



MARKET MECHANISMS FOR WHITE CERTIFICATES

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DRIVER

A national energy policy which involves:

Energy Saving programmes
on energy end-uses

STEP I

A Public Board (e.g. Governmental) defines:

Energy saving national targets (e.g. Mtoe/year)

Eligible Energy Saving Projects

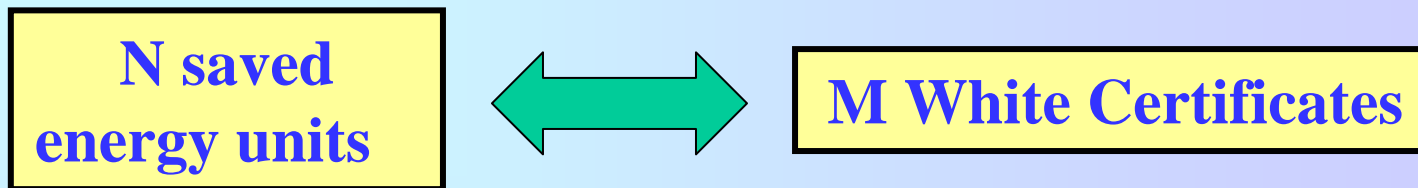
Obligation-bound actors (**OB**)

Allocation of the global targets on **OB**'s

Eligible implementers of Energy Saving Projects
(**EI**)

STEP II

Equivalence between attained target and a proportional amount of **White Certificates (WhC)**

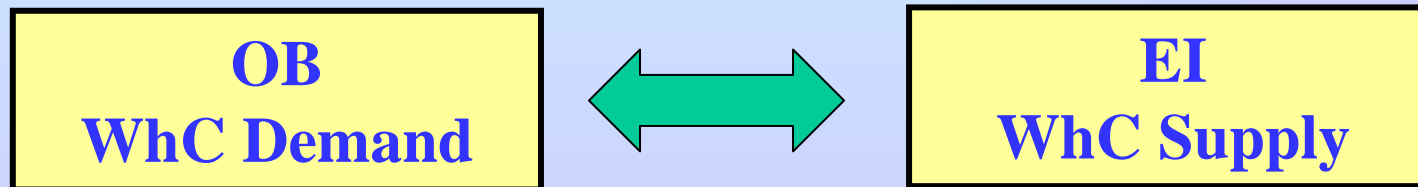


"White certificates": certificates issued by independent certifying bodies confirming the claims of market actors for savings of energy, as a consequence of energy end- use efficiency measures (From *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on energy end-use efficiency and energy services*)

STEP II

OB must comply with a WhC target obligation:
WhC demand

EI may gain and own WhC: WhC supply



STEP III

A market can be established where WhC demand and offer match:

OB can buy lacking WhC to reach their target

EI can sell their WhC surplus, since:

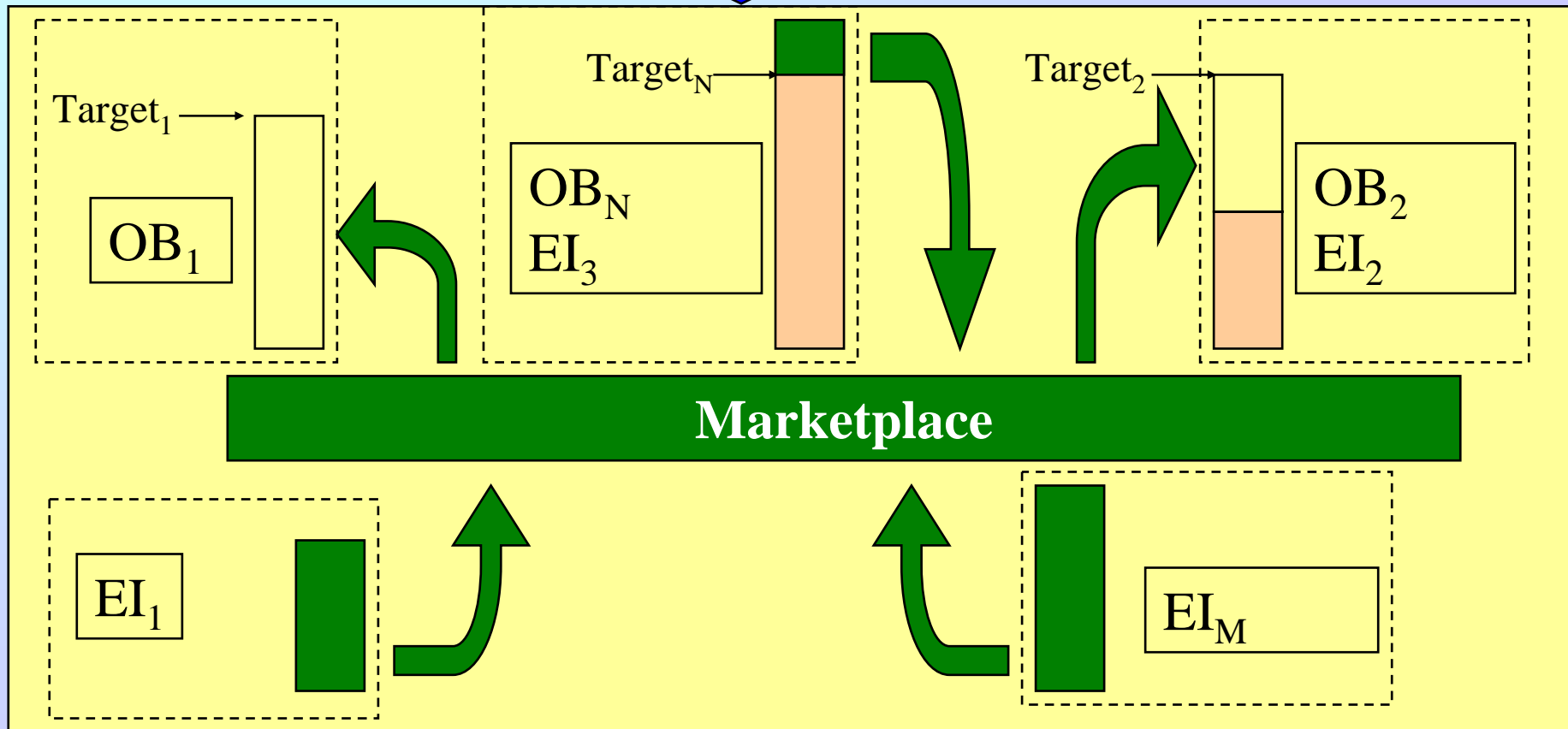
they have no target to match

or

they gained WhC above their target

GENERAL SCHEME

Public board: mandatory EE (=WhC) targets



Obligation-bound actor (OB)

Eligible Implementer (EI)

■ WhC excess

■ Gained WhC

MATTER TO BE DISCUSSED

Obligation-bound actors = WhC target fulfilment:
who?

producers?

distributors (e.g. in Italy, distributors over a
threshold)?

retailers?

energy/fuel suppliers?

consumers?

MATTER TO BE DISCUSSED

Eligible implementers of Energy Saving Projects =
WhC gain:

who?

obligation-bound actors?

exempted actors (e.g. distributors below the threshold)?

energy services companies (ESCO)?

minimum requirements? official register?

consumers?

all? only large ones?

market intermediaries?

any economic actor? over a threshold?

MATTER TO BE DISCUSSED

Allocation criteria for Energy Savings targets on
OB (= WhC targets) :

how?

number of served customers?

volume of distributed electricity?

turnover?

MATTER TO BE DISCUSSED

Eligible (= WhC generating) Energy Saving Projects:

what about:

criteria

size

evaluation of the saving impact = n. of WhC generated

persistence of the saving effects

additionality (how to prevent from free-riders)

based on increase of turnover?

based on innovation?

based on present market?

monitoring mechanisms (duration, responsibilities)

MATTER TO BE DISCUSSED

Non-compliance regime (grace periods, penalties, etc)

Trading mechanisms:

- participants to the market

- lifetime of certificates

- frequency of transactions

- safety rules

- banking

- borrowing/grandfathering (if applicable)

MATTER TO BE DISCUSSED

Chance of extra-national enlarged market:

within EU (Proposal EU Directive on EE in end-uses)

within OCDE

Interaction with other EE policy tools

Interaction with other trading schemes:

Renewable Energy Commitment scheme (*Green Certificates Trading*)

Carbon trading scheme (*Black Certificates Trading*)

Possible cost-recovery mechanisms

Rebound effects (unexpected upshots)

A POSSIBLE TRADING SCHEME - Italy

Italian targets

Twins Ministerial Decrees of June 2004

Mandatory quantitative targets of primary energy savings at the national level (against the “business as usual” scenario)

Year	Annual Energy Savings (Mtoe/year)	
	Electricity Distributors	Gas Distributors
2005	0.1	0.1
2006	0.2	0.2
2007	0.4	0.4
2008	0.8	0.7
2009	1.6	1.3

A POSSIBLE TRADING SCHEME - Italy

Obligation-bound actors

Electricity and Gas Distributors

Threshold: 100.000 customers as at 31.12.2001

gas: 24 distributors; 60% of total customers

electricity: 10 distributors; 98% of total customers

A POSSIBLE TRADING SCHEME - Italy

Apportionment criteria

Apportionment on the basis of the quantity of electricity/gas distributed to final customers compared to the national total, in the previous year

A POSSIBLE TRADING SCHEME - Italy

Eligible Energy Saving projects

only demand-side actions (energy savings in generation uneligible)

illustrative list: 14 classes of projects with more than 35 sub-classes; among the others:

- use of high efficiency electric devices/motors,
- substitution with electric energy where convenient
- containment of electricity leaking (stand-by)
- increasing efficiency of lighting systems
- power factor regulation in final uses
- improving the combustion efficiency
- building insulation

A POSSIBLE TRADING SCHEME - Italy

Evaluation of Energy Savings

Default method (no on-field measurement)
based on standard evaluation procedures

Analytic method (some on-field measurement)
based on standard evaluation procedures

Metered baseline method
based on measurements 'before' and 'after' the
implementation

A POSSIBLE TRADING SCHEME - Italy

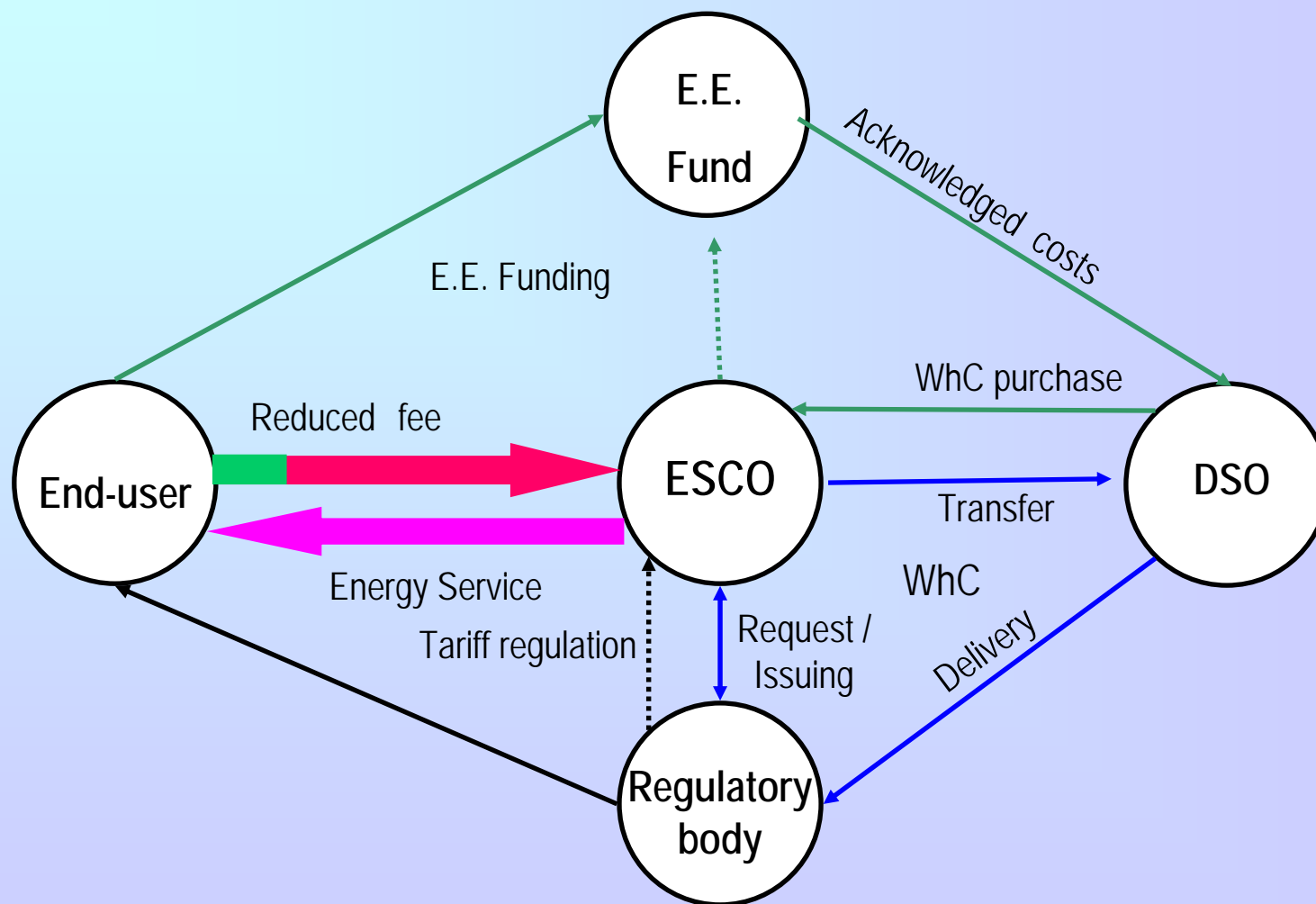
Eligible Implementers of the Projects

distributors (directly or via controlled companies)

ESCOs

(ESCO are accredited through a self-declaration: “the supply of integrated services aimed at realising and possibly managing energy efficiency measures is included among the ESCO’s commercial scopes”)

A POSSIBLE TRADING SCHEME - Italy



WILL IT WORK?

Implementation

start-up: January 2005

considered projects: performed in 2001-2004

projects approval performed

Energy Savings certification = WhC issuing:
within 2005

WhC trading: from end 2005 on

Handled by the Electricity Market Operator

COSTS OF EE POLICIES

Information obtained in the IEA-DSM Task 14 open workshops

Preliminary

Not homogeneous

Not organised yet (flashes)

COSTS OF EE POLICIES

ITALY

Household user viewpoint

cost of EE policies paid as a component of the distribution tariff (at present, 0.0213 c€/kWh for electricity)

assumed electricity consume = 3000 kWh/year per customer

amount of annual electricity bill paid to fund EE policies = 0.64 €/year per customer

COSTS OF EE POLICIES

ITALY

Viewpoint of an obliged implementer of EE projects

cost recovery for each certificated saved toe = 100 €/toe:
about 10 M€ from electricity targets in 2005 against an
annual electricity turnover of about 30,000^(*) M€

penalty for non-compliance (upper limit for White Certificates
price):

related to the number of not saved toe's

proportional and greater than the investment required to
compensate the non-compliance

(*) annual consume = 300 TWh; average cost = 0.1 €/kWh

COSTS OF EE POLICIES

ITALY

Viewpoint of an eligible implementer of EE projects
(particular case of use of high efficiency electric
motors)

cost of the project: about 17 k€

savings on the electricity bill: about 11 k€/year

gain from White Certificates trading: to be referred to
the acknowledged cost recovery 2 k€/year

COSTS OF EE POLICIES

GB

Viewpoint of Regulatory Agency - Ofgem

costs of operating EEC in GB in 2002-2005 ~£ 300,000 per year.

biggest costs connected to the external auditor and to management of the database.

cost of operating the EEC anyway less than 0.5% of the total Regulatory Agency's budget (£ 400 million).

COSTS OF EE POLICIES

GB

Viewpoint of the end-user

EEC 2002-2005 added ~£4 per year per fuel to energy bills.

EEC 2005-2008 will add ~£5 on top of this.

Therefore, between 2005-2008 the total cost of EEC for a customer who uses electricity and gas would be ~£18 per year.

COSTS OF EE POLICIES

France

Viewpoint of an obliged implementer of EE projects

evaluated average cost of the EE programmes:

1 c€/kWh

assumed maximum value for penalty for non-compliance:

2c€/kWh

the penalty is doubled in case of intentional non-fulfilment (i.e. refusal to buy certificates, though they were evidently present on the market).

payment of the penalty cancels the obligation.

COSTS OF EE POLICIES

NSW - Australia

Viewpoint of implementers of EE projects

penalty for non-compliance: AUD10.50 (6.25 €) per tonne of carbon dioxide equivalent above the allowance (about 15 € for not saved toe)

large transaction costs for small energy efficiency projects due to audits: the average cost of an audit is about AUD 10,500 (EUR 6,250)

Thank you

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