

Energy Efficiency: the Italian way for buildings and industry



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ENEA - Italian National agency for new technologies, energy and sustainable economic development

LCS – R.Net Third Researchers Meeting

Sharing experiences in the promotion of energy efficiency and of the dematerialization of the economies

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The White Certificates Scheme



According to the **White Certificate (WC) Law** the EE & Gas Distributors with more than 50,000 customers are required to **reach certain yearly energy saving targets in end uses**, proportional to the energy delivered and increasing with years (i.e. in 2011 it's 3.1 Mtoe/yr for EED and 2.2 Mtoe/yr for GD).

For each toe saved and certified by Enea, the Distributor gets 1 WC and each year **must submit to the EE&Gas Authority an amount of WCs equivalent to the assigned target for the previous year.**

The results reached by the White Certificate System **have overcome the fixed target**, opening the way for a future extension of this tool which, for the moment, is going to expire on December 31st 2012.

Types & Methods



There are **three types** of white certificates:

- **Type 1** is related to **electricity saving**;
- **Type 2** is related to **gas saving**;
- **Type 3** is related to **other fuel saving**;

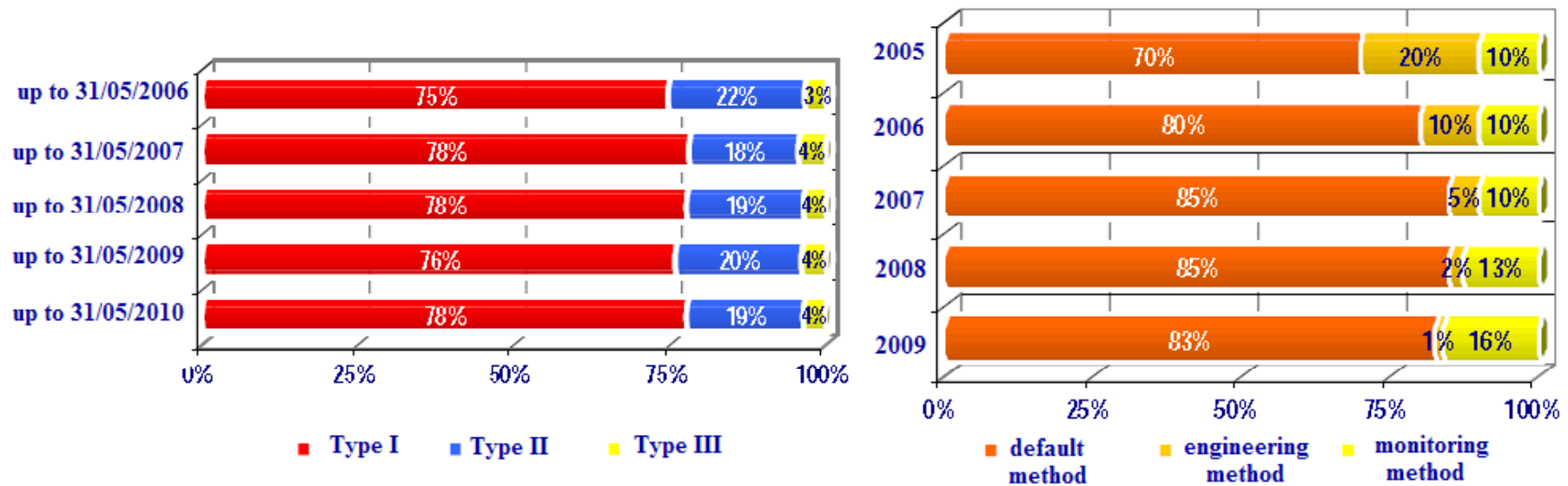
and **three different evaluation methods**:

- ❖ **default method**: saving evaluation only deemed according to the number of units installed at the final customer; no on-field technical measures required;
- ❖ **engineering method**: simple calculations and few on-field measures required; the proponent has to submit the measures and the related calculation to the Authority every year;
- ❖ **monitoring method**: detailed project with a complete energy monitoring plan, subject to ENEA pre-approval.

The results (Dec 2010)



Main results achieved 2005 – 2010:



Several ESCOs authorised to perform works (1,200 till now)

6,000 projects implemented

8.5 Mtoe of energy saving achieved

22.5 Mtons of CO2 avoided

Source: AEEG (2011), "Rapporto annuale sul meccanismo dei titoli di efficienza energetica"

Energy demand in the residential sector

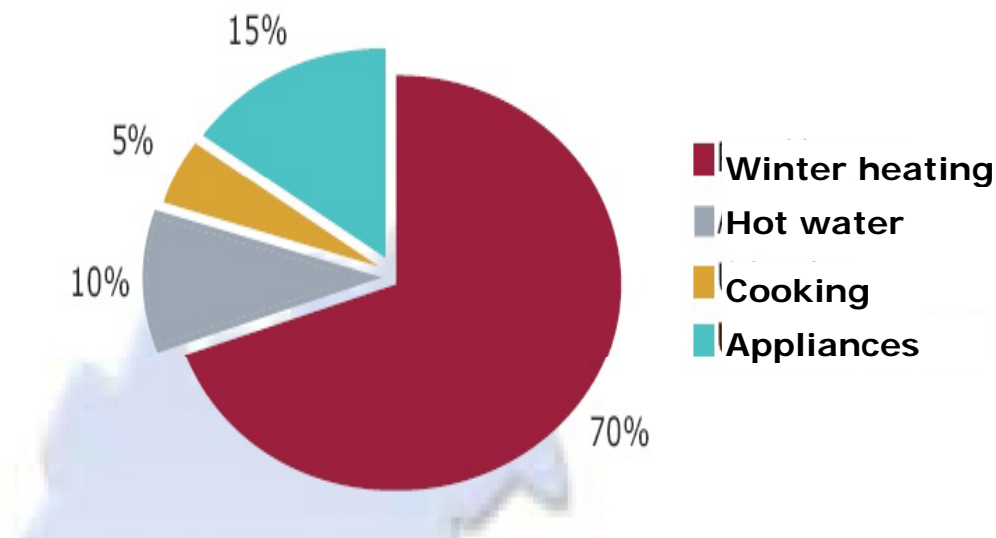


Global consumption of energy in Italy in 2009: 133 Mtoe

35.2% of this is attributed to buildings (46.8 Mtoe)

About 80% of building consumption is for winter heating and hot water production

It's possible to reduce over 50% this consumption with easy works



Source: ENEA

The Italian Finance Law 2007



It's the most generous system of incentives ever established in Europe. Has introduced a tax deduction

- of **55%** of all expenses for all taxpayers for works to save energy for winter heating in existing buildings
- with high limits of deduction **from 30 to 100 k€.**

The boosted works:

- Total retrofitting of existing buildings
- Insulation of walls, floors and roofs
- Replacement of windows with low transmittance ones
- Installation of solar thermal collectors
- Replacement of boilers with condensing or biomass ones or high efficiency heat pumps

How it works



- **Results are stated by users** under their own liability and certified by professional people
- Performance control on realized works and penalties, if any, are **in charge of the Revenue Agency**
- For 2011, taxpayers will receive back 55% of what they spent **in ten years**
- Incentives will end on **31 December 2011** but they will be probably extended.

What ENEA does



- **Receives and validates** documents sent by users stating the realized works
- **Informs and provides technical consulting** for public about incentives
- **Reports** the Authorities about costs and results of the incentives
- **Runs an internet site** with f.a.q. and a consulting service by e-mail (over 80,000 questions were promptly answered in four years) for technical matters, instructions for use and sending documents: <http://efficienzaenergetica.acs.enea.it>, (120,000 visitors each month as average)
- **Manages a toll free phone number** for info and consulting: **800 589090** (500 calls daily as average)

And who does it

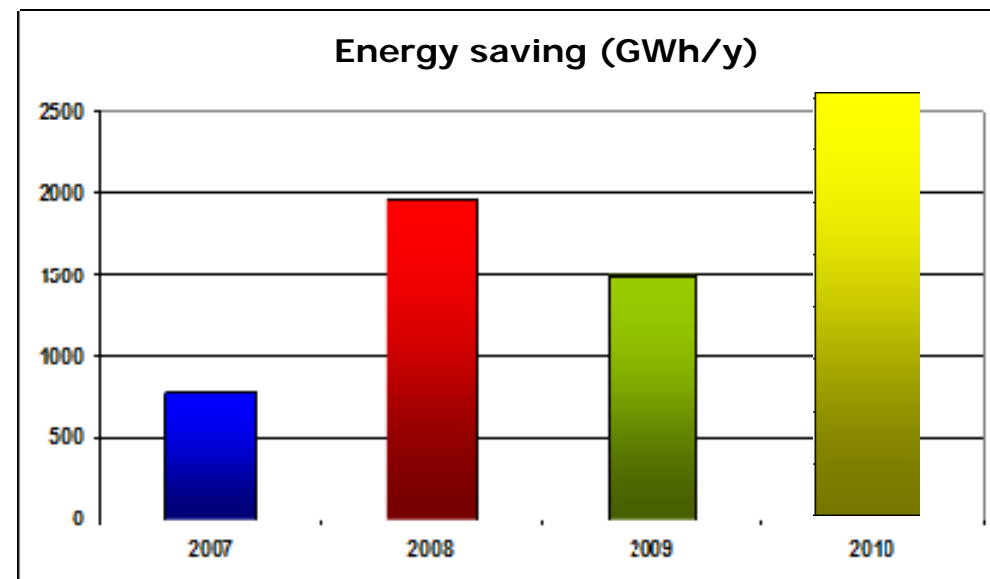
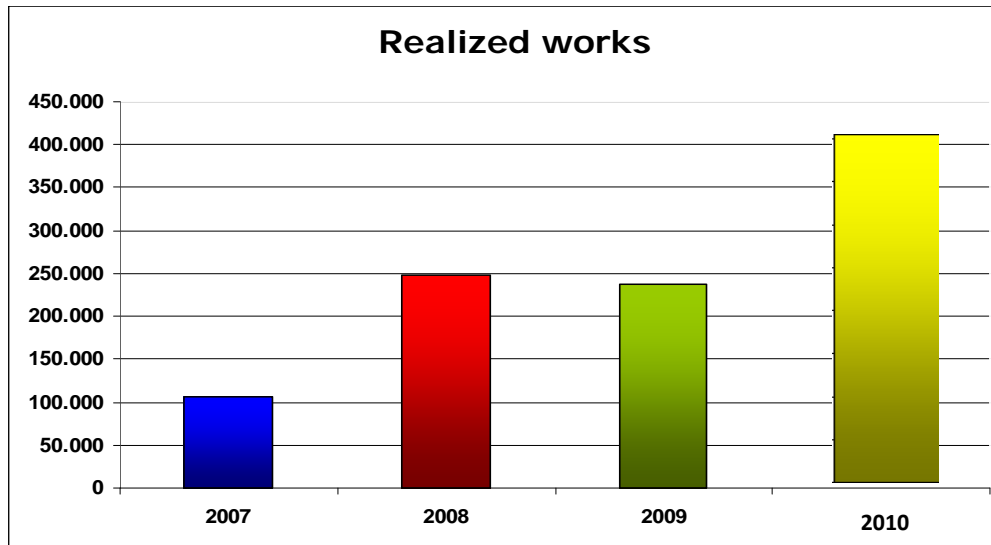


ENEA Energy Efficiency team for managing the whole campaign:

4 people

A record for the Italian P.A. (and not only Italian!)

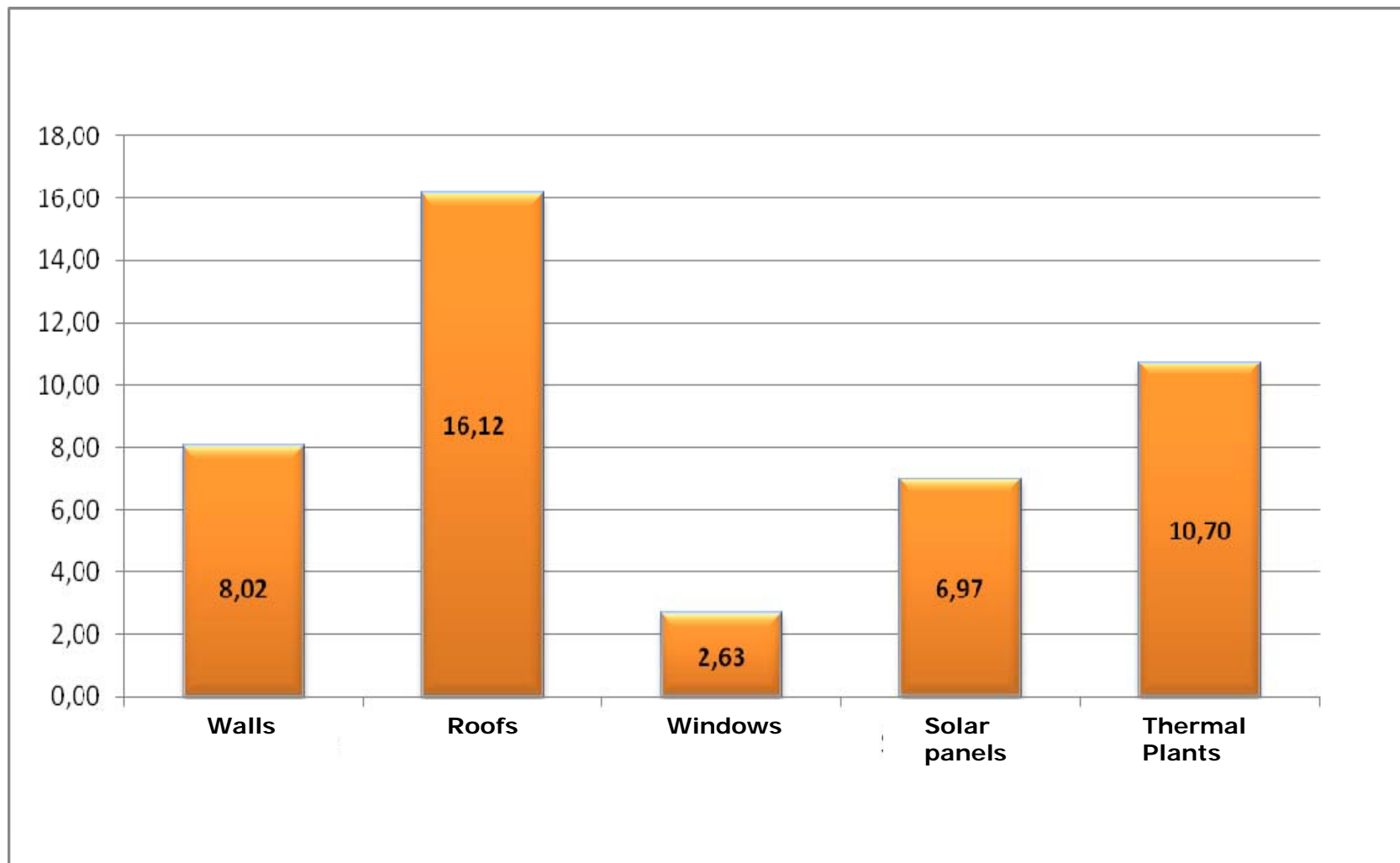
55% - The results



2010 vs. 2009: **+ 71,3%**
In four years: **ONE MILLION OF WORKS!**

CO₂ not emitted: 2007: 167.400 t/a;
2008: 418.000 t/a; 2009: 317.000 t/a

Results 2009: saving per kind of work (MWh)



«The side effects»



The foreseen positive effects (besides to energy saving & CO2 not emitted) :

- **Development** of energy efficiency market
- **Support** to production & technological innovation
- **Increase** of green jobs & green economy, in social & fiscal terms, mainly for young people
- **Tax recovery**, fiscal basis enlargement and concealed labour reduction
- **Less environmental and sanitary costs** for the lower pollution of heating plants