



ERASME Project

EneRgy Audits in SMEs



energy audit

energy consumption

energy efficiency

energy efficiency

clean energy

renewable energy

PROJECT DESCRIPTION

The ERASME project was born almost simultaneously with the European directive 2012-27-EU on energy efficiency, which, accordingly to paragraph 4 of article 8, requires Member States to organize mandatory energy audits for large companies, while paragraph 2 imposes the drawing up of programs to encourage SMEs to undergo energy audits and encourage the subsequent implementation of the recommendations resulting from these audits. The analysis of the situation in the countries of the macro-region of Central Europe, which goes from Emilia Romagna to Poland, showed (2011) that in reality SMEs are reluctant to engage in energy audits for several reasons: the lack of certainty that they lead to a useful result, the lack of trust in the consultants, the fear of showing their technology to an external technician, the reluctance to spend for a detailed diagnosis and then having to face further design costs.



OBJECTIVES

The ERASME project proposed to verify some solutions that could, at least in part, solve these difficulties:

- split the energy audits in two phases, a preliminary one carried out for promotional purposes, followed eventually by a second, more detailed one against payment;
- standardize the methodology for the first phase (the European standard EN 16247-3 came into force in 2014);
- give priority to energy consumption related to general services (heating, air conditioning, refrigeration, compressed air, ovens, ventilation, engines in general), which are present in many companies and on which it is easier, with respect to processes, to intervene with measures of energy efficiency improvements. Indeed, public initiatives carried out in Denmark and Belgium gave these indications.

The project made it possible to verify these hypotheses in seven different regions, with quite similar characteristics, highlighting positive and negative aspects.

PROJECT PHASES

The project, in a first phase of study, produced a [manual](#) to be used as a training tool and guide for energy auditors who would then undergo a specific training week. After a common training event the courses were implemented by the partners in their offices, leading to the training of a total of 70 *energy auditors*. So each partner, through a promotional activity or through agreements with local business associations, identified a number of companies willing to accept a preliminary diagnosis. In total 258 preliminary audits (out of 6104 companies contacted and 486 companies answering to the first contact) and 35 in-depth audits were performed.

The companies were of different profile, having mostly between 50 and 100 employees (small companies). An investigative phone call was then carried out with a sample of interested companies and *energy auditors*.



Thanks to the support of *ad hoc* consultative committees established within the project, regional authorities with responsibility for energy and the main banking groups were involved in each region with the aim to verify and improve the financial packages offered for energy redevelopment in industries.

Finally, the companies paying the most attention to sustainable energy management in each region and at European level have been awarded prizes.

PROJECT RESULTS

The results of the project were partially positive, but still useful for future actions to promote audits in SMEs. The response of the companies was much lower than expected: in the end only 4% of the companies contacted agreed to have a free preliminary audit and of these only 14% required a thorough audit. Even considering the period of financial and economic crisis and the instinctive distrust of new initiatives, the result makes us reflect on still how few companies are concerned by the reduction of energy costs and greenhouse gas emissions.

Therefore, a first conclusion is that an economic incentive policy is not enough to implement paragraph 2 of article 8 of the directive, but an effective communication campaign is also needed. The interest of the regional authorities has been alive, with a constant presence in the project's advisory committees, but the response in terms of active policies was very modest, preferring more traditional tools. In 2015 the Italian Ministry of Economic Development launched, through the regions, an incentive on energy audits for companies implementing at least one of the improvement measures identified by the performed audit.

On the side of bank financing, it was possible to verify within the project that large groups actually have "on their price list" financial products for energy efficiency improvement and for renewable sources, but so far the only technology on which they have been successful was the photovoltaic, while efficiency in industry is still of scarce interest. The action of the ESCOs is starting now thanks to the new procedures on energy efficiency bonds, and appears promising, at least for the industries with heavy consumption.

The technical results obtained are very interesting, having produced a very precise list of the measures and technologies most frequently proposed by the energy auditors, which go, for Italy, from photovoltaic and cogeneration, to LED lighting with presence and light controls, renewal of boilers, analysis of electrical loads to reduce peaks, thermal insulation of buildings and energy recovery of thermal waste. The project also investigated the frequency of interventions, even those already carried out by companies that are sensitive to sustainable energy management, and took over that turnaround times are rather long, even considering the incentives.

The interviews have revealed that these are mainly family businesses, in which the investment of profits in the reduction of future costs - for example for the air conditioning of buildings - is considered more advantageous than other financial choices at greater risk. In this type of company, replacing aged engines with others having highest efficiency among those offered by the market is a consolidated practice, thus achieving a continuous and gradual approach to sustainable energy management. The three best companies awarded in Emilia Romagna were in fact of this type, and one of them won, *ex-aequo*, also the European prize.

The average energy saving potential of the performed audits was around 35% (20% for Italy). A random evaluation carried out at the end of the project indicated a sincere and very positive judgment by the companies. The project products include the [Energy Audit in SMEs handbook](#).



Acronym
ERASME

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IEE-11-113

Reference Programme
[INTELLIGENT ENERGY EUROPE \(IEE\)](#)

Beneficiary Coordinator
ECUBA SRL

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EU contribution
1.049.900,25

Call Year
2011

Start Year
2012

End Year
2014

Beneficiary headquarters

Via del Cestello, 4
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Region
Emilia-Romagna

Description

EMILIA ROMAGNA, Polonia, Croazia,
Repubblica Ceca, Austria, Germania e
Ungheria