



ENERGY AUDIT POLICIES
TO DRIVE ENERGY
EFFICIENCY

Learnings from technical assistance in climate and energy

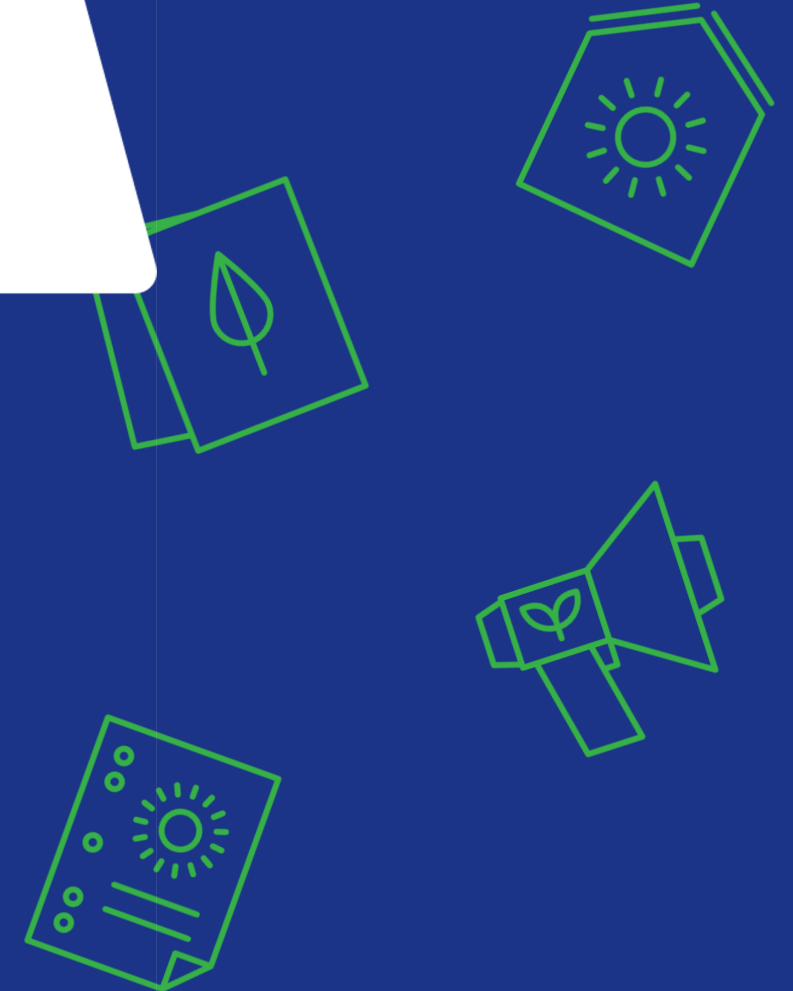
Enrico Biele, LEAP4SME

EUROPEAN COVENANT OF COMPANIES FOR CLIMATE AND ENERGY (CCCE) TECHNICAL ASSISTANCE LEARNING ROUNDTABLE

29th of April 2022



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LEAP4SME

Energy Audit policies to drive Energy Efficiency

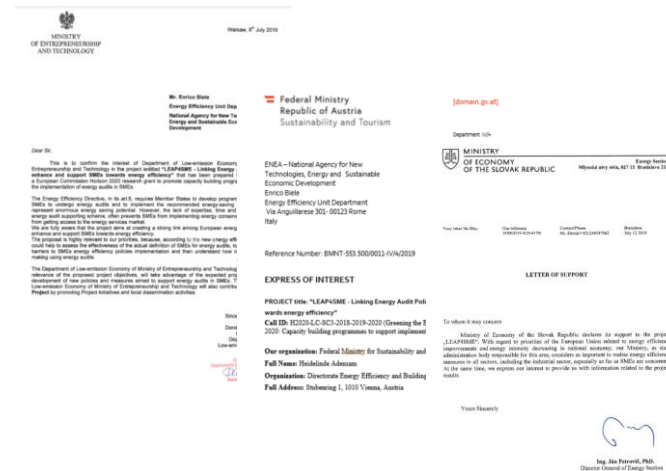
Main goals and Consortium

- **Mapping and understanding** the complex context of national and local support to SMEs
- **Proposing effective and realistic solutions** to policy makers and policy implementers in terms of policy schemes, cross-cutting policy solutions embracing both energy and non-energy benefits, policy recommendations
- **Contributing**, through LEAP4SME research, analysis, and stakeholders involvement, to help the Institutions finding solutions to fill the gap of data
- **Knowledge sharing** (successes, barriers and failures) on national policies



LEAP4SME is supported by:

- 2 International associations of national Energy Agencies (EnR and Medener)
- 9 Ministries
- 4 Further National Agencies
- 18 National SMEs associations, Chambers of Commerce, Regional and local Authorities



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Example of support programme for Energy audits in SMEs: MT

Country	Malta
Programme/policy/initiative name in its original language	Promotion of Energy Audits in Small and Medium Enterprises
Area of Application	National
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme including a financial incentive on the energy audit
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	<p>Through this scheme, SMEs are invited to submit an application (through a certified energy auditor) for an energy audit, to the level and detail as outlined in the Schedule Section of Government Notice.</p> <p>After reviewing the application, the Agency will inform the enterprise that it can proceed with the audit.</p> <p>Once the energy audit is complete and submitted to the Energy and Water Agency, the latter will ensure that the report meets the minimum requirements as detailed in the previously mentioned Schedule. If the report meets the minimum requirements set out, the enterprise will receive the amount invoiced by the certified energy auditor capped up to the amount indicated in the same Government Notice.</p>





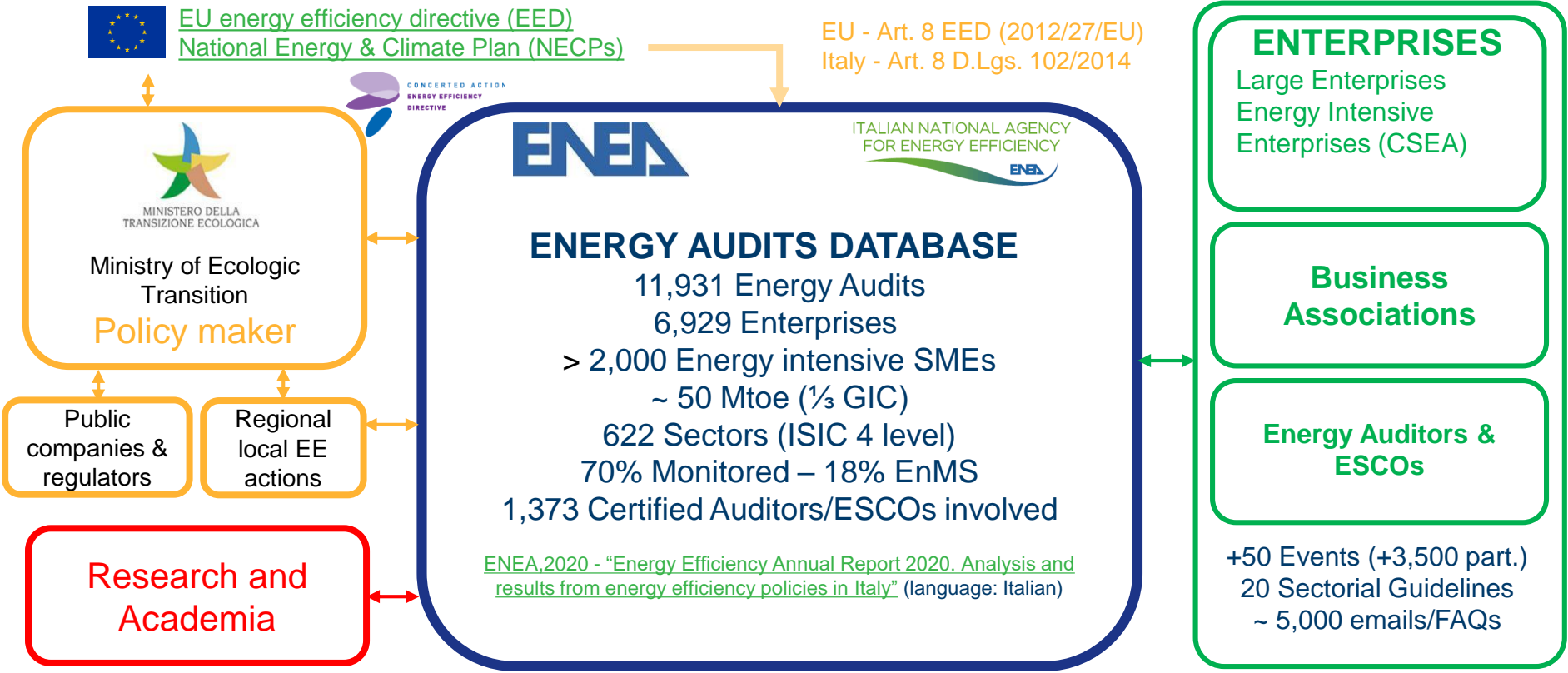
Example of support programme for Energy audits in SMEs: MT

Promotion of Energy Audits in Small and Medium Enterprises	
Results	Results
Barriers	<p>A budget of €150,000 was allocated for the 'Promotion of Energy Audits in Small and Medium Enterprises' scheme and thanks to an information campaign, around 30 enterprises have expressed their intent to benefit from this scheme to date.</p> <p>Furthermore, enterprises who benefitted from this scheme were also encouraged to use the energy audit report as a basis to apply for the 'Investment Aid for Energy Efficiency Projects' scheme to implement the recommended energy efficiency measures.</p>
Lessons learned	Lessons Learnt
	<ul style="list-style-type: none">- Initially, the eligibility criteria for small enterprises were based on the enterprise's electricity consumption. In view of reduced activity due to the COVID-19 pandemic, this clause was removed so that all small enterprises are eligible for this scheme.- There were instances where for some reason successful applicants would not submit an energy audit (which is a requirement to benefit from the grant scheme) as this would not have been carried out. The Agency noticed that having a link (e.g., energy auditor) supporting the company, proved to be beneficial as it reduced this occurrence.
	Barriers
	<p>The amount of subsidy received depends on the size and NACE of the enterprise hence, this is sometimes not sufficient to cover and/or outweigh the cost of the energy audit. Another barrier for SMEs is that enterprises have to first pay the energy audit themselves and then get refunded. In the case of very small companies, this practice may be considered as a sizable hurdle.</p>





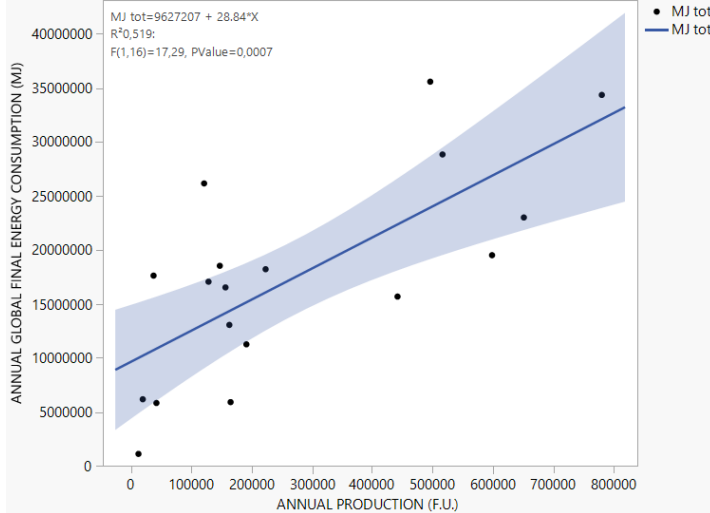
Example of support through data analysis and stakeholders involvement: IT





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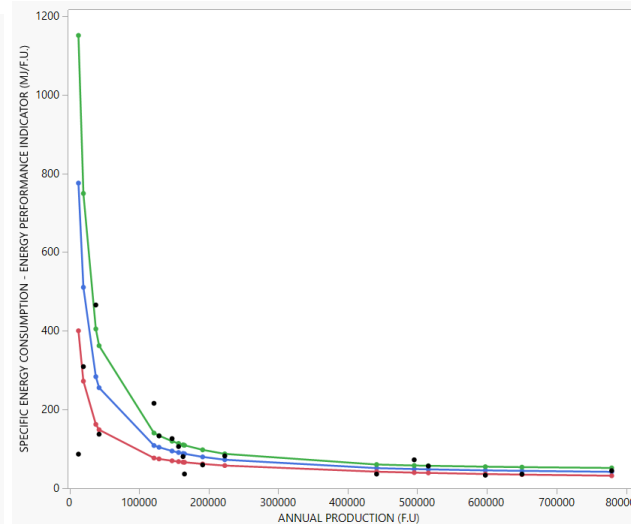
- 1. Energy final use vs Production
- Data cleaning and homogenization
- Linear regression $En[MJ] = a \cdot Prod[FU] + b$
- Statistical analysis (α , p-value, R^2 ...)
- ~ 300 ISIC-4 sectors (4 energy carriers)



2. Energy Performance Index

- Analytical physical model
- Normal distribution (CI = 95%)

$$EPI_{model} (MJ/FU) = a + \frac{b}{Prod[FU]}$$



3. Simplified EPIs

- EPI [MJ/FU] = mean value \pm standard deviation
- EPI = f (technologies, production range,...)

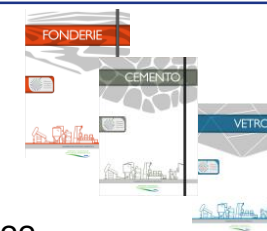
High	$\sigma \leq 20\%$
Medium	$20 < \sigma \leq 60\%$
Low	$60 < \sigma \leq 100\%$
N/A	$\sigma > 100\%$

CEMENT	High
IRON & STEEL	Medium, Low, N/A



Guidelines for stakeholders

CEMENT
 GLASS
 CERAMICS
 FOUNDRIES
 PHARMA – Expected 2022
 WASTE-TO-ENERGY – Expected 2022





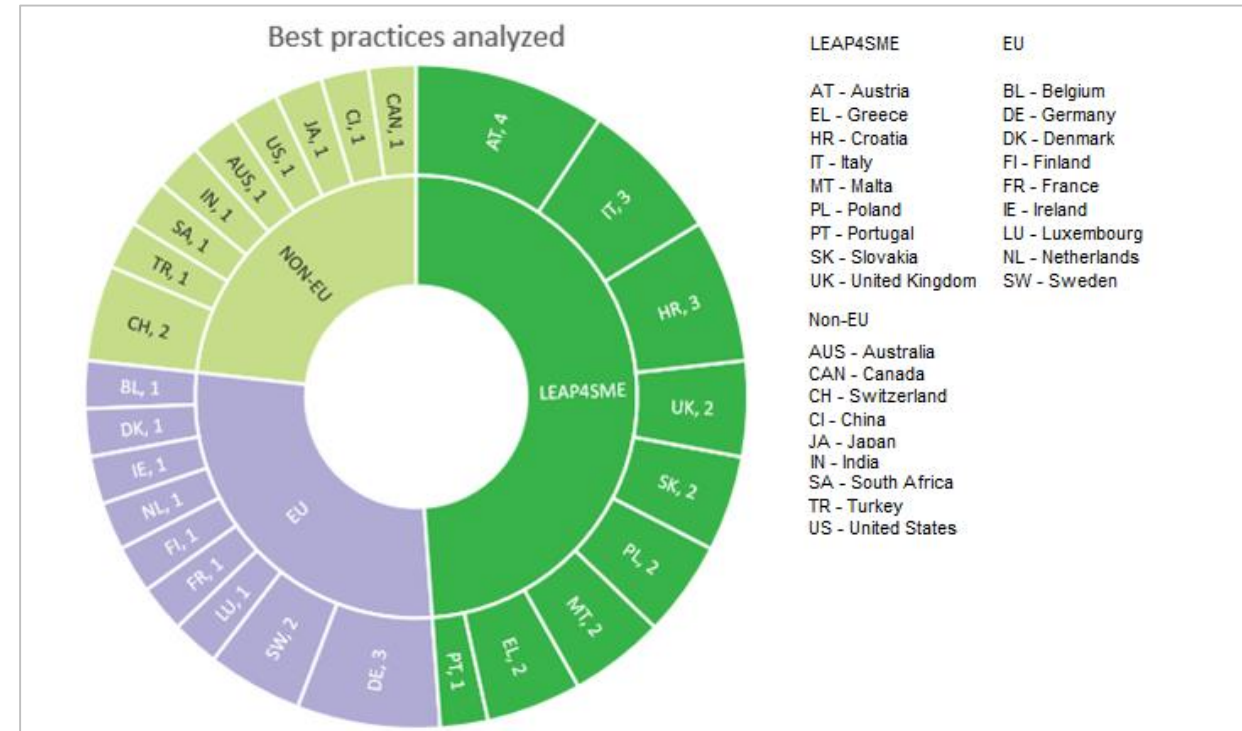
Ongoing analysis on policies and programmes (EAs in SMEs)

A total number of 43 good practices have been selected, presented and analysed according to the following three categories:

1) LEAP4SME countries: 21 policies and programmes (49% of total) from 9 countries that correspond to good practices in the countries involved in the project. These good practices have been analysed in detail.

2) EU countries: 12 good practices (28% of total) from 9 Countries corresponding to good practices in Member States of European Union out of LEAP4SME consortium. These practices have been described without assessing them.

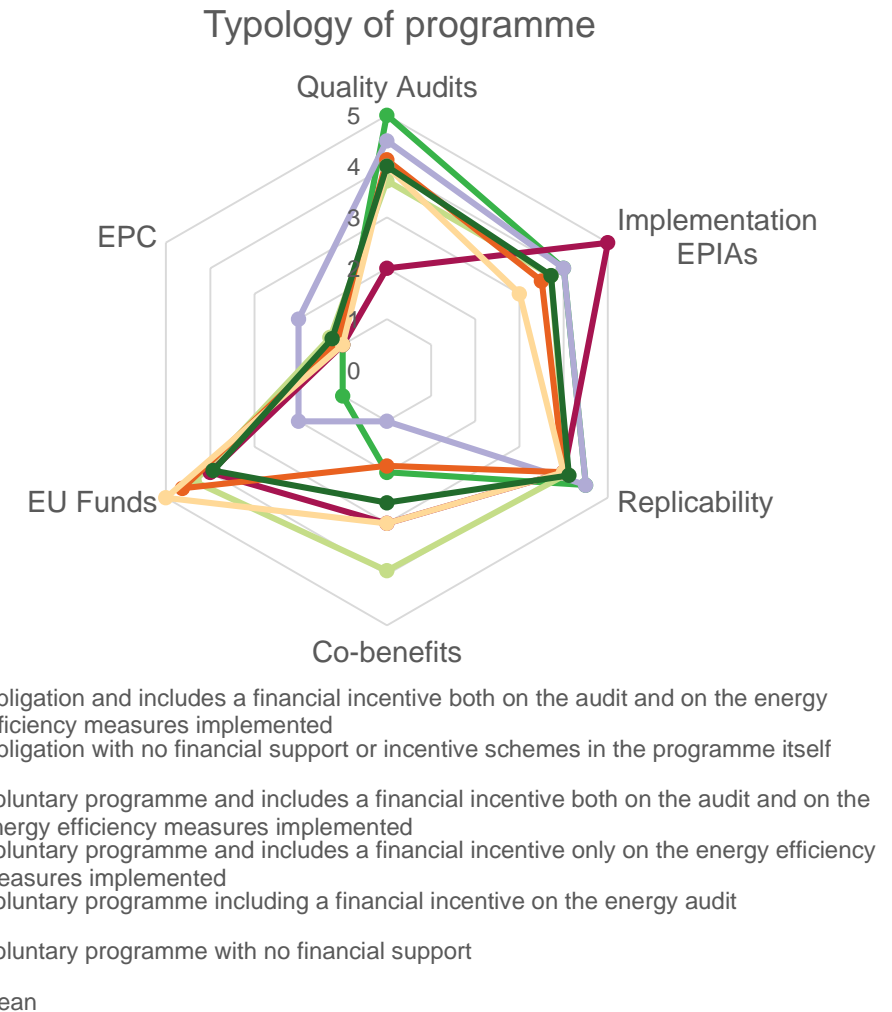
3) Non-EU countries: 10 good practices (23% of total) from 9 countries presented schematically to provide some insights of different approaches.





Ongoing analysis: preliminary results

- Generally, the quality of energy audits is higher in the obligation policies than in the voluntary programmes, and the quality required increases if the implementation of EPIAs is mandatory.
- The programmes that only fund the implementation of EPIAs seem to be not very restrictive with the quality of the audits.
- The use of EU funds and the replicability of the policies present a good evaluation in all the categories.
- The analysis of co-benefits presents a high dispersion.
- The use of EPC is only included in the obligation policies.



Thanks for your attention

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