



Italian National Agency for New Technologies,
Energy and Sustainable Economic Development

ITALIAN NATIONAL AGENCY
FOR ENERGY EFFICIENCY



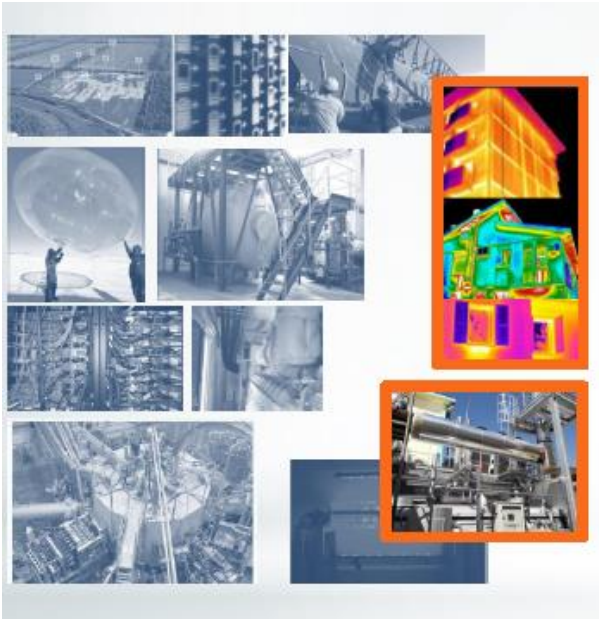
EED Art. 8 implementation for energy intensive SMEs: a national case study.

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ENEA – AGENCY FOR ENERGY EFFICIENCY (DUEE)



ITALIAN NATIONAL AGENCY
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Energy Efficiency Department of ENEA is the national Agency for Energy Efficiency. Our goal is to support industries, associations and tertiary companies in EE actions, and to support the public administration

DUEE-SPS-ESE coordinate all **energy audits** (EAs) activities:

- Management of Italian **EA database** (Art. 8 – EED) – Link to savings
- **Quality** control and EAs verification (documentary and on-site)
- Co-creation and edition of **sectorial guidelines** for development of mandatory Energy Audits (EAs)
- Development of innovative **methodologies** for energy analysis performance as function of sector and sites
- Standardization of procedures for **energy monitoring** and accounting
- Development of sector/process energy **benchmark** and energy **indicators** (general and specific KPIs)
- Active **training and information** activities in energy management

ENERGY AUDIT OBLIGATION



[EU energy efficiency directive \(EED\)](#)
[National Energy & Climate Plan \(NECPs\)](#)

EU - Art. 8 EED (2012/27/EU)
Italy - Art. 8 D.Lgs. 102/2014

The **EED 2012/27/EU** establishes a common framework of measures for the promotion of energy efficiency (EE) in order to ensure the achievement of the European targets and to pave the way for further EE improvements beyond 2030.

Italy transposed the EED into national law by issuing the **Legislative Decree n°102 of 4 July 2014** (G.U. General Series n°165 of 18/07/2014), where the whole article 8 is dedicated to Energy Audits, a necessary tool to assess the existing energy consumption and identify the whole range of opportunities to save energy.

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EU - Art. 8 EED (2012/27/EU)
Italy - Art. 8 D.Lgs. 102/2014

In Italy, according to Art. 8 of Lgs. D. 102/14, two categories of companies have been targeted as obliged to carry out energy audits on their production sites, firstly by the 5th of December 2015, and then at least every four years: **Large Enterprises and Energy Intensive Enterprises**.

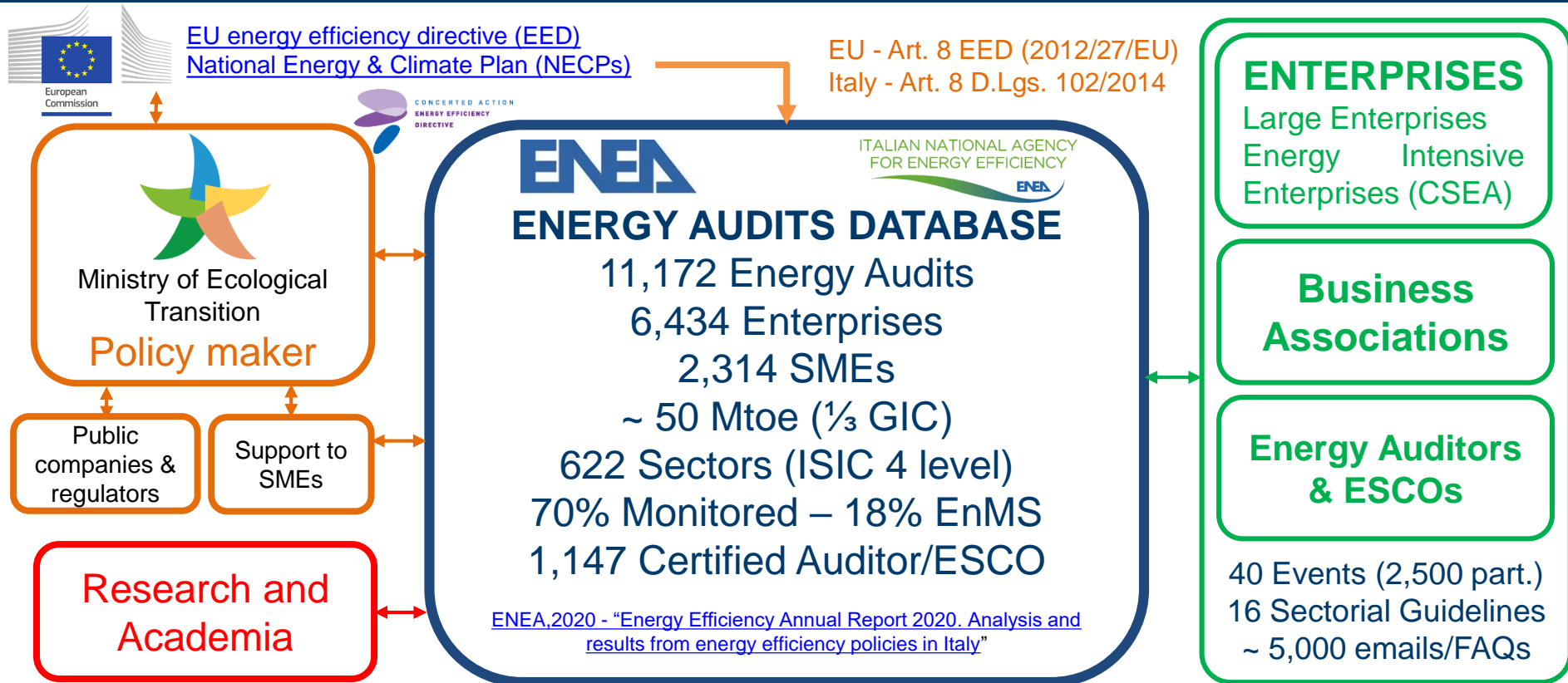
Enterprises must upload the audits carried out at their production sites on the site <https://audit102.enea.it/>

*In Italy an organization qualifies as **Large enterprise** if it shows:*

- 1. A number of employees ≥ 250 and an annual turnover $> \text{€ } 50$ million and an annual budget $> \text{€ } 43$ million or*
- 2. A number of employees ≥ 250 and an annual turnover $> \text{€ } 50$ million or*
- 3. A number of employees ≥ 250 and an annual budget $> \text{€ } 43$ million*

Energy Intensive Enterprises are the ones with large energy consumptions ($> 1\text{GWh}$ Electricity) applying for tax relief on part of the purchased energy. All the energy-intensive enterprises are registered on the list of «Cassa per i servizi energetici ed ambientali» (Governmental Agency related to electricity).

ENERGY AUDIT ECOSYSTEM - 2019



The Italian case study: n. of SMEs

- **Deadline december 2019: about 35% of obligated enterprises are SMEs and about 50% of Energy Intensive Enterprises are SMEs**

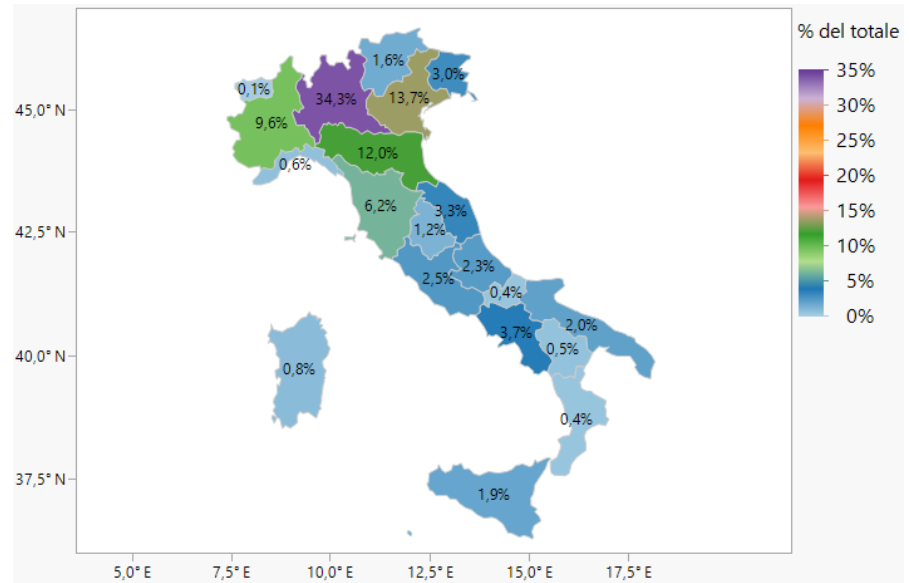
2845 Energy Audits (from 2314 Enterprises)

- ✓ 14% Micro Enterprises
- ✓ 40% Small Enterprises
- ✓ 46% Medium Enterprises

94% Manufacturing Sector.

Over 2000 energy audits have a consumption monitoring system, almost 100 are equipped with an ISO 50001 system.

Energy intensive SMEs energy audits by italian region at december 2019 –
Source : RAEE ENEA 2020

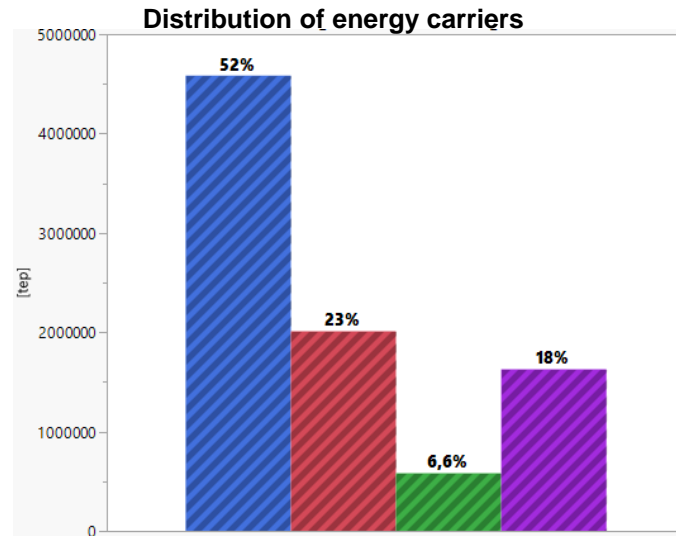


The Italian case study: SMEs consumption

- **About 35% of obligated enterprises are SMEs (deadline december 2019) and about 50% of Energy Intensive Enterprises are SMEs**

Total Energy Consumption **8,8 Mtoe**
(94% Manufacturing): 20% of total enterprises.

Electricity total consumption **24,5 TWh (4,58 Mtoe)**



- Electricity: 52%
- Natural gas: 23%
- LPG: 6,5%
- Diesel Fuel: 18%

The Italian case study: SMEs and EE measures

- **Implemented Energy Efficiency Measures Analysis**

The energy efficiency measures implemented identified in the EA produced an annual saving of 102 ktoe.

- ✓ Electric savings (38,7 ktoe/year)
- ✓ Thermal savings (18,3 ktoe/year)
- ✓ Fuel savings (5,3 ktoe/year)
- ✓ Others savings (40,1 ktoe/year)



Most implemented type of intervention (% of total).

- ✓ Lighting : 25%
- ✓ Production lines: 22%
- ✓ General measures (ISO 50001, monitoring system): 18%
- ✓ Compressed air (15%)

ENERGY AUDITS DATABASE POTENTIAL

DATA SOURCES

1. EA reports
2. Pre-compiled spreadsheet energy consumption
3. Clustering file
4. User's portal- Internal Database

Available info for First level benchmark

- General Info: sectorial and geographical
- Class size, certifications and monitoring
- Production (or equivalent)
- Energy final consumption (10 energy carriers)
- Distribution uses: main, auxiliar and general
- Energy Performance Improvement Actions (EPIAs) implemented and identified

Second level benchmark

- Sectorial models, processes and BAT analysis

Energy Audit is an opportunity, not just an obligation.

Thanks for your attention

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