

The Role of Trading in White Certificate Schemes

Caiman Cahill and Paolo Bertoldi
European Commission, Directorate General JRC

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- **Market-based instruments** (MBIs) are public policies which make use of market mechanisms with transferable property rights to distribute the burden of a public policy.
- In the **energy sector MBIs** have been used to promote RES-E and to cut harmful emissions (e.g. CO₂, SO₂, NO_x quotas coupled with permit/allowance trading).
- Theoretically MBIs **minimize cost for society** for reaching a certain target (static efficiency) and create incentives to innovate and improve performance (dynamic efficiency).

- A white certificate is both *an accounting tool*, which proves that a certain amount of energy has been saved in a specific place and time, and a *tradable commodity*, which belongs initially to the subject that has induced the savings (implemented a project) or owns the rights to these savings, and then can be traded according to the market rules, always keeping *one owner at the time*.
- As for renewable electricity certificates (a.k.a. green certificates), the value of the white certificate is different from the economic value of the saved energy (Euro/kWh).
- In principle white certificates can also be established for a **voluntary market** (this is happening in the US).

Five key elements of tradable white certificates schemes:

1. the **creation and framing** of the demand (government set the **overall target** and its **apportioning to obliged actors**).
2. Institutional **infrastructure** and processes (such as measurement and verification) to support the scheme.
3. the **cost recovery** mechanism, in some cases.
4. A system of **sanctions** in the case of non compliance
5. the **tradable instrument** (certificate) and the rules for issuing and trading,

- The results delivered (dominant projects and sectors) are determined the nature of the projects
 - Size of the obligation
 - Choice of primary or final energy,
 - Obligated and eligible actors,
 - Eligible measures and lifetimes of measures,
 - Measurement & Verification of savings (M&V) – e.g. discourage CFLs,
 - Sanctions for non-compliance (could set top floor on price)
 - Cost-recovery,
 - Interactions with other policy tools.
 - **Trading**

- Administrative costs are a function of the simplicity of the system.

- **UK** (GB only) has a variation of this policy mix scheme since 2002 (successor of EESoP), limited trading (only between obliged parties);
- Tradable certificates have been introduced in **Italy** since 2005, and in **France** since mid-2006.
- **Flanders** (region of Belgium): savings obligations imposed on electricity distributors without certificate trading option;
- **Denmark**: saving obligations on electricity, gas and heat distributors, no trading;
- In the pipeline: **Poland (with some trading and auctioning)**. Ireland, Portugal, Romania and Bulgaria are interested in this policy instrument.

- End-use **sectors covered** (e.g. residential, tertiary, industry and transport);
- Types of projects and/or technologies eligible and modalities under which projects are allowed:
 - IT – all end-use sectors;
 - UK - residential sector only plus 40% priority group;
 - DK - all end-use sectors apart from transport;
 - Flanders - residential, non-energy intensive industry and service sectors;
 - FR - only excludes projects in industry sectors under the ETS.
- Energy saving obligations and white certificates are considered best suited for **measures in end-use sectors**, excluding generation projects
 - Some supply-side options: micro cogen, PV and SWH, in Italy grid-connected cogeneration and new district heating (boilers and network)

- A trade-off between harnessing the **full potential of a market-based instrument** and **managing the complexity and cost** of administering the system;
- In theory the wider the scope in terms of types of projects (compliance choices **including trading**) and the fewer limitations in terms of compliance routes, the greater the benefits of the scheme, especially in terms of **compliance costs**;
- Wide coverage implies more **diverse marginal costs** of compliance among trading parties and greater benefits of trading;
- On the other hand, extensive scope may result in difficult and expensive administration of the scheme.

- **Suppliers** (retail companies) – UK and FR
 - Strong links to the final consumer and may have the motivation to offer value-added services;
 - Uniquely placed to provide information about consumption through billing and metering processes and to inform consumers about measures on offer.

- **Distributors** (DNOs) – IT, DK and Flanders
 - More stable regulated organisations, which are natural regional monopolies and will not go out of business (as may happen with suppliers);
 - With proper tariff regulation, they do not have the strong push to sell 'more kWh', as is in the case of suppliers;
 - However they are disconnected from the end-user and thus may lack motivation to do end-use energy efficiency.

- Eligible Parties are market actors that are able to obtain certificates (following the implementation of energy efficiency projects) with the view of selling them, as they do not have any obligation
- The concept of eligible parties makes sense only in the case of trading.
- Example of eligible parties in Italy are: ESCO, large end-users; in France are local communities.
- Eligible parties make sense only if there is trading as in Italy and France, as they can sell the certificates they have got
- In addition, if there is trading it makes sense to introduce eligible parties, to get the full benefits of trading, as in Italy where eligible parties are commercial companies; while in France ESCOs (pure ESCO working under EPC without the supply of energy) are not allowed to get certificates

- Example of eligible parties in Italy are ESCOs
- in Italy ESCO receive about 80% of the issued certificates
- ESCOs sell the certificate to obliged parties

Tipologia di soggetto	Percentuale di TEE certificati rispetto al totale				
	fino a 31/5/06	fino a 31/5/07	fino a 31/5/08	fino a 31/5/09	fino a 31/5/10
Distributori elettrici obbligati	9,1%	6,1%	11,4%	9,8%	7,8%
Distributori gas obbligati	23,8%	9,4%	10,1%	8,4%	7,7%
Distributori non obbligati	2,5%	12,2%	1,9%	1,0%	0,4%
Società di Servizi Energetici (SSE)	64,6%	72,3%	76,6%	80,8%	83,5%
Soggetti con Energy Manager (SEM)	-	-	-	0,1%	0,6%
Totale complessivo	100%	100%	100%	100%	100%

- Still open issue whether **trading** is a key element in national systems; to have trading it is recommended to certify the energy saving
- Buoyant certificate trading is taking place only in **Italy**, where projects are implemented by **ESCOs**;
- **France - limited trading**
 - Suppliers prefer to implement the projects themselves through agreement with equipment suppliers and installers, positioning themselves as suppliers of energy services (utilities do not offer incentives, act more as “*project organizers*”).

- UK - certificate **trading is not a feature of the scheme** and no formal certification of attained savings takes place.
 - Most suppliers use contractors to undertake the work under bilateral contract;
 - Suppliers can only trade once they meet their own energy saving targets;
 - **Agreements with equipment suppliers and installer** to offer "standards" solutions to residential clients (not necessarily their customer base).
 - Banking of savings
- **Trading** less attractive in a scheme such as the UK where it is limited to the residential sector (usually an area where ESCOs are not very active), and where there are a very limited type of projects;

FIGURA 2.8

Ripartizione percentuale tra borsa e bilaterali dei titoli scambiati annualmente dal 2005 al 2009 (Fonte: elaborazioni su dati GME).

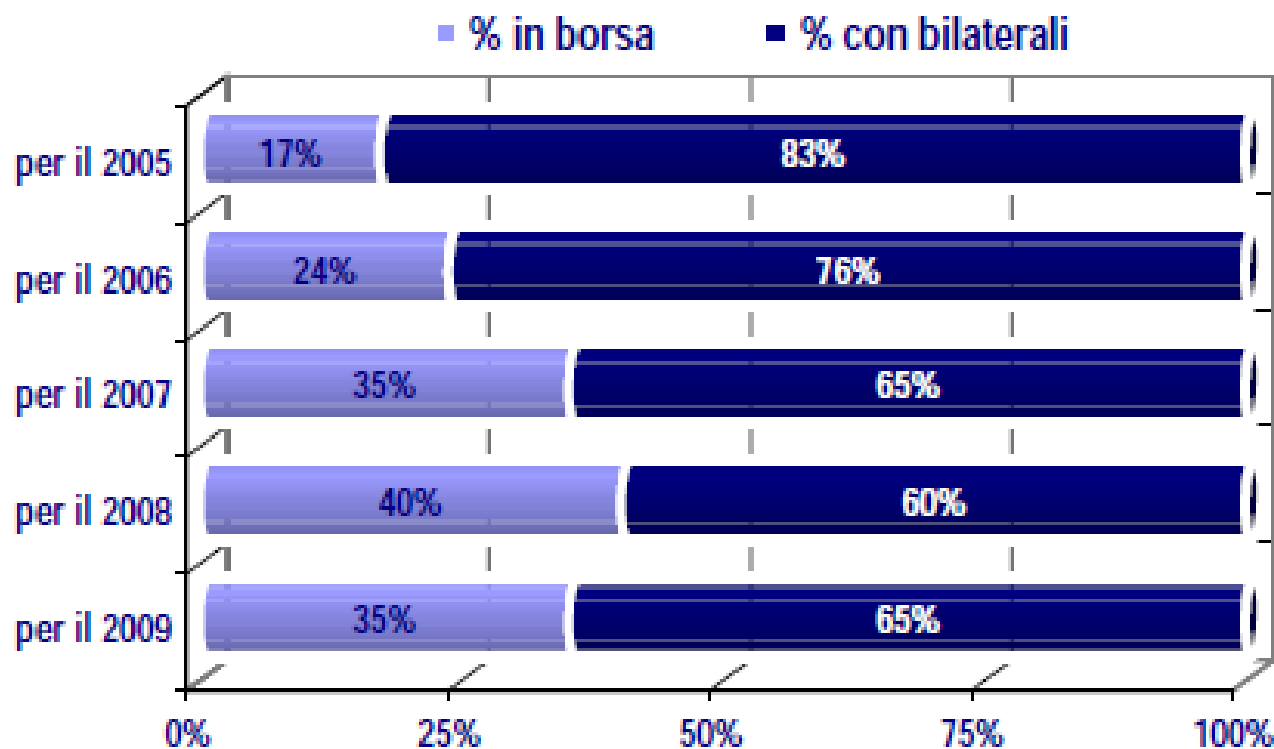
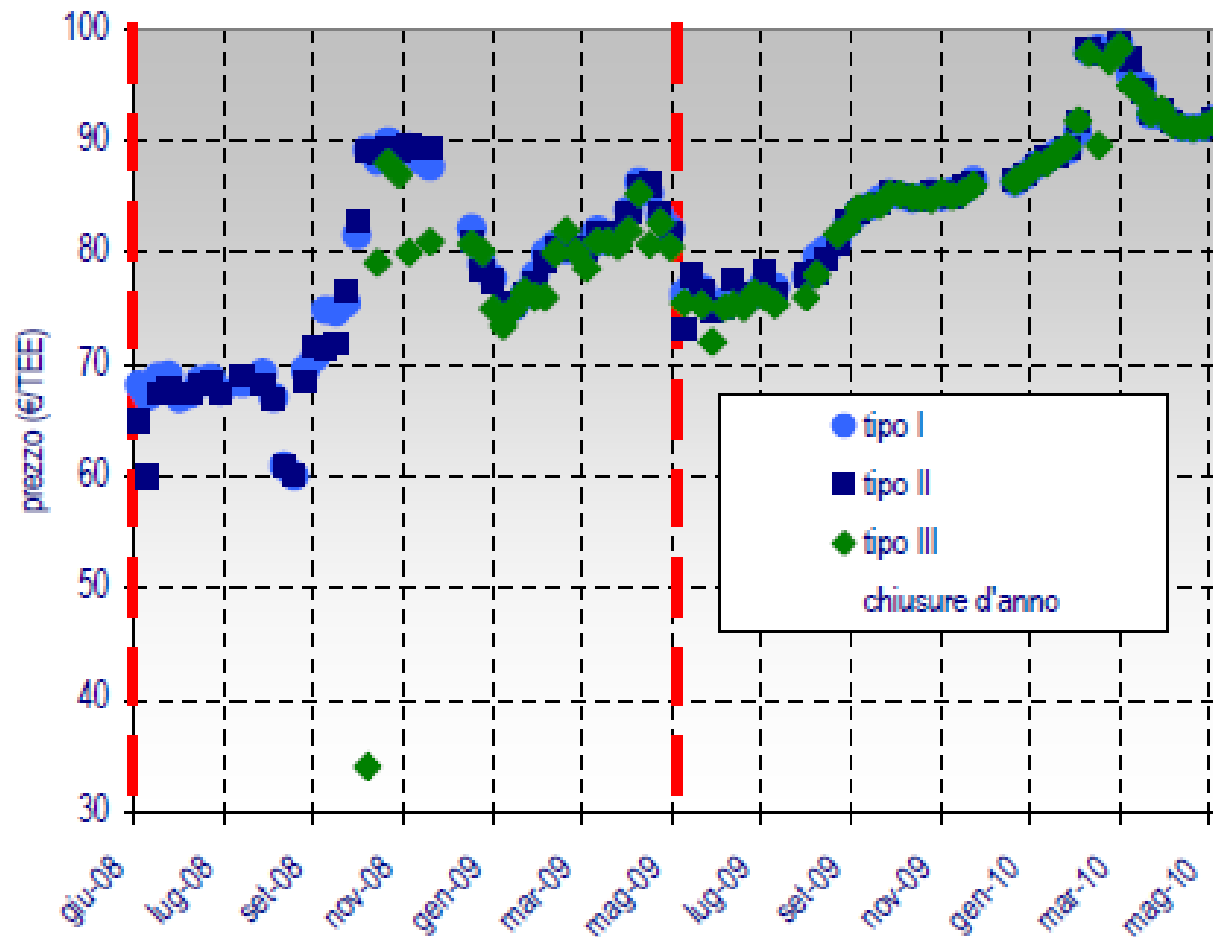
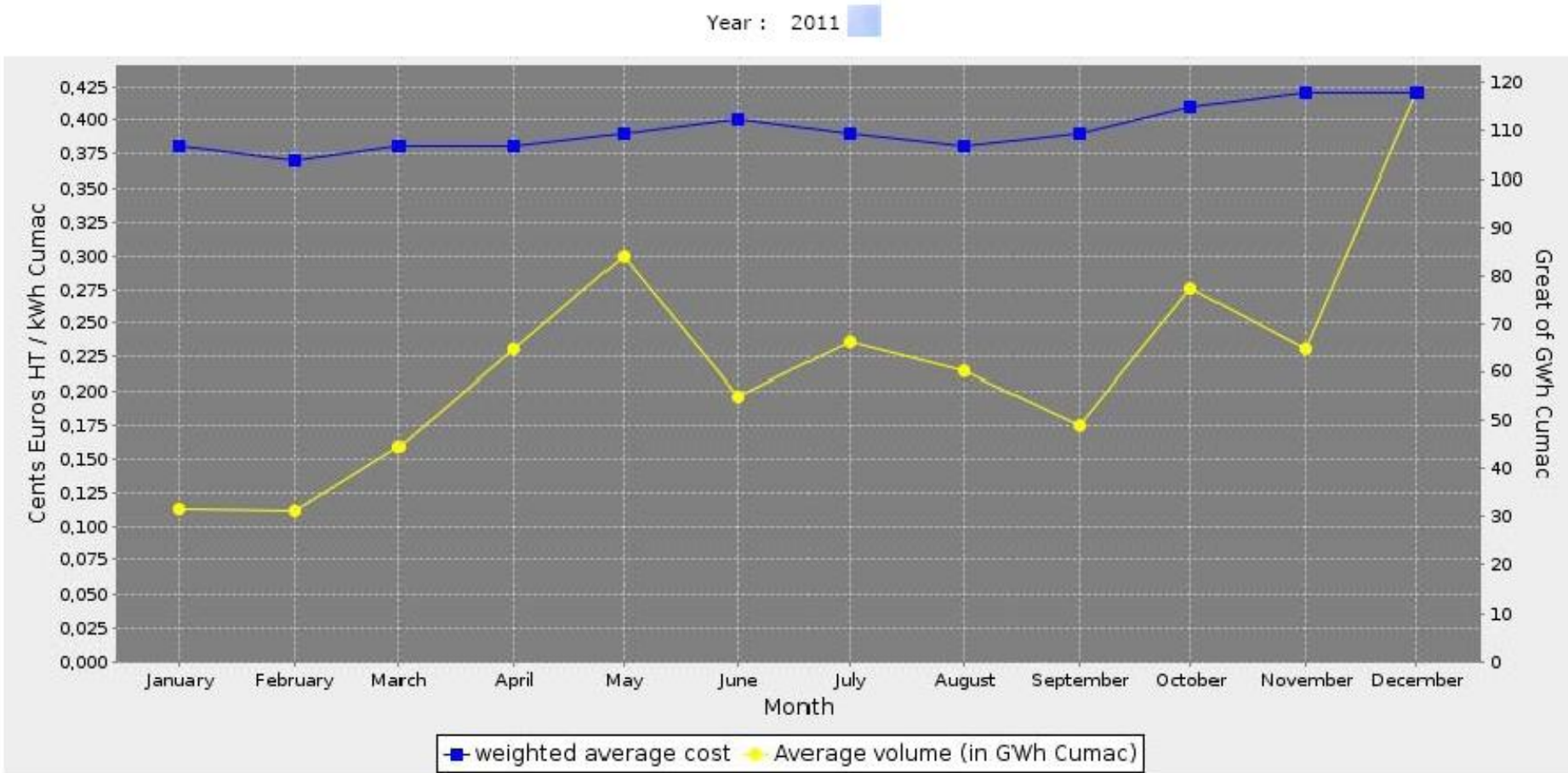


FIGURA 2.10a

Andamento dei prezzi dei
 TEE in borsa da giugno
 2008 a maggio 2010
 (Fonte: elaborazioni su
 dati GME).





January	February	March	April	May	June	July	August	September	October	November	December
0.38	0.37	0.38	0.38	0.39	0.4	0.39	0.38	0.39	0.41	0.42	0.42
31.54	31.2	44.45	64.64	84.01	54.98	66.14	60.05	49.01	75.67	64.33	105.7

Only a very limited part of certificates is traded via the stock exchange in France

Cost to households:

- Italy: 3.7 Euro/household in 2009 (AEEG estimates go up to 6.4 Euro/hh in 2012).
- UK EEC-2: 6.9 GBP/year per customer per fuel bill (23% below ex-ante estimates).
- UK CERT: 45 Euro/year/household on bills.

- UK EEC-2 cost of conserved energy: 0.6 pence/kWh gas and 2 pence/kWh electricity.
- Italy: 1.7 Eurocents/kWh annual.
- Flemish region: 2.3 Eurocent/kWh primary (first year savings only).
- Denmark 2010-2012: approx. 6 Eurocents/kWh (4.5 Eurocents/kWh in 2006-2009, first year savings only or 0.45 Eurocents/kWh for average lifetime of 10 years).

Administrative cost estimates (implementing authority):

- UK EEC-1: 1 million GBP over 3 years.
- France: 700,000 euro/year.
- Italy: 1 million euro/year.

- **Over-compliance**, in some cases at costs below policy makers' expectations
- Core element: the energy saving **obligation** (absolute or proportional to sales)
 - Voluntary markets not expected to emerge;
- Focus on **end-use sectors**, coverage of electricity and natural gas, at minimum;
- Best suited to deliver **low-cost** and **standard** energy efficiency measures, often targeting **small energy users**, lowering the transaction
- Function in both **liberalised energy markets** and whereby they target **monopolistic segments**

- Crucial importance of **measurement and verification**, strong focus on **standardised** saving values
- **Trading** can bring added value where the targets **are set sufficiently high** with respect to the saving potential in the sectors covered
- Trading may be better suited for broader systems

- The white certificate systems currently in operation in Europe **differ** markedly in their basic design features. The three schemes have shown good results, **meeting or exceeding the targets**.
- UK and France have chosen to impose the obligation on **suppliers** and Italy on **distributors** (grid owners).
 - Suppliers have **strong links to the final consumer** and motivation to market value-added services and the obligations seek to transform their business model away from pure commodity sales and towards energy service sale, **hence limited trading**.
 - Distributors are more **stable regulated organisations**, which are regional monopolies. With proper tariff regulation, these do **not** have the strong push to sell 'more kWh', as is in the case of suppliers.
- **Certificate trading** is taking place only in **Italy**, where projects are implemented by **ESCOs**.

- Questionable whether **trading** is a key element, it could make the scheme more cost-effective but also adds additional costs.
- There is **limited trading in France** as suppliers prefer to implement the projects themselves through agreement with equipment suppliers and installers to position themselves vis-à-vis their clients as suppliers of energy services (utilities do not offer incentives, act as *“project organizers”*).
- Certificate **trading is not a feature of the scheme in the UK** and no formal certification of attained savings takes place, due to lack of formal certification, most suppliers using the same contractors and suppliers can only trade once they meet their own energy saving targets.
- Obligated **suppliers in the UK enter in agreement with equipment suppliers** and installer to offer "standards" solutions to residential clients (not necessarily their customer base).
- Trading is a key feature of the **Italian scheme**, where distribution companies rely on other market actor to implement projects, and these are allowed to sell the certificate on the market.

Thank you!

We welcome comments

For more information!

Paolo.Bertoldi@ec.europa.eu

<http://re.jrc.ec.europa.eu/energyefficiency>