



## *White certificates in Italy: the shift toward industry*

*Dario Di Santo, FIRE*

The Italian Federation for the Rational use of Energy is a no-profit association founded in 1987 that promotes energy efficiency, supporting energy manager, ESCOs and other companies dealing with energy.

Besides the activities directed to its nearly 450 members, FIRE operates under an implementing agreement with the Ministry of Economic Development to manage the Italian energy manager network since 1992.

In order to promote energy efficiency FIRE cooperates and deals with public authorities, energy technology and service companies, consultants, medium and large consumers, universities and associations to promote best practices and improve the legislation.

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Some of FIRE members: ABB S.p.A. - Acea S.p.A. - API - AXPO S.p.A. - Banca d'Italia - Banca Popolare di Sondrio - Beghelli S.p.A. - Bticino S.p.A. - Finlombarda S.p.A. - C.G.T. S.p.A. - Citroën Italia S.p.A. - Comune di Aosta - Comune di Padova - Comune di Savona - Comune di Venezia - Cofely S.p.A. - CONI Servizi S.p.A. - CONSIP S.p.A. - Egidio Galbani S.p.A. - ENEL Distribuzione S.p.A. - ENI S.p.A. - Ferrero S.p.A. - Fiat Group Automobiles - Fiera Milano S.p.A. - FINCO - FIPER - GSE S.p.A. - Guerrato S.p.A. - Heinz Italia S.p.A. - Hera S.p.A. - Intesa Sanpaolo S.p.A. - ISPRA - Italgas S.p.A. - Lidl Italia s.r.l. - Mediamarket S.p.A. - Nestlé Italiana S.p.A. - Newco Energia S.p.A. - Osram S.p.A. - Pirelli Industrie Pneumatici S.p.A. - Politecnico di Torino - Provincia di Cremona - Provincia di Firenze - RAI S.p.A. - Raffineria di Ancona S.p.A. - Regione Autonoma Friuli Venezia Giulia - SAGAT S.p.A. - Schneider Electric S.p.A. - Siemens S.p.A. - Siram S.p.A. - Sorgenia S.p.A. - STMicroelectronics S.p.A. - Telecom Italia S.p.A. - Trenitalia S.p.A. - Turboden S.p.A. - Università Cattolica del Sacro Cuore - Università Campus Bio-Medico di Roma - Università Cattolica Sacro Cuore-Sede Roma - Università degli studi di Genova - Università degli studi di Roma Tor Vergata - Università di Pisa - Università degli Studi di Salerno - Vodafone Omnitel N.V. - Wind Telecomunicazioni S.p.A.

**ENSPOL**  
Energy Saving Policies

EEO and other  
policy measures



[www.hreii.eu/demo](http://www.hreii.eu/demo)

**Whaves**  
Heat recovery in  
industry

**SME energy  
check-up**

Energy audits in  
SME



[www.esd-ca.eu](http://www.esd-ca.eu)

Among completed projects:

- [www.soltec-project.eu](http://www.soltec-project.eu)
- [www.enforce-eeen.eu](http://www.enforce-eeen.eu)
- [www.ener-supply.eu](http://www.ener-supply.eu)
- [www.e-quem.enea.it](http://www.e-quem.enea.it)
- [www.eu-greenlight.org](http://www.eu-greenlight.org)
- Eurocontract

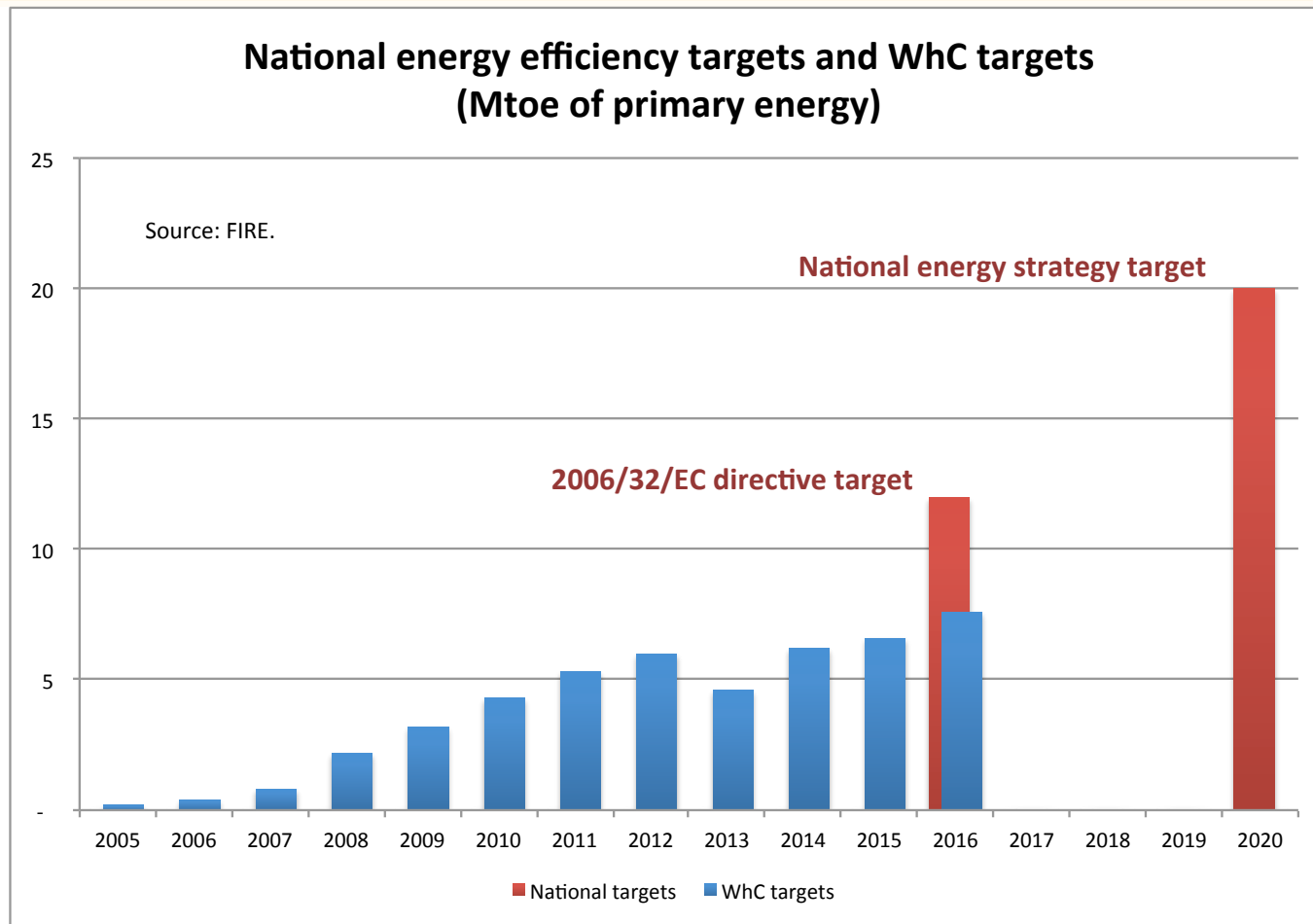
FIRE implements information and dissemination campaigns, surveys, market analysis and studies. It also organizes working group and observatories and training activities.

FIRE also certificates EGE (Energy Management Experts) through its body SECCEM.



EGE certification  
Energy Management Experts  
UNI CEI 11339

[www.secem.eu](http://www.secem.eu)



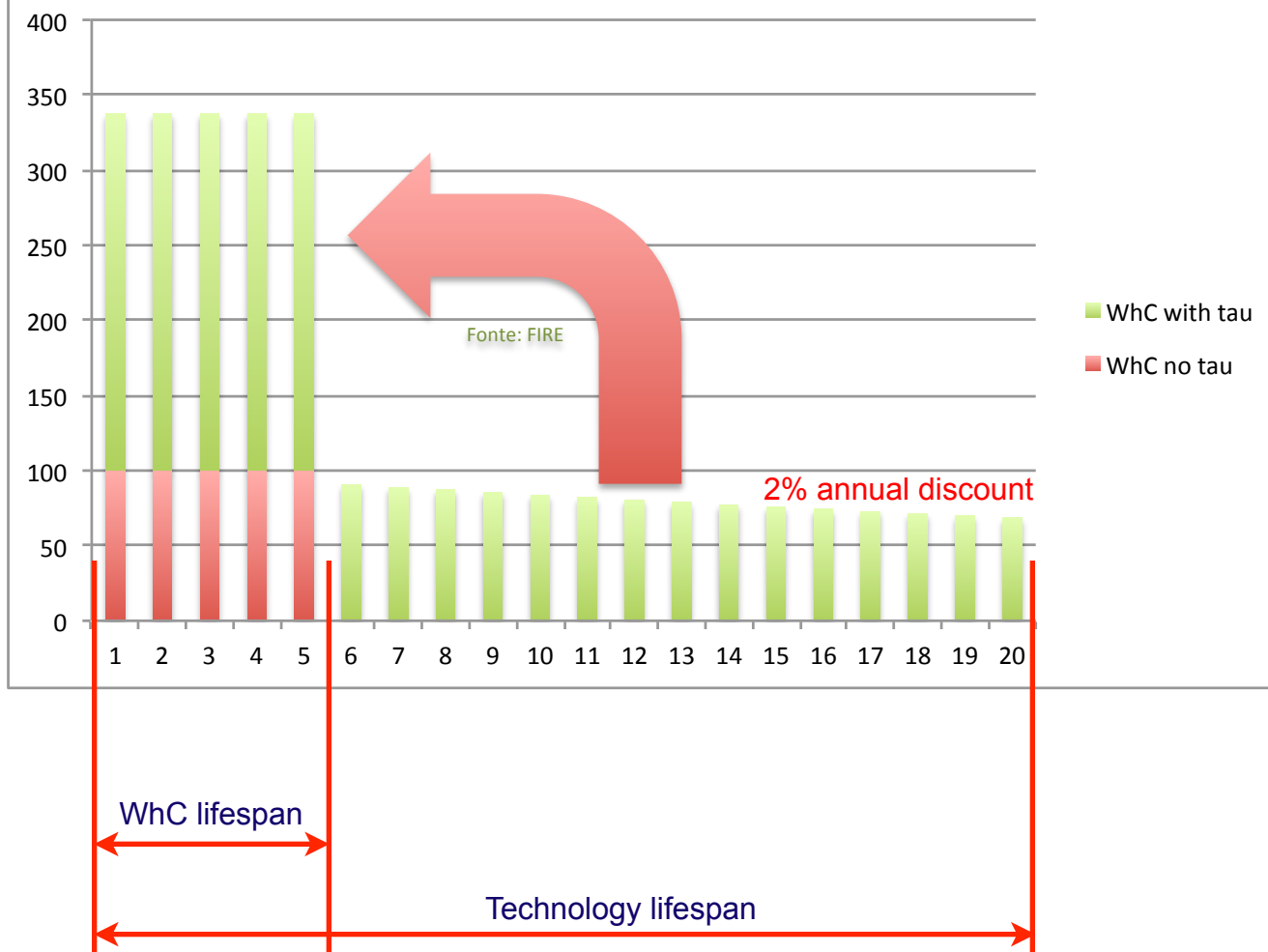
In the notification about the application of art. 7 of directive EED white certificates are designed as the main scheme, covering about 62% of 26 Mtoe of cumulative savings target as final consumption.



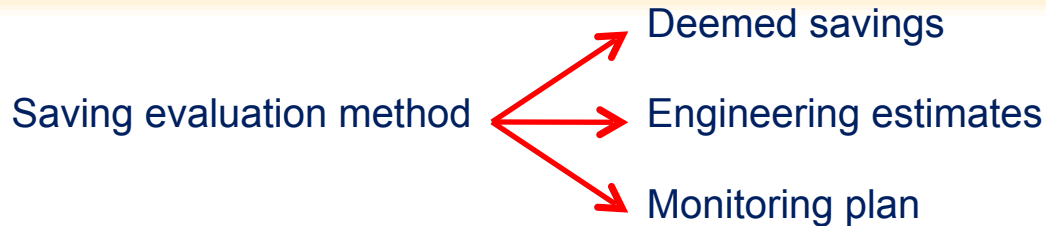
1 WhC = 1  
additional toe  
All sectors and all EE  
projects are  
allowed

## How the *tau* coefficient works

Hypothesis: annual saving 100 toe,  $\tau=3,36$







**Deemed savings projects (progetti standard)**: the saving is evaluated with respect to the number of installed reference units (e.g. square meter, kW, number of installed units). No measures are required. Only standardized solutions can be included in a deemed saving file. The proponent presents an **RVC** once.



Monitoring plans  
2005-2007: ≈10%  
2013: 82%

**Simplified monitoring projects (progetti analitici)**: the saving is evaluated with respect to some measured quantities through a dedicated algorithm defined in a dedicated file. Required meters are also indicated in the dedicated file. The proponent presents an **RVC** at least once a year.



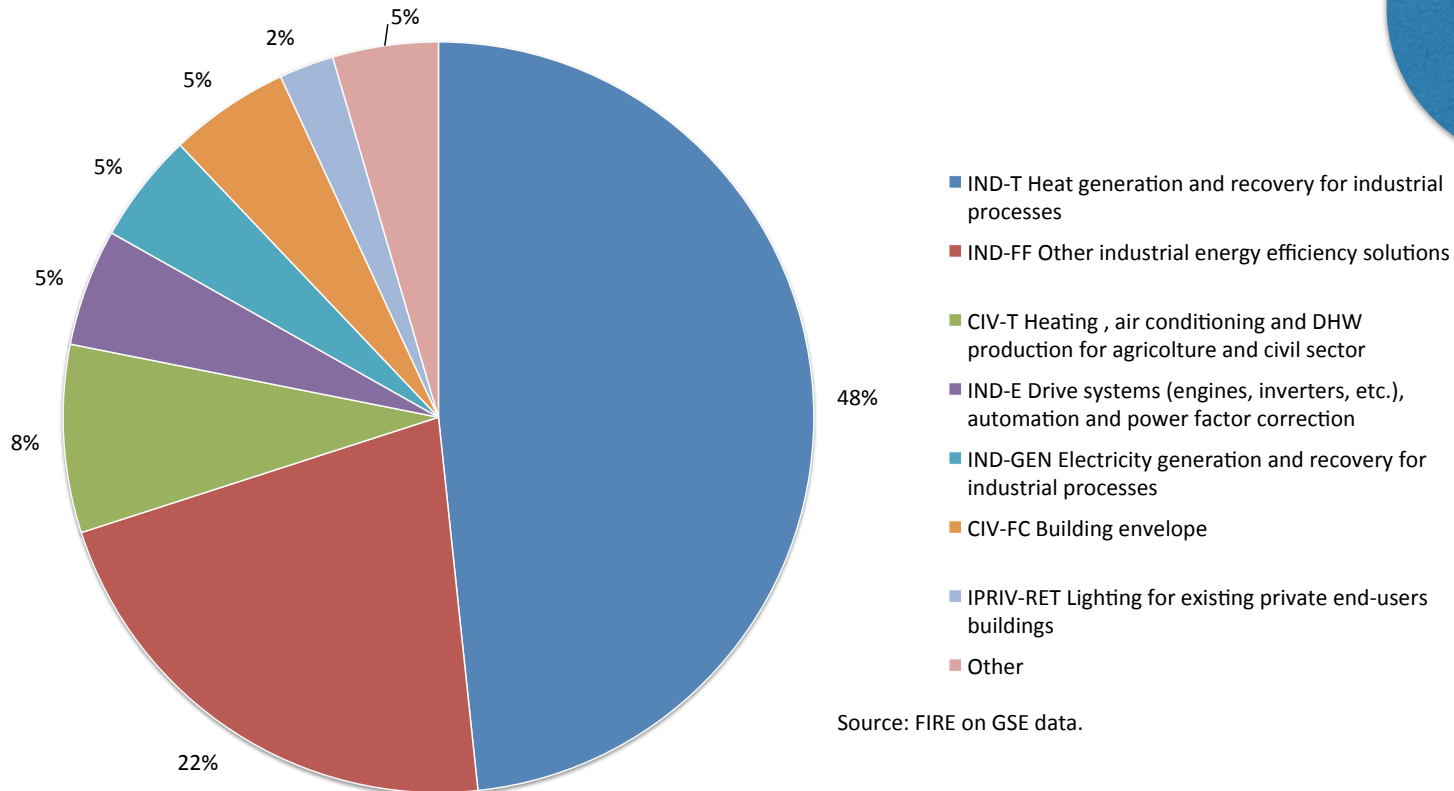
**Monitoring plan projects (progetti a consuntivo)**: the method is similar to the previous one, but the algorithm, the baseline, the additional saving coefficient, and the needed meters should be preliminarily proposed by the applicant **PPPM** and approved from GSE (with ENEA-RSE). After the PPPM is accepted the proponent will get WhC by presenting an **RVC** at least once a year.



RVC: Request to verify and certify the savings  
PPPM: Project proposal and M&V procedure

**Breakdown of WhC issued in 2013**

Industrial  
projects in  
2013: 80%



Source: FIRE on GSE data.



6.7 Mln of  
WhC issued in  
2013

26.7 Mln WhC  
issued from the start  
to April 2014

82%  
WhC from  
monitoring  
plans in 2013

72% WhC coming  
from ESP  
25% WhC coming from  
companies with  
energy manager

Source: FIRE.

Target  
2013-2016:  
from 5.5 to 9.5  
Mln  
WhC

Industrial  
projects were  
80% in 2013

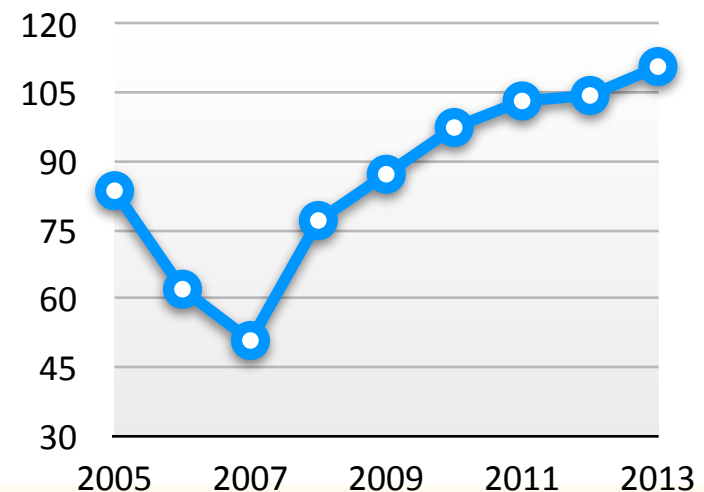
50% natural gas  
savings  
25% electricity  
25% other fuels

*tau*  
from 1 to  
4.58

63 obliged DSOs  
508 companies  
presented projects  
in 2013

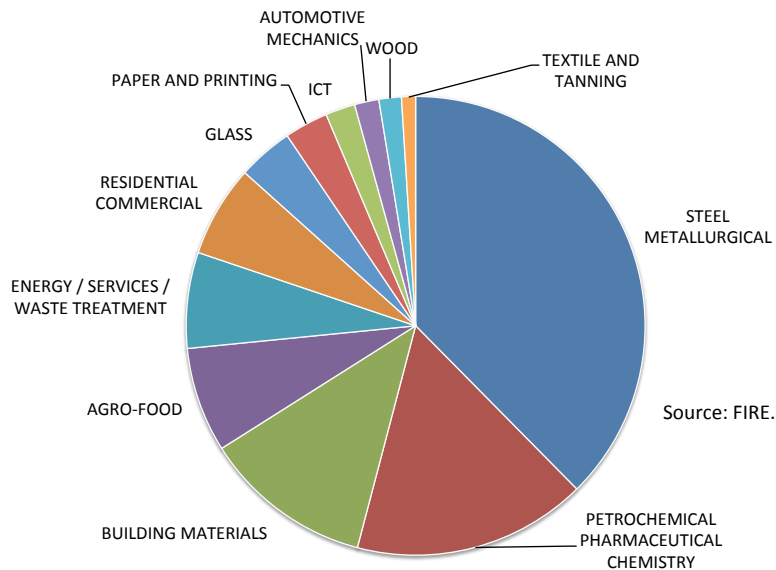
Industrial  
projects in  
2013: 80%

Weighted average price on market

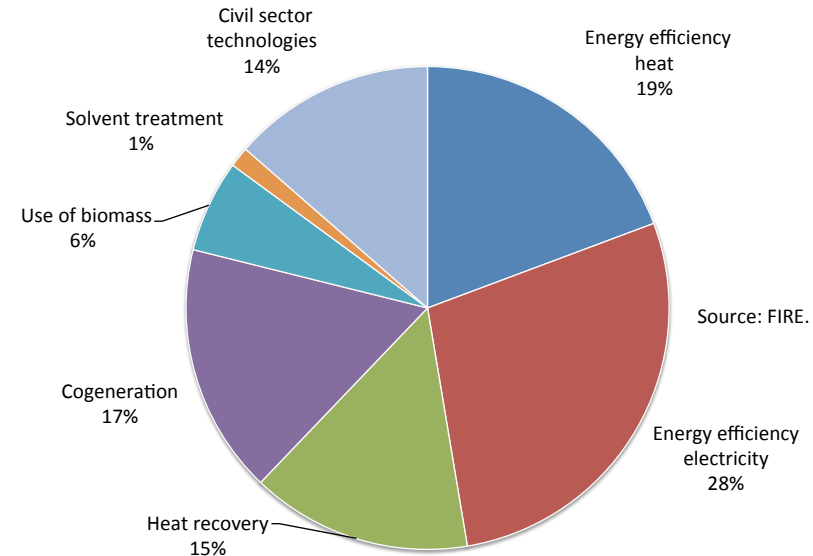


## FIRE analysis on 2005-2012 PPPMs commissioned by ENEA

**Sector breakdown for number of PPPMs**

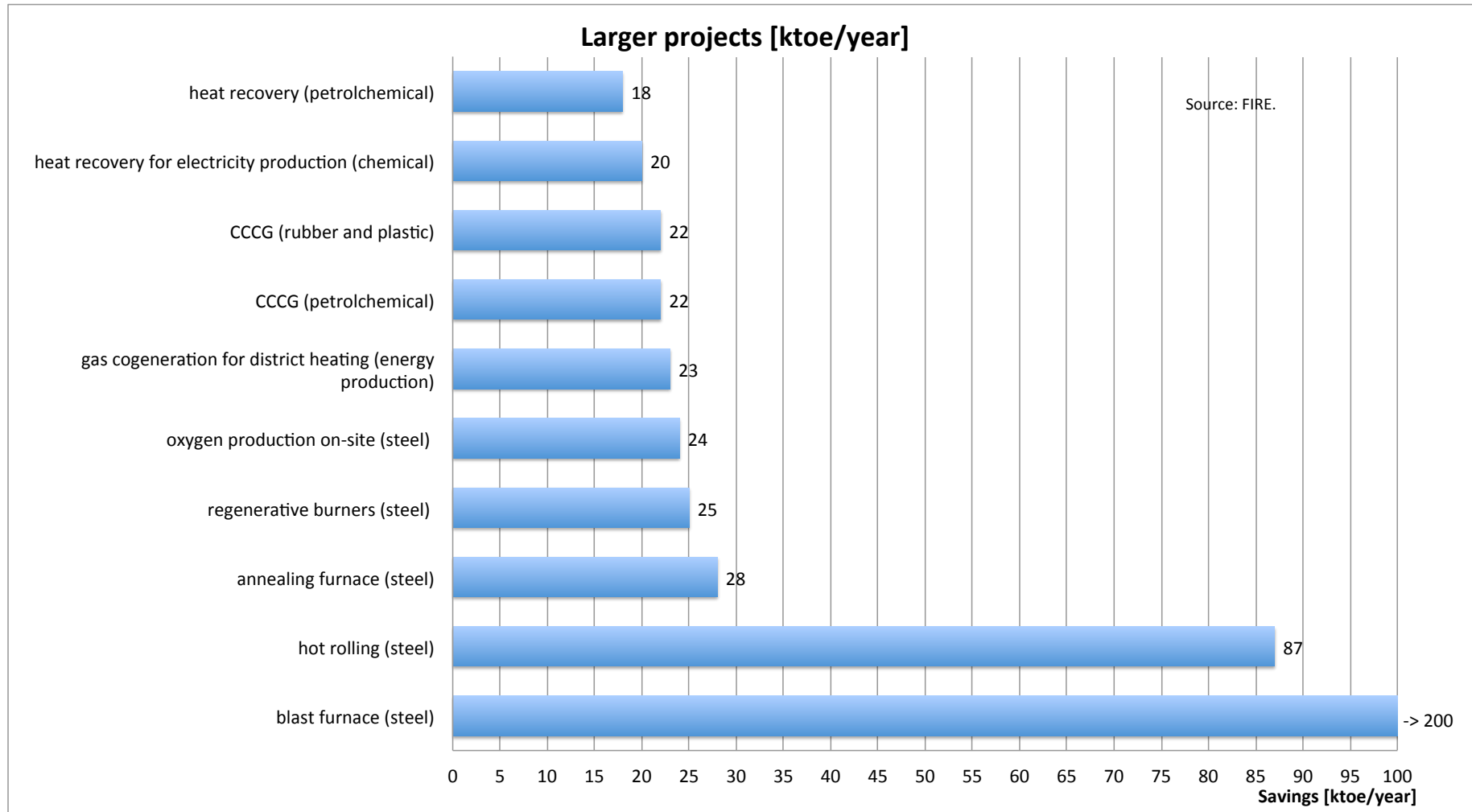


**PPPM technology breakdown**



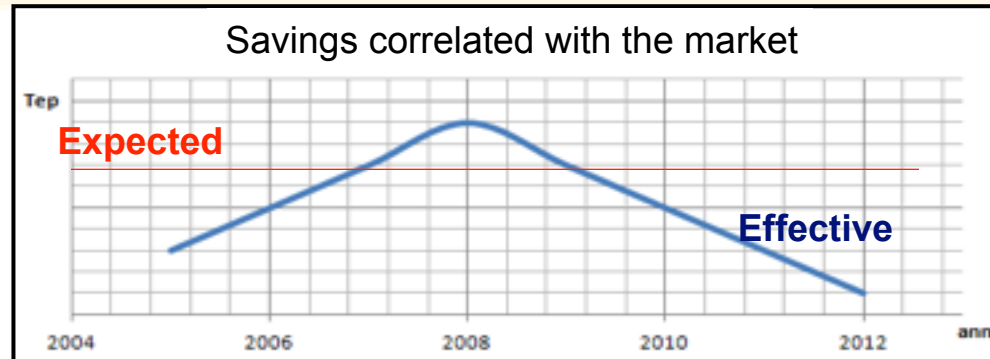
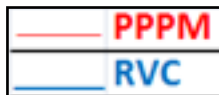
Proponents	Number of presented PPPMs	Total expected savings (ktoe)	Average project size (toe)
ESCOs and consultants	524	924	1,700
EMs	47	396	8,000
DSOs	36	30	800
<b>Total</b>	<b>607</b>	<b>1,350</b>	<b>2,225</b>

## FIRE analysis on 2005-2012 PPPMs commissioned by ENEC

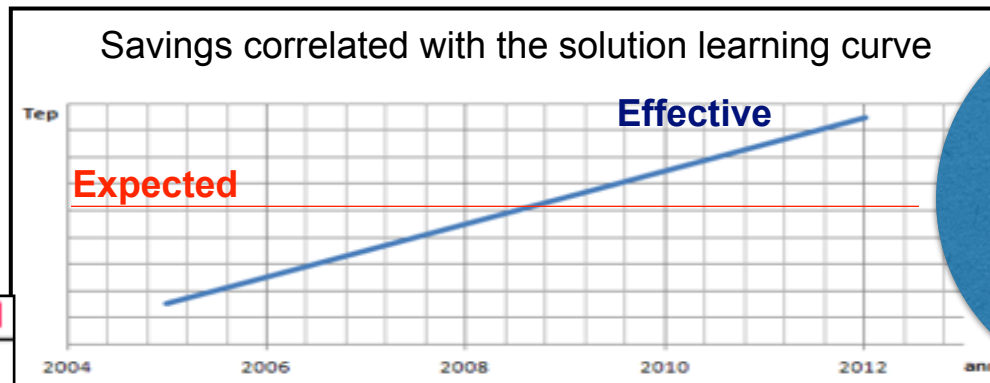
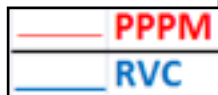


## FIRE analysis on 2005-2012 PPPMs commissioned by ENEA

**Case 1:** e.g. building materials, manufacturing industry

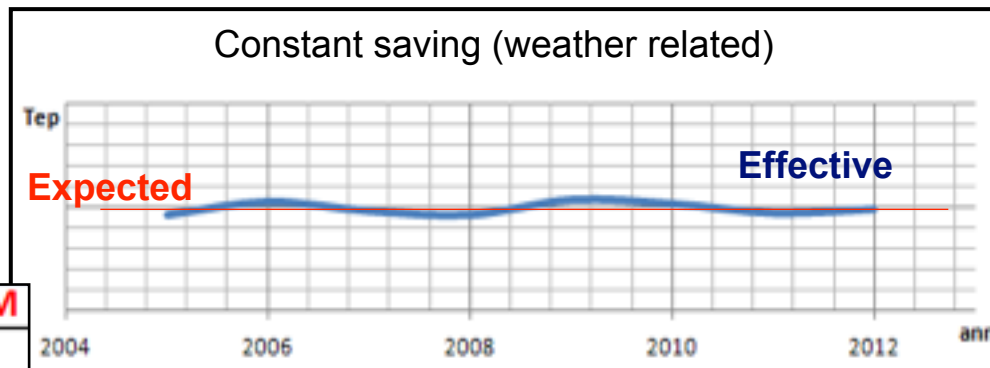
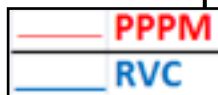


**Case 2:** e.g. furnace glass, membranes, RDF



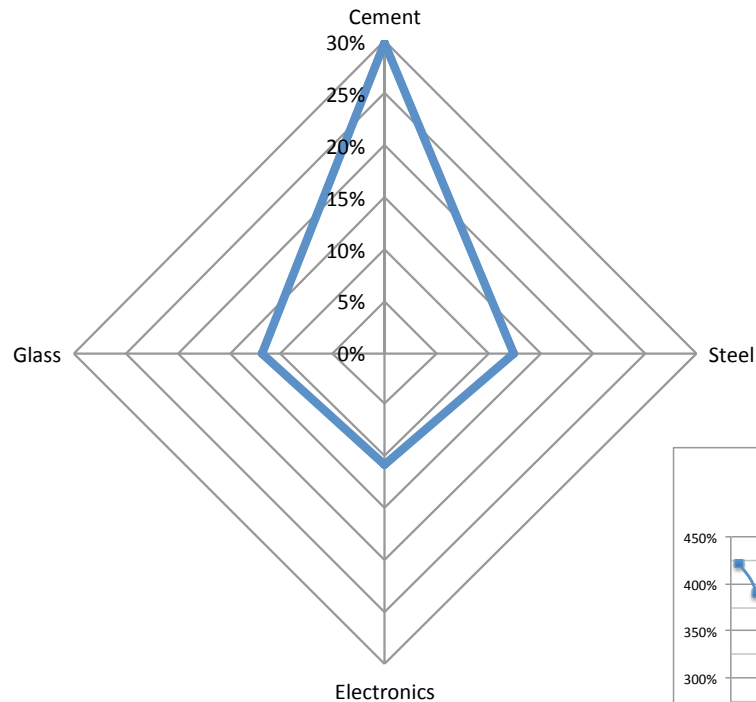
Difference between PPPM and RVC savings:  
1.4% electricity,  
-8.3% gas,  
16.6% fuels

**Case 3:** e.g. lighting, heating, cooling



# FIRE analysis on 2005-2012 PPPMs commissioned by ENEA

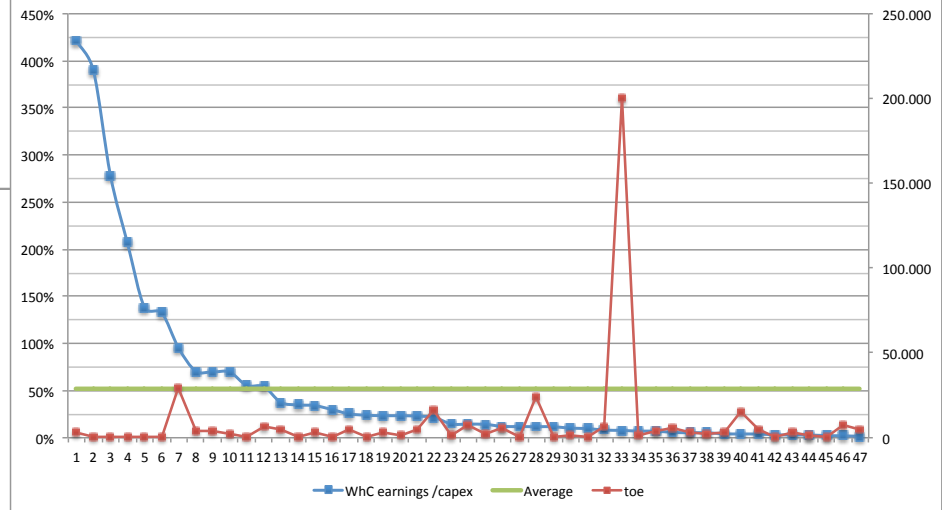
## Average WhC earnings / CAPEX ratio (sectors for which CAPEX is reported at least in 20% of PPPMs)



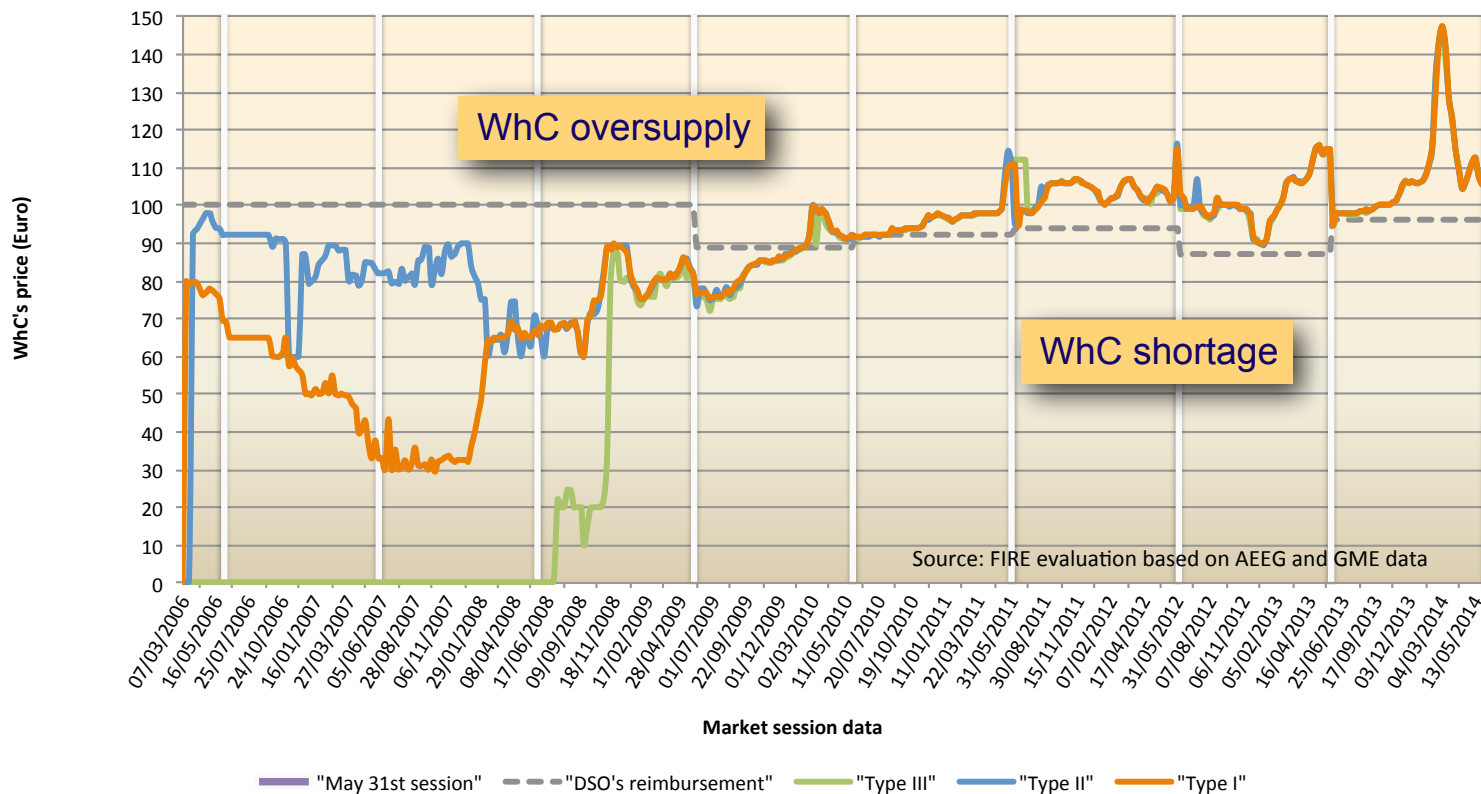
Data,  
being facultative,  
are not reliable and  
currently an  
investigation is being  
done on this  
issue.

## WhC earnings / capex

WhC cash flow are discounted at 5% on the 5 year incentive lifespan

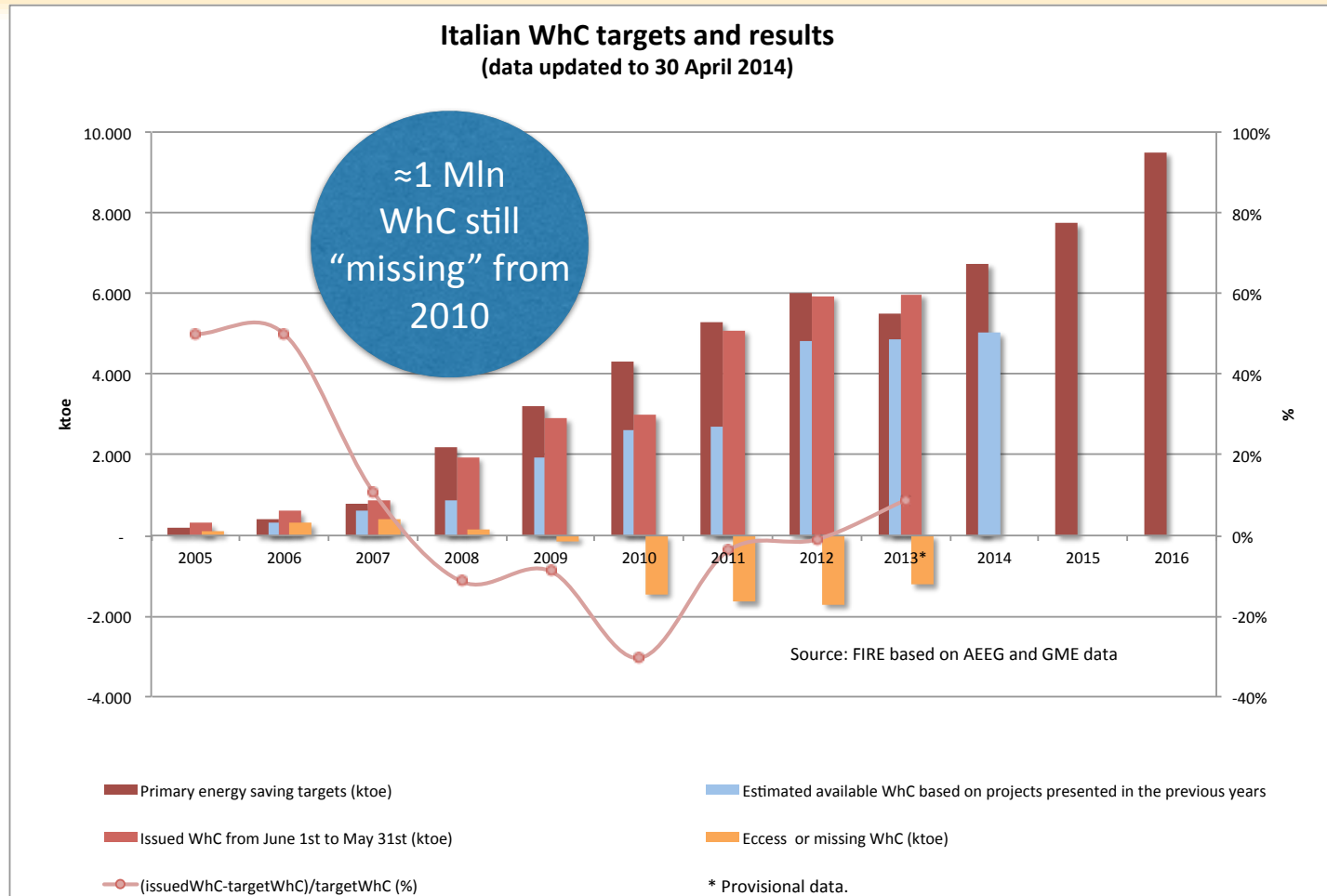


### WhC price trend



The final value of the tariff reimbursement for DSOs in 2013 should be around 106 euro/toe. It will be communicated shortly by the Electricity and Gas Authority.



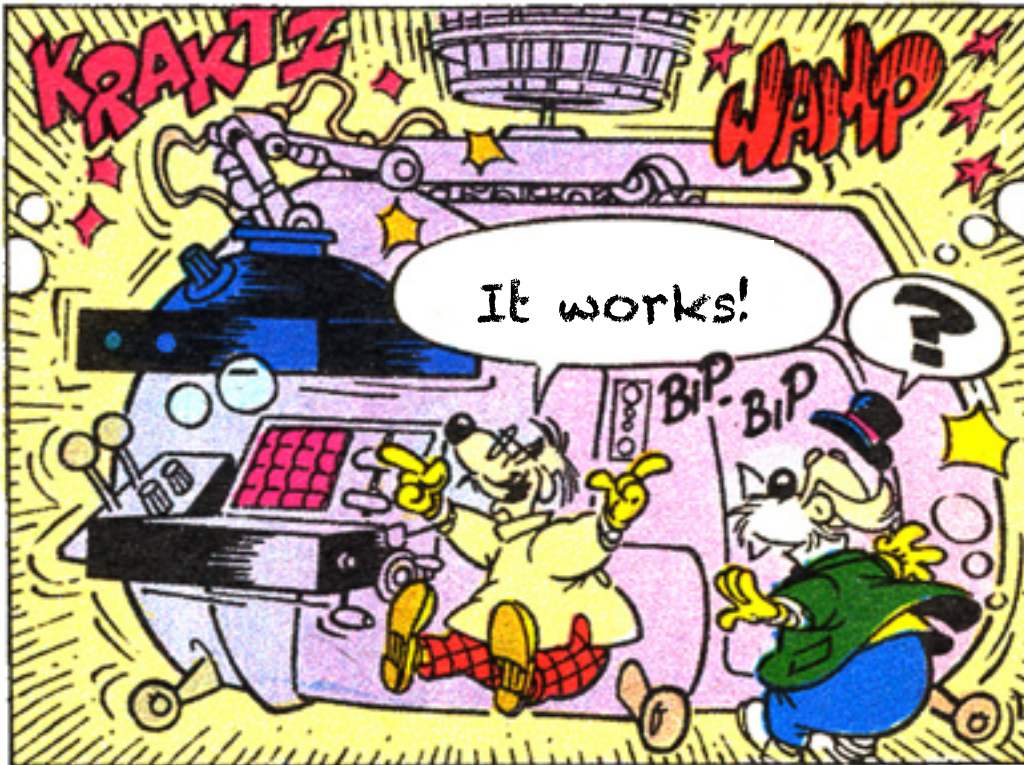


### Challenges:

Since 2014 only new projects can be presented (the PPPM shall be presented before the the energy efficiency action comes into operation).

In 2016 the sum of the increasing target and of the end of the previous WhC lifecycle will sum up to almost 4 Mtoe.

The start up has been difficult, but by continuously improving it...



Conclusions:

- by dealing with complex proposals ESPs learn much about industrial processes and they can replicate best practices;
- knowledge and money allow some ESP to become a real ESCO with EPC and TPF for industrial process projects;
- effective promotion of EE projects in industry;
- limited mechanism cost ( $433 \text{ euro}/5 \times 2.5 \text{ toe} = 35 \text{ euro}/\text{toe}$ ).

The most important lesson learnt is that such a scheme can not be born perfect, but it needs continuous care and also some imperfections should be accepted during transitions.

The IEE ENSPOL project's main aim is to support member states who intend to set up new EEO schemes or implement alternative measures, as well as inform about the on-going development of existing schemes, and support member states with an existing EEO scheme to improve it, learning from and building on existing experiences.

The specific objectives of ENSPOL are to:

- Assess the relative strengths and weaknesses of EEOs and alternative measures based on the existing experiences and plans of member states and make recommendations for the most appropriate approaches against different criteria and under different conditions.
- Improve the knowledge and capabilities of member states (both within and outside of the project) with regards to the different options available for implementation of Article 7 (EEOs and alternative measures).
- Ensure the effective engagement of the broad range of stakeholders with an interest in the implementation of Article 7 and promote a wide consultation at European level.
- 4. Complement and enhance the work of existing EU and member states initiatives concerned with the implementation of Article 7 EED.

The Enspol project has just started up and will go on till 2016.

Informal session at 15.15 about cost-effectiveness indicators for EEOs and other policies.



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