Aligning energy audit outputs with financing pathways in Italy

Practical experiences

CA EED PM7 - Session 4.7

Chiara Martini, Claudia Toro – ENEA, Italy

Summary

1. Overview of Italian framework
    - Public incentives and private financial tools
    - Energy audits
2. Role of high quality energy audits and standardized information
    - Example on plastic sector
    - Existing challenges
3. National good practices for energy audits and financial tools integration

Overview of Italian framework

Policy and regulatory framework

- National Energy and Climate Plan (NECP) and EU Green Deal alignment
- Legislative Decree 102/2014 (transposition of EED 2012/27/EU)
- Energy Efficiency Obligation Scheme (white certificates, etc.)
- National Fund for Energy Efficiency
- Connection to EU taxonomy and sustainable finance initiatives

Financial support and incentive landscape

- Mix of public incentives (national and regional) and private financial tools
- Key actors: GSE, ENEA, Ministry, Regions, banks, ESCOs
- Complementarity among grants, tax deductions, loans, and guarantee funds
- Increasing role of EU Recovery and Resilience Plan (PNRR) in energy transition investments

Strategic objectives and market impact

- Encourage energy audits (EAs) as a lever for investment decisions
- Support SMEs and LE in implementing cost-effective measures
- Foster public-private collaboration for energy transition financing
- Build data-driven policies based on energy audit results

Overview of national incentives for enterprises

Energy Efficiency

- White Certificates
- Thermal Account
- High-Efficiency Cogeneration
- National Energy Efficiency Fund
- Cohesion policies- Regional calls for EE industry
- Energy Intensive Industries – Tariff relief

Competitiveness & Innovation / Digitalization

- Industrial Transition Fund
- Transition 4.0 - 5.0
- Industry 4.0 sector-specific measures
- Sustainable R&D incentives

Renewable Energy

- FER Decrees (FER1–FER2),
- Electricity Release 2.0,
- Energy Communities & Self-Consumption
- Agrivoltaic & Agrisolar
- Thermal Account 2.0 (renewables)
- Regional renewable incentives

Circular Economy

- Circular Economy Biomethane Biofuels
- WEEE Quota Management
- Industrial Heat Recovery Projects
- Material and Sustainable Packaging Projects

Recovery and Resilience funding spans multiple objectives, enabling enterprises to improve energy efficiency, adopt renewable energy, modernize processes, and enhance competitiveness

Piano Nazionale di Ripresa e Resilienza

Private financing opportunities for EE in SMEs

Banks play a key role by providing capital for sustainable processes and energy efficiency projects

Highlights from Italian Banking Association Lab Survey* (15 banks, >60% total assets)

- Significant share of credit portfolio dedicated to energy efficiency financing for SMEs, with main financing forms:
  - ✓ **Loans** for projects with **clear environmental benefits**
  - ✓ **Loans guaranteed by public administrations**
  - ✓ **Repayable loans based on energy performance** (60% of banks)
- Special economic conditions offered to companies with **adequate ESG scoring** (73% of banks)
- Technical / consultancy support provided by banks to SMEs (60%), raising awareness and guiding energy efficiency investments

**Source: Life Project REFIN - REgional-based FINancing schemes to pool private investments in tailored Energy Efficiency plans for SMEs of strategic value chains - Grant agreement 101167704*

Energy audit ecosystem

European Commission

EU energy efficiency directive (EED)
National Energy & Climate Plan (NECPs)

CONCERTED ACTION ENERGY EFFICIENCY DIRECTIVE

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

Ministry of Environment and Energy Security
Policy maker

Public companies & regulator

Regional local EE actors

Research and Academia
~ 20 peer reviewed scientific papers

ENEA
ITALIAN NATIONAL AGENCY FOR ENERGY EFFICIENCY

ENERGY AUDITS DATABASE

11,094 Energy Audits
(2023 and 2024 deadlines)

6,625 Large Enterprises
1,643 EII Large Enterprises
2,572 Energy Intensive SMEs
1,307 Certified Auditor/ESCO

ENTERPRISES
Large Enterprises
Energy Intensive Enterprises (CSEA)

Business Associations

Energy Auditors & ESCOs

>100 Events (5,000 part.)
25 Sectorial Guidelines
~ 20,000 emails/FAQs

High-quality EAs for effective action

- Continuous **monitoring** of energy consumption
- **Analysis & benchmarking** of Energy Performance Indexes (IPEs)
- **Targeted interventions** addressing real critical issues
- **Prioritization based on costs, benefits, feasibility, and available financial support**
- **Business plan development, considering measures with and without incentives**

Incorporating incentives transforms recommendations into feasible actions

Quality audits guide decisions and maximize implementation success

Standardizing EAs to enable implementation and access to incentives

In Italy, a **standardized reporting framework** for EAs has been developed.

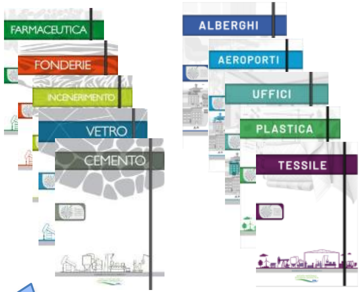
It requires a **set of common indicators** for assessing and comparing proposed Energy Efficiency Measures (EEMs).

The goal is to improve data quality and comparability, and to make audit outcomes more actionable.

This effort aims to:

- **Facilitate the implementation of EEMs**
- **Strengthen the link between technical results and investment decisions**
- **Help identify the most suitable incentives and financial tools**

Operational information and general guidelines

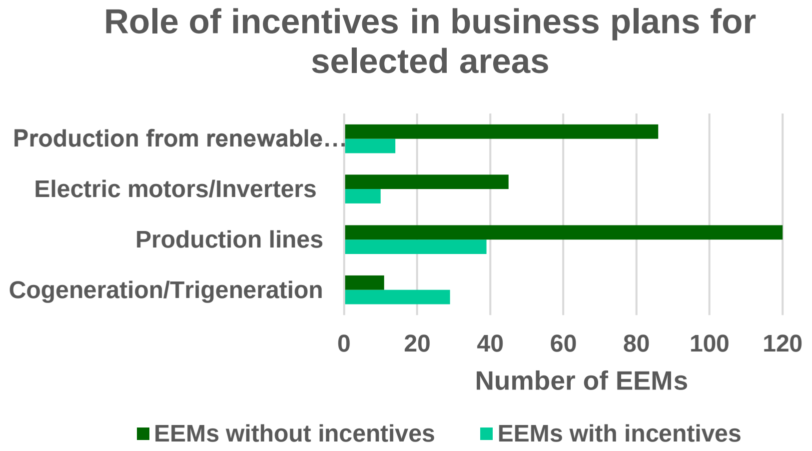


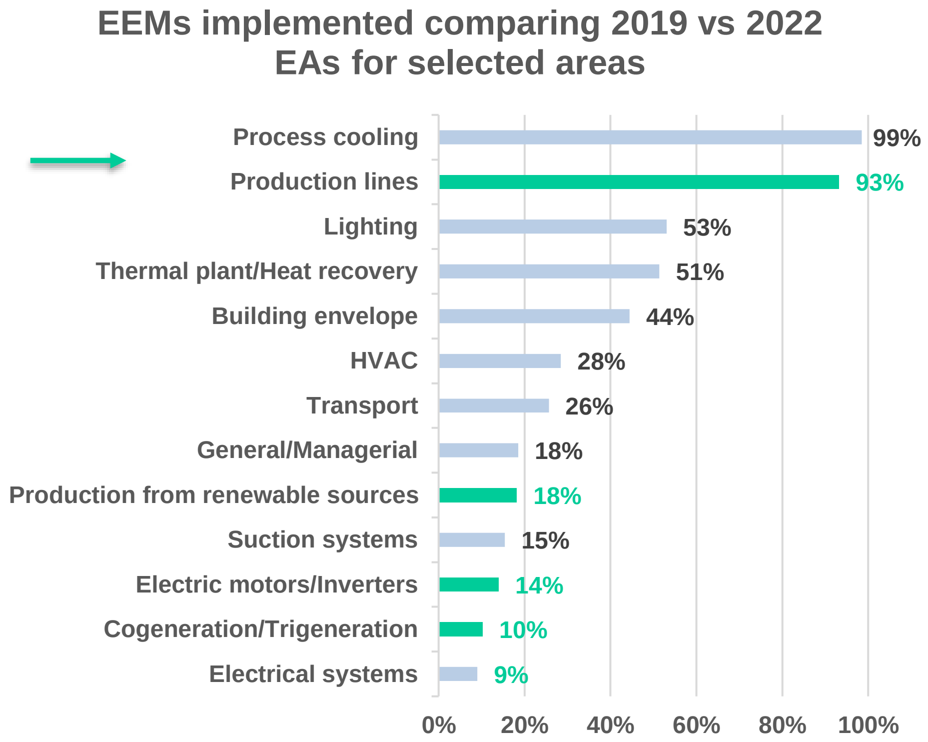
Sectoral guidelines and notebooks

Continuous and strong involvement of business associations

Analysis of EAs in plastic sector

- **Limited role of incentives** in business plans
- **White certificates** are the most common scheme
- The inclusion of incentives helps in **implementing EEMs** but is not the main factor (Productions lines vs Cogeneration/Trigeneration)





Existing challenges

Limited valuable information for financing institutions

- EAs often provide few details on implemented EEMs
- Poor connection between proposed EEMs and available incentives, with business plans rarely integrating applicable funding schemes

Non-optimized selection of measures

- Choice of interventions often driven by auditors' experience, rather than by energy performance indicators (EnPI) or site-specific data
- Lack of prioritization criteria based on cost-effectiveness or energy performance

Decision-making barriers

- Companies face difficulties comparing alternative measures due to the absence of clear evaluation frameworks
- When selection criteria are included, they are rarely aligned with financial instruments or investment logic

National experiences and best practices

Technical tools

- Energy management tool to perform sensitivity analyses
- Tool for real estate sector related to European taxonomy

Communication and peer-learning

- SMEs awareness raising campaign
- LEAPto11 National Observatory

Policy integration between EAs and incentives

- **Tariff relief for electricity or gas intensive industries**, combined with the obligation to develop an EA and implement associated EEMs
- **Regional calls for developing EAs and financing EEMs** in non obligated companies

Technical tools – Energy management tool

To better assess investments, the business plans developed within EAs could be usefully integrated by **sensitivity analyses** on:

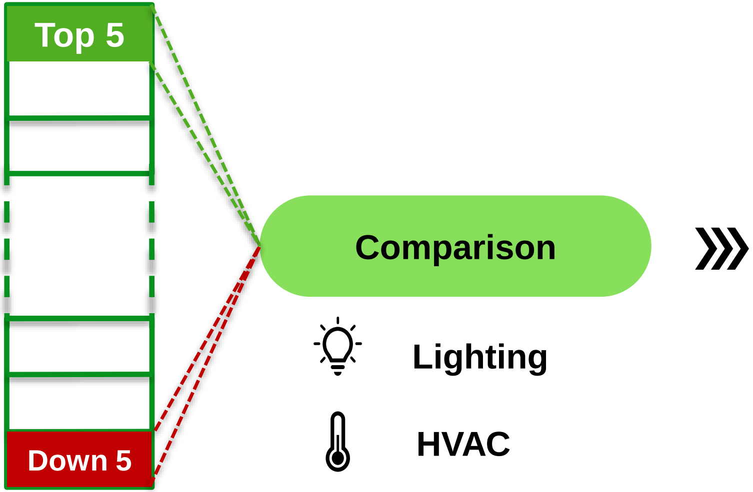
- **typical economic parameters**, such as discount rate, electricity and gas prices, cost of capital
- **energy consumption values**

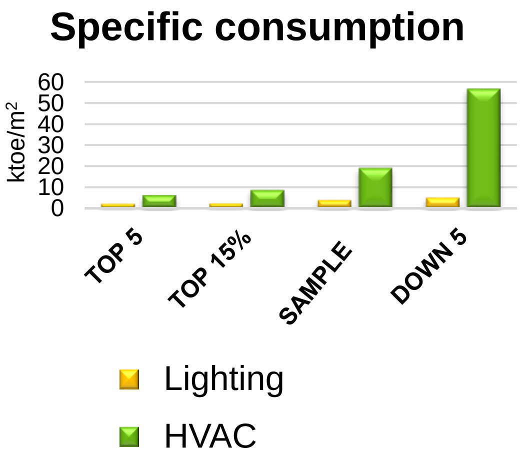
Inside the [Italian Research on Electric System Program], an **energy management tool** was developed

- **available on [ENEA web portal Audit 102]**, where obligated companies upload EAs
- **freely accessible** to all type of companies upon registration

Technical tools – Tool related to EU taxonomy

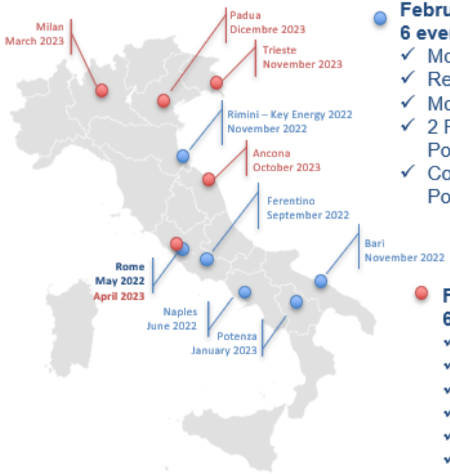
- Another use of EAs is related to **provide useful and more comprehensive information to financial sector**
- A building is considered taxonomy-aligned if its energy performance ranks within the top 15% nationally, according to **benchmarks defined by each European country** (Regulation 2021-2139)
- In the new three-year phase of the Research on Electric System Program, EAs will be used to develop a **tool for the real estate sector to assess an asset's alignment with taxonomy criteria**





Communication and peer-learning

SMEs Awareness Campaign



February 2022- January 2023
6 events

- ✓ More than **1000 participants**
- ✓ Representatives from 5 regions involved
- ✓ More than 20 business associations
- ✓ 2 Professional Associations (Naples and Potenza)
- ✓ Collaboration with 2 Universities (Bari Polytechnic and Basilicata University)

February 2023- January 2024
6 events

- ✓ Milan
- ✓ Rome
- ✓ Online event
- ✓ Padua
- ✓ Ancona
- ✓ Trieste

Event structure was tailored case by case and included

- **National and regional incentives** for EE in SMEs
- **Technical tools**
- **Information on typical EEMs** for SME-dominated sectors

LEAPto11 National Observatory

- LEAPto11 Italian Observatory gathers a diverse group of key stakeholders to **promote high-quality EAs and Energy Management Systems**, strengthen skills and tools, share best practices and **identify the main needs**
- The first meeting brought together 24 organizations, including two funding and regulatory bodies, a financial institution, and six business associations

Conclusions and open needs

- Italy stands out for the **availability of data on EAs**,
  but this alone is not sufficient for such data to be effectively used by financial instruments
- **National good practices** exist, yet they need to be **further refined and promoted** through improved **technical tools** and by addressing challenges emerging from **communication tools**

What is needed:

- **Joint actions with financial institutions** to build **and support technical expertise**
- **Improved quality** and consistency of EAs
- **Targeted training for energy auditors**, specifically on EEMs and related incentives
- **Increased awareness among companies** to foster implementation of EEMs

chiara.martini@enea.it
claudia.toro@enea.it

THANK YOU!