

WhC

WhC
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:** Once the subject is enrolled in the WhC register, it can participate to the online session market.
**RICHIEDI REGISTRAZIONE SOCIETA'**

I campi contrassegnati con (*) sono obbligatori.

### Informazioni Societa'
- Cognome e Nome ovvero Denominazione o Ragione Sociale

### Legale Rappresentante (o soggetto morto dei necessari poteri)
- Legale Rappresentante: 
  - **Cognome:**
  - **Nome:**

### Partita IVA
- **Codice Fiscale:**

### Tipologia fiscale
- **Reverse Charge Domestico**

### Pubblica Amministrazione
- **Codice IPA:**

### Tipologia
- **Tipologia:**

### Indirizzo Sede Legale o Decreto
- **Indirizzo:**

### Informazioni Referente Comunicazioni
- **Referente comunicazioni:**
  - **Cognome:**
  - **Nome:**

### Indirizzo(*)
(se differente da sede legale)

### Telefono
- **Fax:**

### E-mail

### Città (*)
- **Provincia:**
- **C.A.P.:**
https://www.mercatotee.it/CBOpWebServer/Login.aspx

Viewer consultation PIN: SA3634PKNMCD29IS
Cost of EEO scheme & cost recovery mechanism
Cost of EEO scheme and 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)
\[
C_{PREARRANGED}(t+1) =
\]
\[
= C_{DEFINITIVE}(t) \times [100 + 0,5 \times E(t+1)]/100
\]

**Definitive contribution**

It is defined at the end of the year (June2)
\[
C_{DEFINITIVE}(t) =
\]
\[
= C_{PREARRANGED}(t) + k \times [(S(t) - C_{PREARRANGED}(t)]
\]

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).
Cost of EEO schemes and cost recovery mechanisms

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).
Cost of EEO schemes and cost recovery mechanisms

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.

<table>
<thead>
<tr>
<th>Titoli di Efficienza Energetica</th>
<th>Corrispettivo fisso PPPM</th>
<th>Corrispettivo fisso RVC</th>
<th>Corrispettivo variabile [€/TEE riconosciuto]</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEE ≤ 100</td>
<td>200</td>
<td>100</td>
<td>-</td>
</tr>
<tr>
<td>100&lt;TEE≤1.000</td>
<td>500</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>1.000&lt;TEE≤5.000</td>
<td>750</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>5.000&lt;TEE≤15.000</td>
<td>1500</td>
<td>1000</td>
<td>1.1</td>
</tr>
<tr>
<td>15.000&lt;TEE≤50.000</td>
<td>2000</td>
<td>1500</td>
<td></td>
</tr>
<tr>
<td>TEE&gt;50.000</td>
<td>2500</td>
<td>2000</td>
<td></td>
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**Penalties/Fines:** in case a DSO does not fulfill at least 60% of its annual target, AEGSI 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

#### WC issued and energy savings certified - Yearly Distribution

<table>
<thead>
<tr>
<th>Year</th>
<th>MWhC issued</th>
<th>Energy Savings (ktep)</th>
</tr>
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<tbody>
<tr>
<td>2006</td>
<td>557</td>
<td>757</td>
</tr>
<tr>
<td>2007</td>
<td>757</td>
<td>1.388</td>
</tr>
<tr>
<td>2008</td>
<td>1.388</td>
<td>2.506</td>
</tr>
<tr>
<td>2009</td>
<td>2.506</td>
<td>2.506</td>
</tr>
<tr>
<td>2010</td>
<td>2.506</td>
<td>3.246</td>
</tr>
<tr>
<td>2011</td>
<td>3.246</td>
<td>3.332</td>
</tr>
<tr>
<td>2012</td>
<td>3.332</td>
<td>3.162</td>
</tr>
<tr>
<td>2013</td>
<td>3.162</td>
<td>2.448</td>
</tr>
<tr>
<td>2014</td>
<td>2.448</td>
<td>2.695</td>
</tr>
<tr>
<td>2015</td>
<td>2.695</td>
<td>1.733</td>
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#### WC issued

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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>RVC-S Standard</strong></td>
<td>412.677</td>
<td>684.242</td>
<td>1.211.331</td>
<td>2.079.341</td>
<td>2.436.148</td>
<td>1.936.610</td>
<td>1.910.538</td>
<td>984.972</td>
<td>1.156.294</td>
<td>1.597.855</td>
<td><strong>1.597.855</strong></td>
</tr>
<tr>
<td><strong>RVC-A Analytic</strong></td>
<td>86.928</td>
<td>2.521</td>
<td>2.506</td>
<td>2.888</td>
<td>28.880</td>
<td>245.795</td>
<td>120.396</td>
<td>288.195</td>
<td>217.370</td>
<td>179.327</td>
<td><strong>1.156.294</strong></td>
</tr>
</tbody>
</table>

**Total** | **556.612** | **756.927** | **1.357.992** | **2.506.077** | **3.336.72** | **5.739.480** | **6.118.546** | **7.528.970** | **5.029.064** | **36.203.580** |
Italian White Certificates: achievements year 2015

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)

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”