Lessons learnt in Energy Audit data collection and management & Quality frameworks in LEAPto11 Observatories

Concerted Action on the Energy Efficiency Directive, WG 8.1

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Consortium and Goals

Improving the effectiveness of National programmes under EED article 8 and new article 11 for a better data management and KPI production

Supporting Agencies, policy makers and business actors (business associations, networks), auditors and National Agencies during the art.11 transposition with data-driven and knowledge based high-level policy advice

Spreading the culture, use and implementation of Standards and Protocols to increase the uptake of the energy efficiency measures recommended in audits and Energy Management Systems (EnMS).

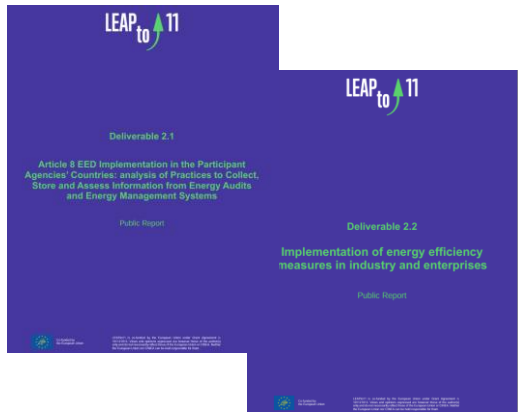
Analysis on two fields where data on audits and EnMS is typically collected by national institutions (2024)

1 Obligation to carry out energy audits under Art. 8 EED 2012

2 Programmes and policies to support the (voluntary) implementation of audits and EnMS

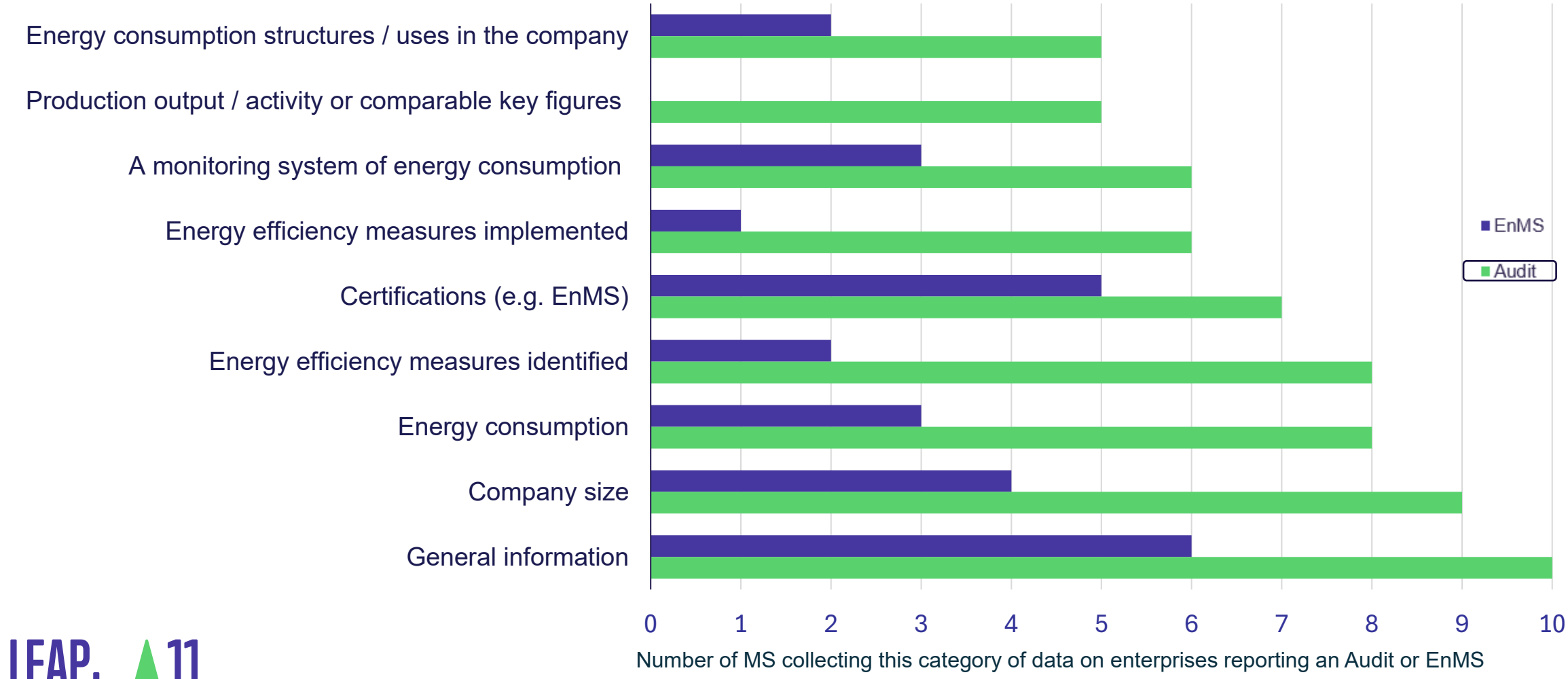
- The practice of collecting and analysing data differs from country to country
- There is data collection on energy audits in most countries but either no or incomplete data collection on EnMS
- There are differences in the categories of data collected on audits and EnMS
- The use of data could be enhanced

Focus on 10 EU Countries



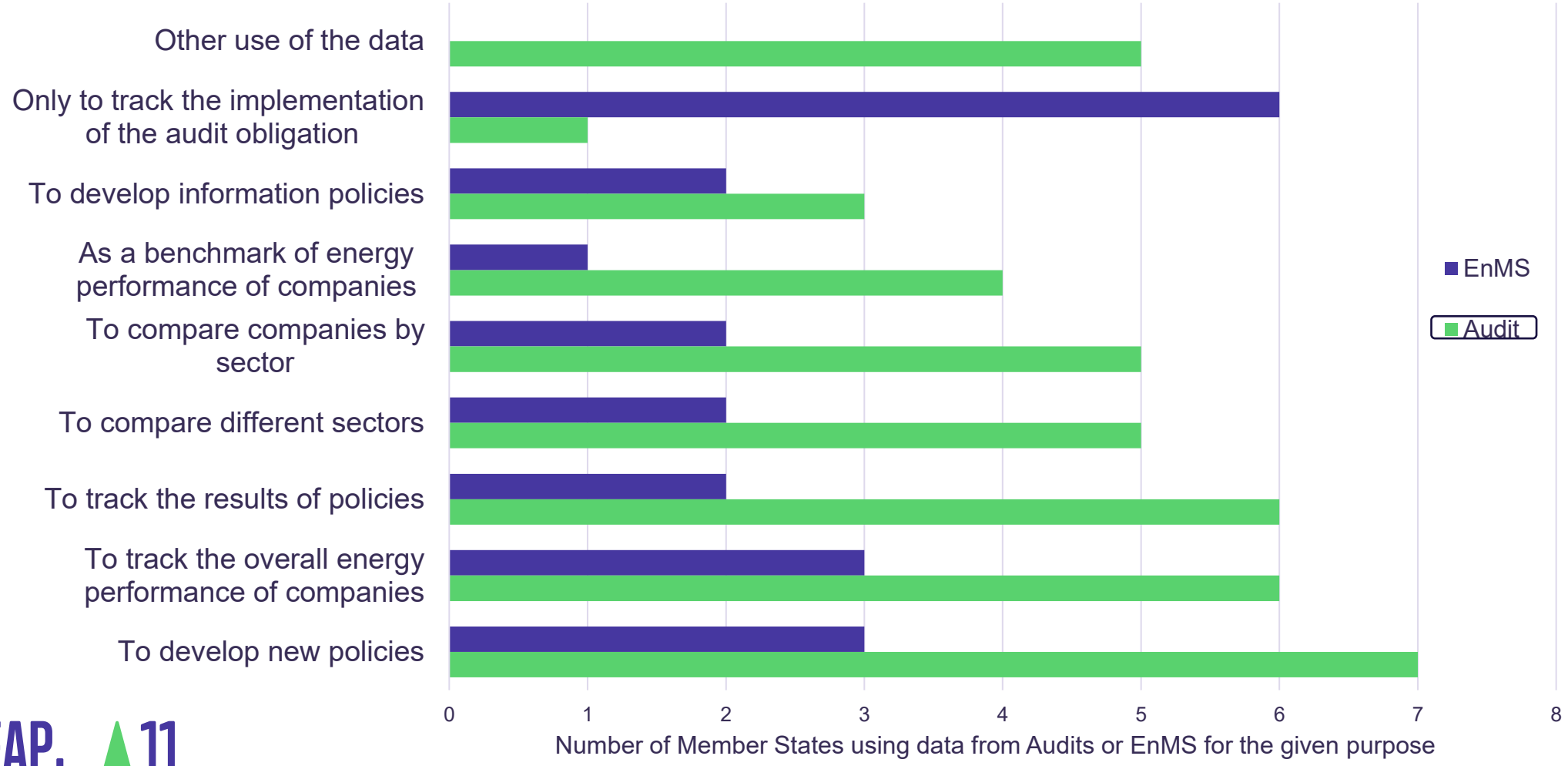
Differences in the category of data collected

Categories of data collected from energy audits in ten EU Member States



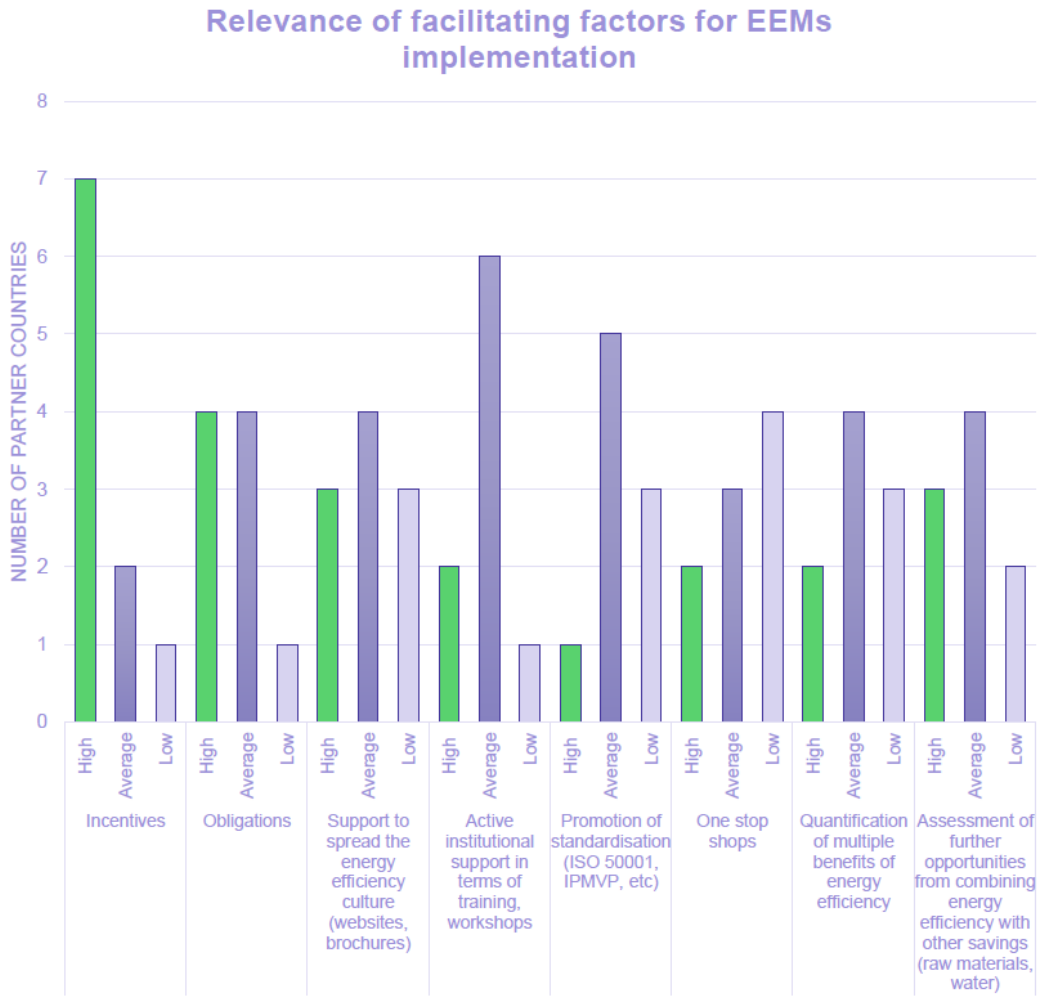
Differences in the utilisation of collected data

Use of data collected from energy audits and EnMS in ten EU Member States



Collection and publication of EEMs data and facilitating factors for their implementation

- In three countries out of ten, information on implemented and recommended EEMs can be extracted from a database
- In Ireland, Italy and Portugal information on recommended and implemented measures, in the last two countries for the 2019-2023 period
- For these countries, the following indicators can be computed for implemented or recommended EEMs, or both:
  - Average final energy savings per EEM (toe)
  - Final energy savings / Energy consumption (%)
- Among the various enabling factors, financial and policy incentives are widely regarded as the most influential drivers in advancing the adoption of EEMs.



EEMs in Energy Audit guidelines

- Availability of guidelines: all but one of the examined countries provide publicly available guidelines for EA
- Implemented vs recommended EEMs: information is more frequently requested for recommended EEMs (9 countries) than for those that have already been implemented (7 out of 9 countries)
- Metrics: commonly recommended indicators include energy and economic savings, initial investments, and simple payback time
- EE incentives: while the consideration of incentives is occasionally suggested, they are often overlooked in practice

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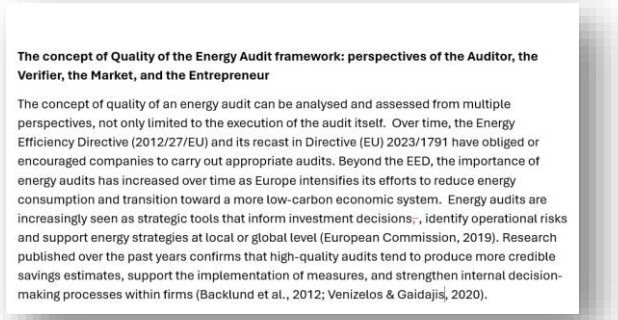
On the Concept of Quality in the *Energy audit ecosystem*

- Different stakeholders, different expectations: Auditors focus on methodological rigor, verifiers on transparency and traceability, markets on credibility, and entrepreneurs on strategic value.

- Quality drives impact: High-quality audits lead to more reliable savings estimates, higher implementation rates, and stronger decision-making.

Investigating Quality in LEAPto11

Concept note



The concept of Quality of the Energy Audit framework: perspectives of the Auditor, the Verifier, the Market, and the Entrepreneur

The concept of quality of an energy audit can be analysed and assessed from multiple perspectives, not only limited to the execution of the audit itself. Over time, the Energy Efficiency Directive (2012/27/EU) and its recast in Directive (EU) 2023/1791 have obliged or encouraged companies to carry out appropriate audits. Beyond the EED, the importance of energy audits has increased over time as Europe intensifies its efforts to reduce energy consumption and transition toward a more low-carbon economic system. Energy audits are increasingly seen as strategic tools that inform investment decisions, identify operational risks and support energy strategies at local or global level (European Commission, 2019). Research published over the past years confirms that high-quality audits tend to produce more credible savings estimates, support the implementation of measures, and strengthen internal decision-making processes within firms (Backlund et al., 2012; Venizelos & Gaidajis, 2020).

National Observatories

International Observatories

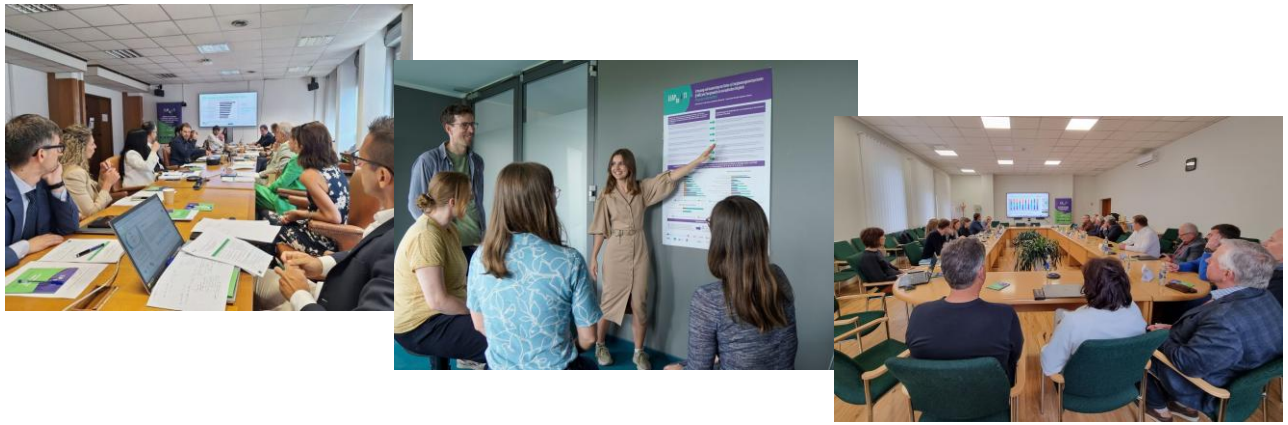
National Observatories

Networks of key stakeholders in the Energy Audit and Energy Management System ecosystem, established in 10 EU countries and coordinated by national Energy Agencies.
They support knowledge exchange, analysis, and effective implementation of EAs and EnMS, aligning project outcomes with policy and market needs.

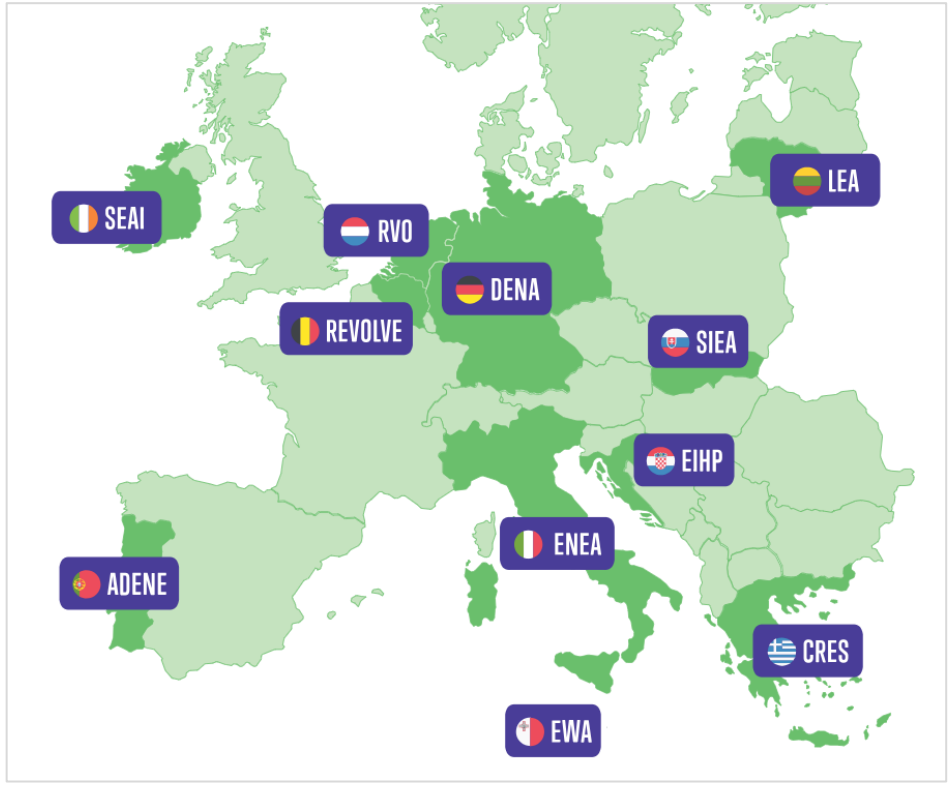
National Observatories | LEAPto11

Key Features

- **Ongoing engagement**: regular meetings, surveys, technical exchanges.
- **Data & insights**: evidence collection to support policy and regulatory decisions.
- **Collaboration**: public–private dialogue to improve audit quality, EnMS implementation, and investment readiness



Participation overview, March 2026



Key Insight 1 – Identification of Obligated Companies

The effectiveness and quality of Article 11 depend first on the accurate identification of obligated companies

What the Observatories found	• MS struggle to apply the thresholds due to the fragmentation of data across tax, energy, and corporate registries. • Managing data related to corporate groups and subsidiaries is complex.
Why it matters for quality	**If obligated companies are not correctly identified, part of the target population remains outside the system, leading to incomplete audit coverage and undermining the credibility of enforcement.**
Implications for policy	MS need reliable digital registers, systematic cross-checking of data, and clear rules on groups and subsidiaries as a prerequisite for a credible and high-quality implementation of Article 11.

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Key Insight 2 – Technical robustness and effectiveness of EAs and EnMS

What the Observatories found	• Gaps in energy data quality and completeness • Weak quantification of savings and lack of benchmarking • Limited post-audit monitoring and verification • ISO 50001 helps when it is used as a real management system, not only as a certificate • For non obligated parties, Audits are often tailored only to meet the criteria of funding calls.
Why it matters for quality	**Without robust methods and follow-up, audits risk becoming descriptive reports instead of decision-making tools for investments and energy savings.**
Implications for policy	Clear methodological standards, minimum requirements for quantification and monitoring, and alignment with ISO 50001 are needed to ensure comparable and reliable results across countries. For non obligated parties, it is necessary to define methodological standards for “Light Audits” (simplified assessments) that balance simplicity and effectiveness, including standardised formats and clear payback indicators.

Audit quality depends on solid data, clear baselines, quantified savings and proper monitoring – not just on formal compliance

Key Insight 3 – Data Management & Digital Platforms

Standardized reporting templates and online tools simplify compliance and ensure interoperability with ESG, CSRD, and EU Taxonomy reporting, reducing repeated data requests.

What the Observatories found	• Fragmented systems, self-reported data without validation undermine trust and policy effectiveness. • Companies report an excessive administrative burden due to parallel reporting channels (EAs vs. ESG/CSRD sustainability reporting). • Coordinated national and EU-level solutions are needed for reliable, high-quality EAs and EnMS frameworks.
Why it matters for quality	**Good data management by national authorities ensures that EAs and EnMS are correctly implemented, monitored, and validated, and improve comparability across companies and countries**
Implications for policy	• Support the development of digital registers, cross-checked databases, and interoperable reporting platforms. • Promote standards for consistent data collection and validation. • Develop digital one-stop shops for all energy-related obligations and align audit requirements with ESG regulations and the EU taxonomy.

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Next steps and references

1. **National Observatories**: the third round of meetings will take place across 10 countries by May 2026, with a public report expected in early 2027.
2. **International Observatory Roundtables**: three additional meetings (two hybrid and one in-person) are planned by January 2027.
3. **Guidelines Development**: ongoing work is focused on developing two concise yet effective guidelines to enhance the overall quality of the energy audit ecosystem.
4. **Targeted Programmes**: particular attention is being given to programmes for non-obligated companies and SMEs.
5. **Data and Assessment**: continued focus on data collection, procedures, and evaluation in line with, and in preparation for, the new Article 11.

- **Website and linkedin**: www.leapto11.eu - www.linkedin.com/company/leapto11/
- **Deliverables and publications**: Deliverables | LEAPto11 - Publications | LEAPto11
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Thanks!

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