

PROJECT TREND

Support for energy audit in SMEs and implementation of the identified energy efficiency measures

Concerted Action for the Energy Efficiency Directive
2nd Plenary Meeting
Vilnius 22nd & 23rd October 2013

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Regione Lombardia

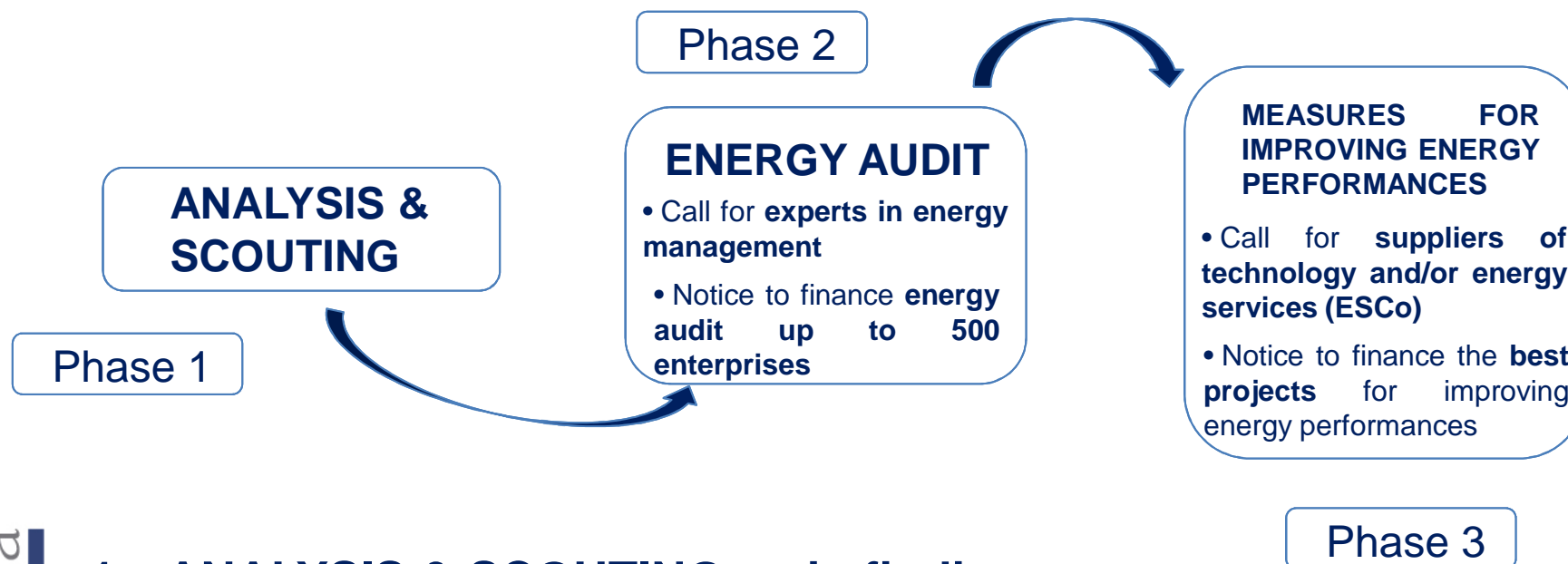


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PROJECT TREND : a brief summary

The project TREND was aimed at promoting awareness, competences and tools for energy efficiency in **SMEs**. It was carried out in **three** steps



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1. ANALYSIS & SCOUTING main findings

- Verifying the awareness about energy audit and implemented measures for improving energy performances in SMEs
- Identification of the most implemented measures for improving energy performances of SMEs (by sector) and size

PROJECT TREND : a brief summary

2. ENERGY AUDIT

- Matching demand/supply of energy management through a call for **energy experts** (general requirements based on national standard UNI CEI 11339)
- Notice for financing 75% of total costs (with a maximum of 5.000 €) to carry out **energy audits** in interested SMEs of manufacturing sector

3. MEASURES FOR IMPROVING ENERGY PERFORMANCES

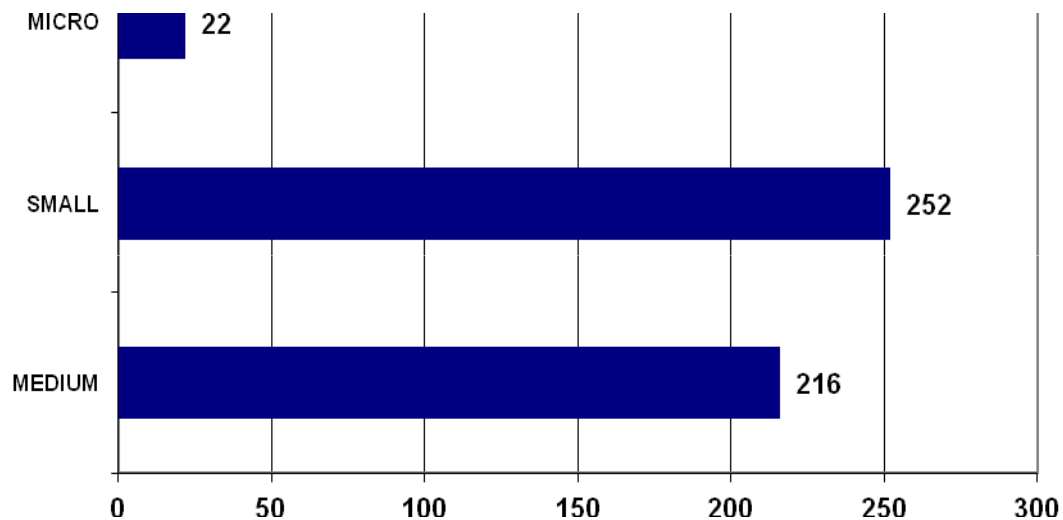
- Matching demand/supply of clean technologies and energy efficiency services through a call for **suppliers of technology and/or energy service** (general requirements for ESCo based on national standard UNI CEI 11352)
- Notice reserved to the enterprises participating to audits in the 2nd phase, and aimed to identify and to finance (50% of total costs with a maximum of 50 k€) **the best projects for improving energy performances** (in terms of innovation, energy saving, environmental benefits and competitiveness)

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PROJECT TREND focus on energy audit

FEATURES OF ENTERPRISES REQUIRING FOR AUDIT

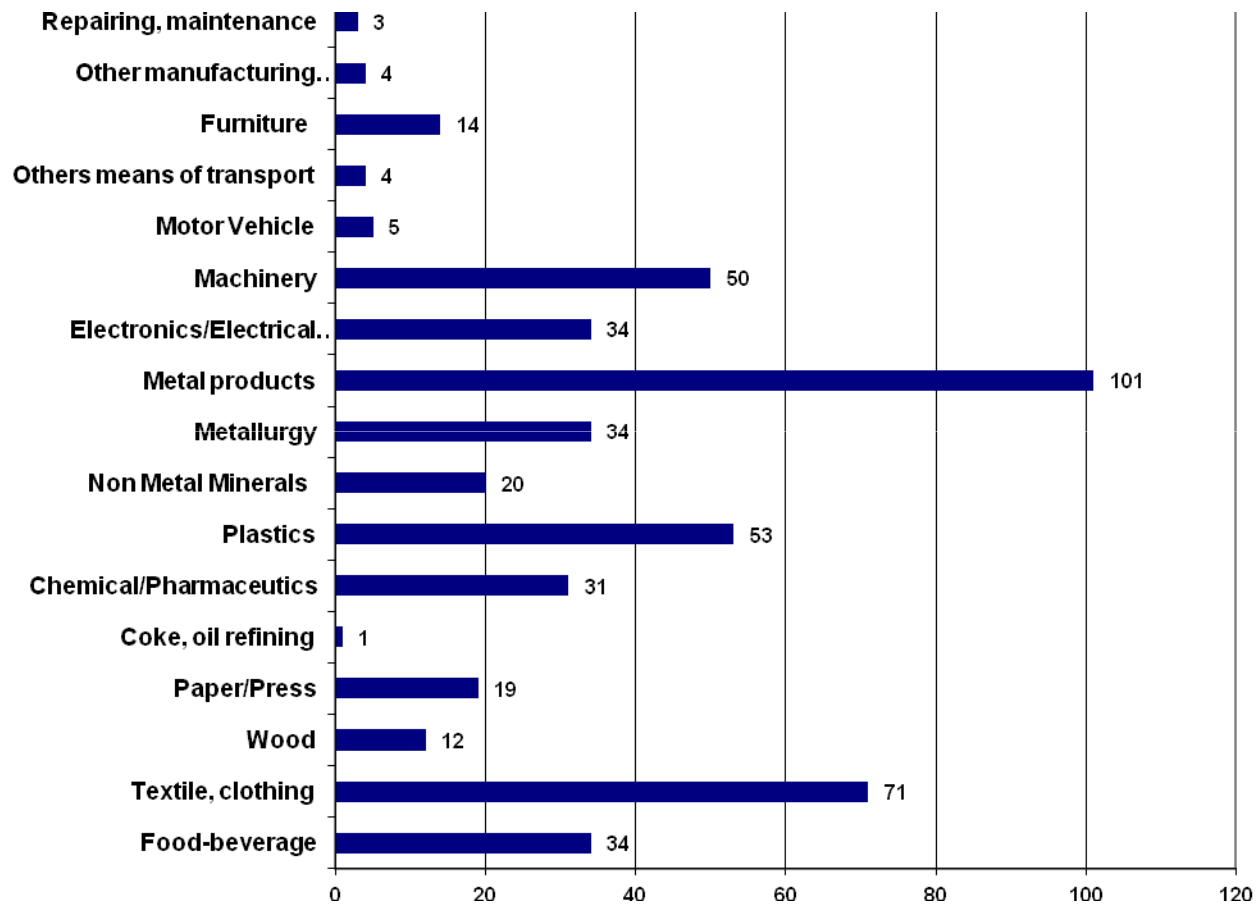


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The involved organizations were spread on the whole regional territory, and with a little majority of **medium enterprises**

PROJECT TREND focus on energy audit

FEATURES OF ENTERPRISES REQUIRING FOR AUDIT



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The greater part of SMEs involved are representative of the traditional manufacturing sectors (metal, textile, plastics, food etc..)

PROJECT TREND focus on energy audit

DATA AND INFORMATION REQUIRED

The energy auditor had to transmit

- A *descriptive technical report* about ***the activity of audit***
- A *standardized format* with the most *significant data* in terms of
 - ***organization's energy aspect*** (energy consumption, inventory of the machineries etc...);
 - ***proposed measures for improving organization energy performances*** (cost, energy saving, pay back period etc.)

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ENERGY AUDIT DATA AND INFORMATION

The analyses realized on the energetic audits have made to emerge

- **organization energy aspect:** very detailed analysis in electric energy consumptions (as more used energy vector), less developed analysis in thermal consumptions, especially for process use
- **proposed measures for improving organization energy performances:** preponderance of dedicated interventions regarding
 - **electric equipments** (use of more efficient electric engines, installation of inverter connected to pressers, pumps, fans, aspirators, etc..);
 - **lighting** (substitution with elements to elevated efficiency, installation Led);
 - **thermal plants** (use of more efficient boilers, insulation, heat recovery);
 - **power plants on site** (implementation of RES plant, CHP, etc.).

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to take away

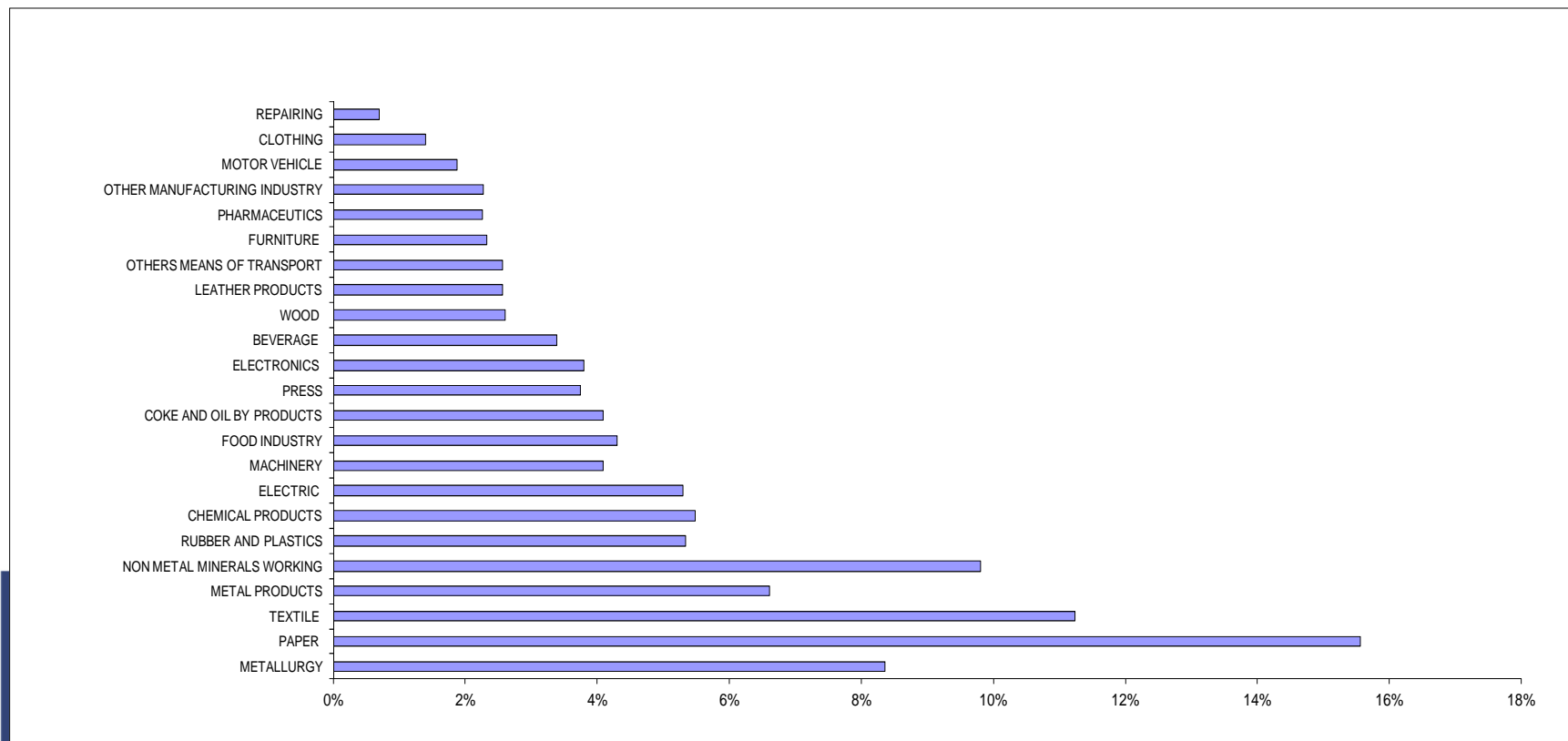
- **105 people answering the call for energy expert** and subscribing in the dedicated part of the project website
- **30 of these experts** was directly involved in one or more energy audit
- **490 enterprises** present a request in the notice for energy audits
- After a formal evaluation **408 audits** were accepted and financed
- The necessary time to carry out the call for experts and the notice for energy audits was about **8 months**
- The 408 financed energy audits **had a total cost of about 2,5 M€ (average 6.000 €)** of which **about 1,8 M€ of public funding (average 4.400 €)**. Enterprises had **4 months** to complete energy audits
- Energy consumptions of the audited enterprises were representative of about the **5% of the total energy consumptions of the sector non subject to Emission Trading** (21 % of the whole energy consumption of Regional energy balance)

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Ratio between **energy costs** and **enterprises turnover**:
analysis by productive sector (average 2-6 %)

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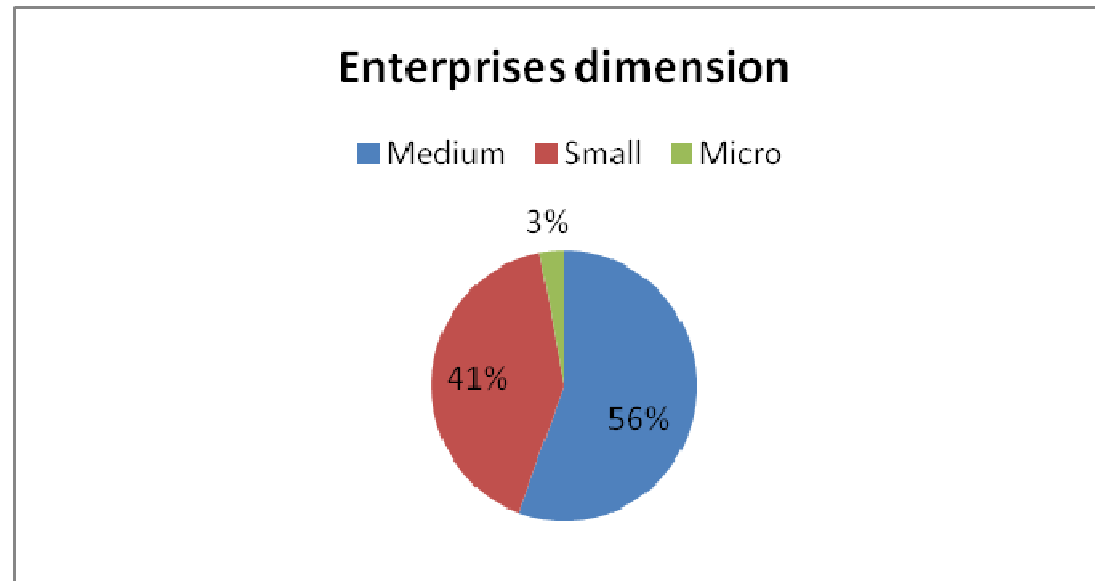
- **Five internal** persons of Finlombarda involved part time (for about 490 man day) in this phase of the project: **1 manager, 1 senior technician, 2 junior technicians, 1 administrative;**
- These five persons developed activity in:
 - implementing the part of the internet site of Trend project dedicated to call for energy expert and to the notice for energy audits;
 - defining the standard report for energy audit;
 - analysis and evaluation of the request for energy audits funding;
 - analysis of the energy audit data and information;
 - organizing two public workshops
- The **total cost** of the internal personnel was about **400 k€**

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PROJECT TREND focus on projects for improving energy performances

FEATURES OF ENTERPRISES PRESENTING PROJECTS

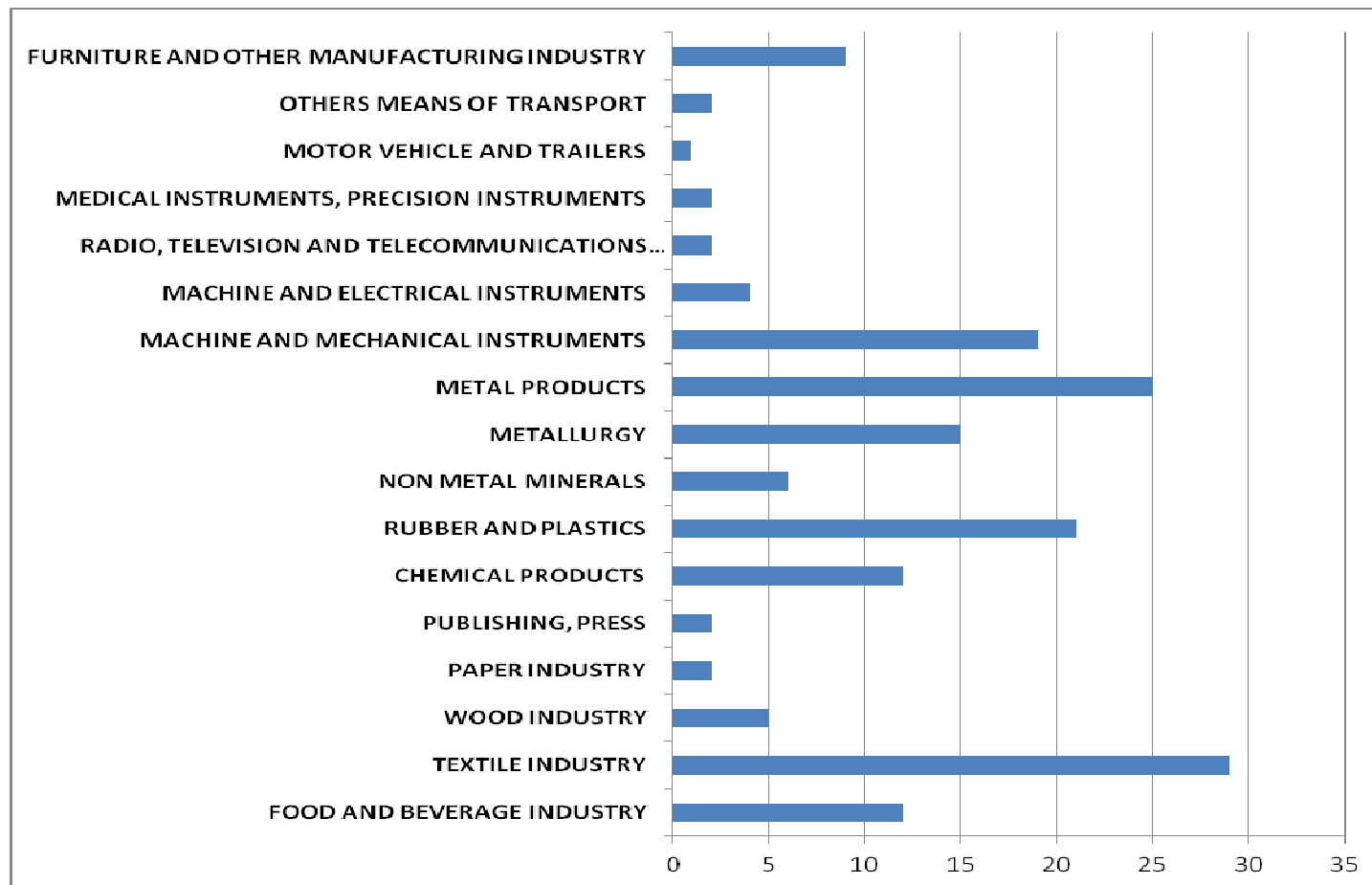


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PROJECT TREND focus on projects for improving energy performances

FEATURES OF ENTERPRISES PRESENTING PROJECTS

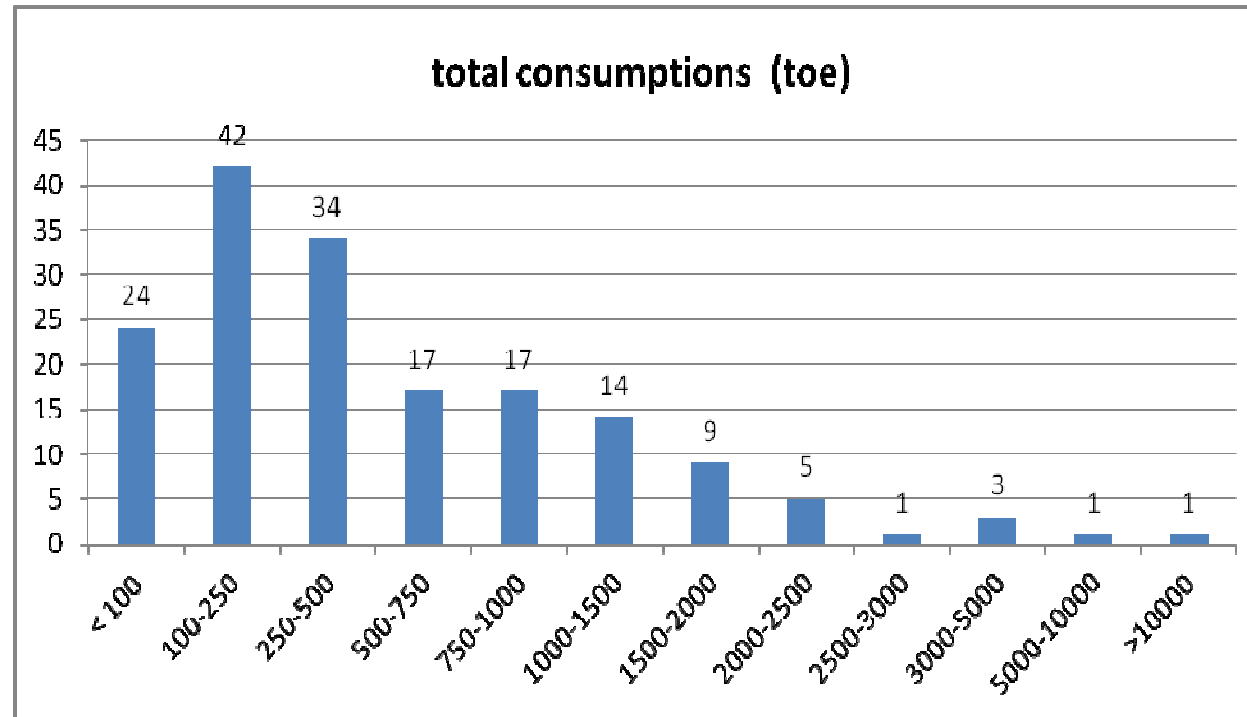


The greater part of SMEs involved are representative of the traditional manufacturing sectors (metal, textile, plastics, food etc..)

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FEATURES OF ENTERPRISES PRESENTING PROJECTS



Energy consumptions of the organizations involved were **extremely varying**: from a **minimum of 25 toe** to a **maximum of 12.000 toe**, with an **average lower than 250 toe**

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PROJECT TREND focus on projects for improving energy performances

ABOUT PRESENTED PROJECTS

The analyses realized on the presented projects for improving energy performances have made to emerge

- Greater attention for the reduction of the **electric consumptions** privileging for this reason, all that interventions that plan
 - the substitution of obsolete electric machinery with others working more efficiently (27 % of the projects);
 - the adoption of devices for power regulation (inverters and transformers, 9% of the projects)
- Significant and interesting the projects finalized to the **reduction of the thermal consumptions** (24% of the projects) mainly through **the heat recovery in the steam cycles**

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PROJECT TREND focus on projects for improving energy performances

ABOUT PRESENTED PROJECTS

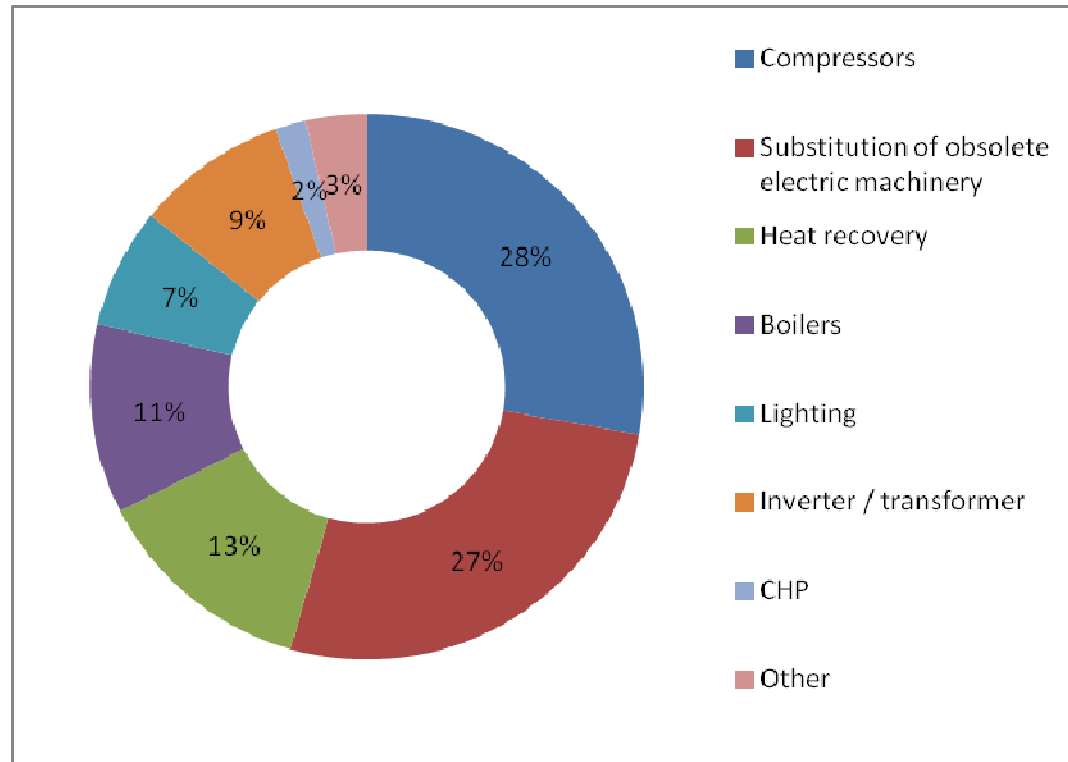
- Last but not least, the projects regarding the compressed air production cycle (17% of the projects) with two type of solutions proposed
 - cycle optimization and rationalization (also through heat recovery from compressor);
 - the substitution of obsolete compressor with others working more efficiently

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ABOUT PRESENTED PROJECTS



Measures for improving energy performances proposed

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to take away

- **60 organizations answering the call for suppliers of technology and/or energy services** and subscribing in the dedicated part of the project website
- **175 enterprises** presented a project in the notice for financing measures for improving energy performances, after a formal evaluation **169** of these were admitted to technical assessment
- The necessary time to carry out the call for suppliers and the notice for projects was about **1 year**
- A technical assessment has evaluated **88 best projects for improving energy performances** (in terms of innovation, energy saving, environmental benefits and competitiveness) **that were financed**. Enterprises had **1 year** to complete the projects
- The total cost of the 88 financed project was about **8,5 M€ (average 96.600 €)** of which **3,34 M€ of public funding (average 38.000 €)**

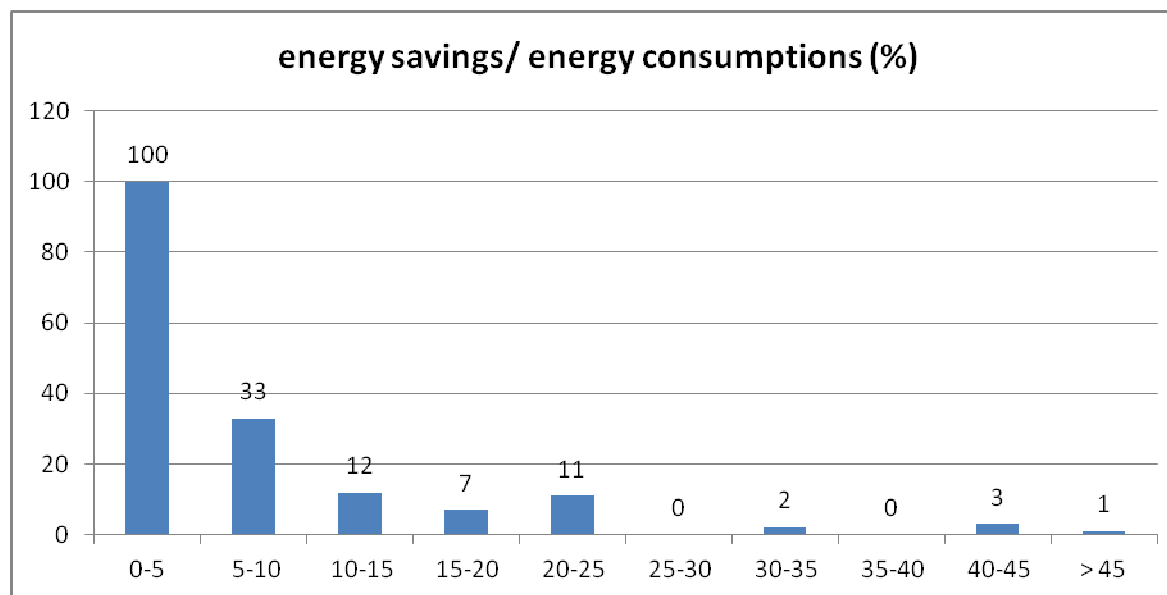
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- The presented projects will allow the organizations to altogether reduce their own energy consumptions of around **4.600 toe (4.000 toe the 88 financed)**. The average saving is about the 7% with some cases with a maximum of over 40%



Ratio between energy saving/energy consumptions for the 169 projects presented

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PROJECT TREND focus on measures for improving energy performances

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- **Four** internal persons of Finlombarda involved part time (for about 710 man day) in this phase of the project: **1 manager, 1 junior technician, 2 administrative people** to develop activity in:
 - implementing the part of the internet site of Trend project dedicated to call for suppliers of technology and/or energy services and to the notice for measures for improving energy performances;
 - formal evaluation of the request for funding the projects for improving energy performances, and of the relative documentation for the payment ;
 - defining rule for technical assessment;
 - analysis of the presented project data and information;
 - organizing two public workshops
- **Two** external evaluators (senior technician) involved to assess the best measures for improving energy performances
- The **total cost** of the personnel involved was about **500 k€**

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PROJECT TREND use of data collected

- Creation of **two dedicated internet sites** (Italian language)
www.trend.regione.lombardia.it
<http://trend.finlombarda.it/home>
- List of energy experts and suppliers of technology and/or energy services implemented in the dedicated part of internet sites
- Identification of best measures in term of energy savings (toe or € save per year);
- Identification of the most effective measures in terms of costs/benefits
- Supporting the planning of Regional energy policy and the writing of regional energy balance

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THANK YOU FOR YOUR ATTENTION

For further information

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