

LEAP_{to} 11

Tracking Energy Efficiency Measures: how 10 European Countries collect data from Audits and Energy management systems

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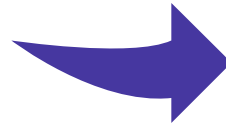


Summary



Art.8 EED and Energy Efficiency Measures

Collection and publication
Indicators availability
EA guidelines and EMS
Good Practices



Transitioning to Article 11: Key Changes and Challenges

Obbligation of implementing EEMs
Action Plans



Conclusions

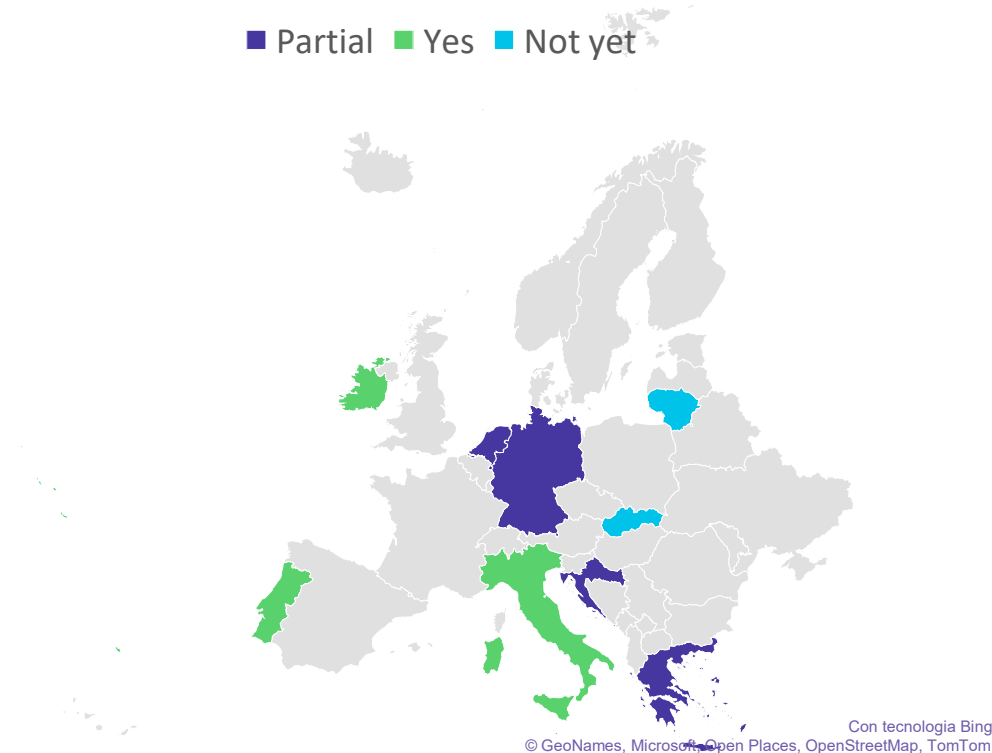
Key insights and overall conclusions

Art.8 EED and Energy Efficiency Measures

Collection and publication of EEMs data under Art. 8/11 in LEAPto11 countries

Existence of a database of EEMs under art.8/11

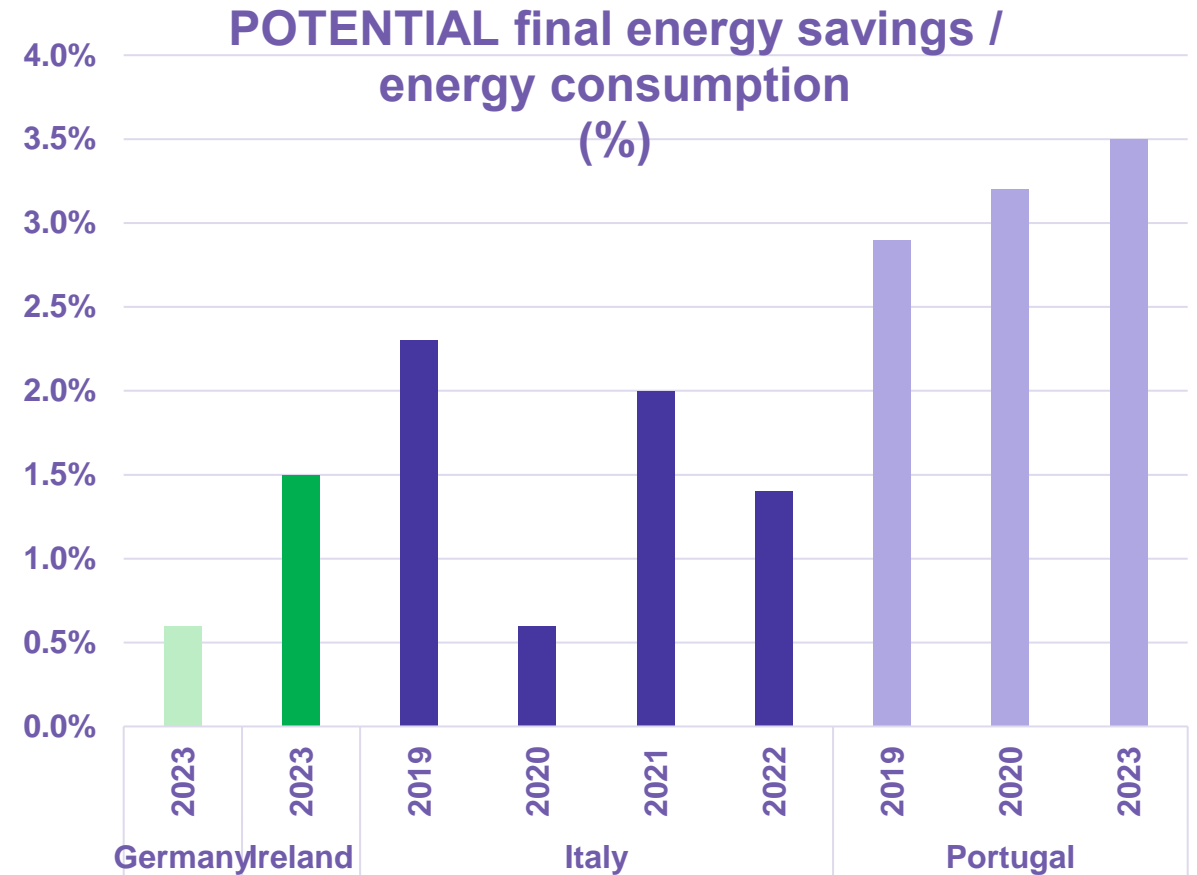
■ Partial ■ Yes ■ Not yet



- In **four countries out of ten**, information on implemented and recommended EEMs can be extracted from a database
- In some other countries the current situation is evolving towards higher data availability
- In **Germany** information on recommended measures is available, while in **Ireland, Italy** and **Portugal** also for implemented measures and 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 (%)

EEMs data availability and comparability

- **Variations in reporting** impact comparisons
- **Key challenges:**
 - **Data gaps** with partial or missing information
 - **Differences in reporting periods**
- **EEMs per Audit:** ratio varies from **0.5 to 3**
- **Implementation Rate:**
 - Preliminary comparison between recommended and implemented EEMs
 - Differences reflect national approaches to EAs and follow-ups
 - Recommended EEMs not always align with later implementation



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 payback time
- **EE incentives:** while the consideration of incentives is occasionally suggested, they are often overlooked in practice

EEMs reporting metrics in EA guidelines

IMPLEMENTED AND RECOMMENDED EEMs REPORTING METRICS IN EA GUIDELINES

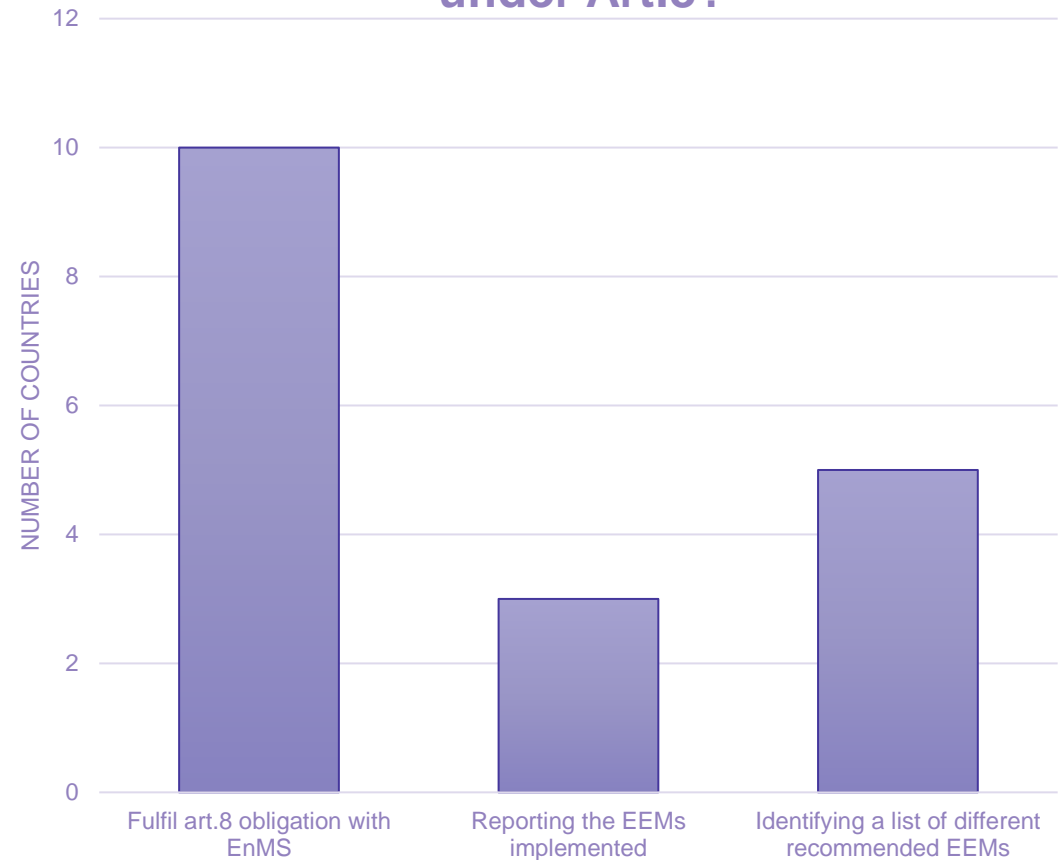
Country	Implemented EEMS				Recommended EEMS			
	Investment costs	Energy / CO ₂ / Water Savings	Economic Savings	Economic Indicators	Investment costs	Energy / CO ₂ / Water Savings	Economic Savings	Economic Indicators
Germany	✗	✗	✗	✗	✓	✓ [energy, CO ₂]	✓	✓ [NPV, IRR]
Greece	✗	✗	✗	✗	✓	✓ [energy]	✓	✓ [PBT]
Ireland	✗	✓ [energy]	✗	✗	✗	✓ [energy]	✗	✗
Italy	✓	✓	✓	✓	✓	✓ [energy]	✓	✓ [NPV, IRR, PBT]
Lithuania	✓	✓	✓	✓	✗	✓ [energy, CO ₂]	✗	✓ [PBT]
Netherlands	✓	✓ [energy]	✗	✓ [PBT]	✓	✓ [energy]	✗	✓ [NPV, PBT]
Malta	✗	✓ [energy, water]	✓	✗	✓	✓ [energy, water]	✓	✗
Portugal	✓	✓ [energy]	✓	✓ [PBT]	✓	✓ [energy]	✓	✓ [PBT]
Slovakia	✗	✗	✗	✗	✓	✗	✓	✓ [NPV, IRR, PBT]

✓ included in EA guidelines with a specific indicator
 ✓ included in EA guidelines with free format
 ✗ not included in EA guidelines

EEMs in Energy Management Systems

- All partners comply with Art. 8 by implementing EnMS, but significant variability in practices
- Only a few countries, specifically **Ireland, Malta, and Portugal**, report both implemented and recommended EEMs
- Other countries, like **Greece** and **Slovakia**, include a list of recommended EEMs but do not require reporting on implemented ones
- In the remaining countries the reporting on both implemented and recommended EEMs is limited or absent when complying to Art.8 with an EnMS

How EEMs are addressed in EnMS under Art.8?



Art.8 good practices

18 good practices aimed at encouraging EEMs' implementation

□ Economic policies:

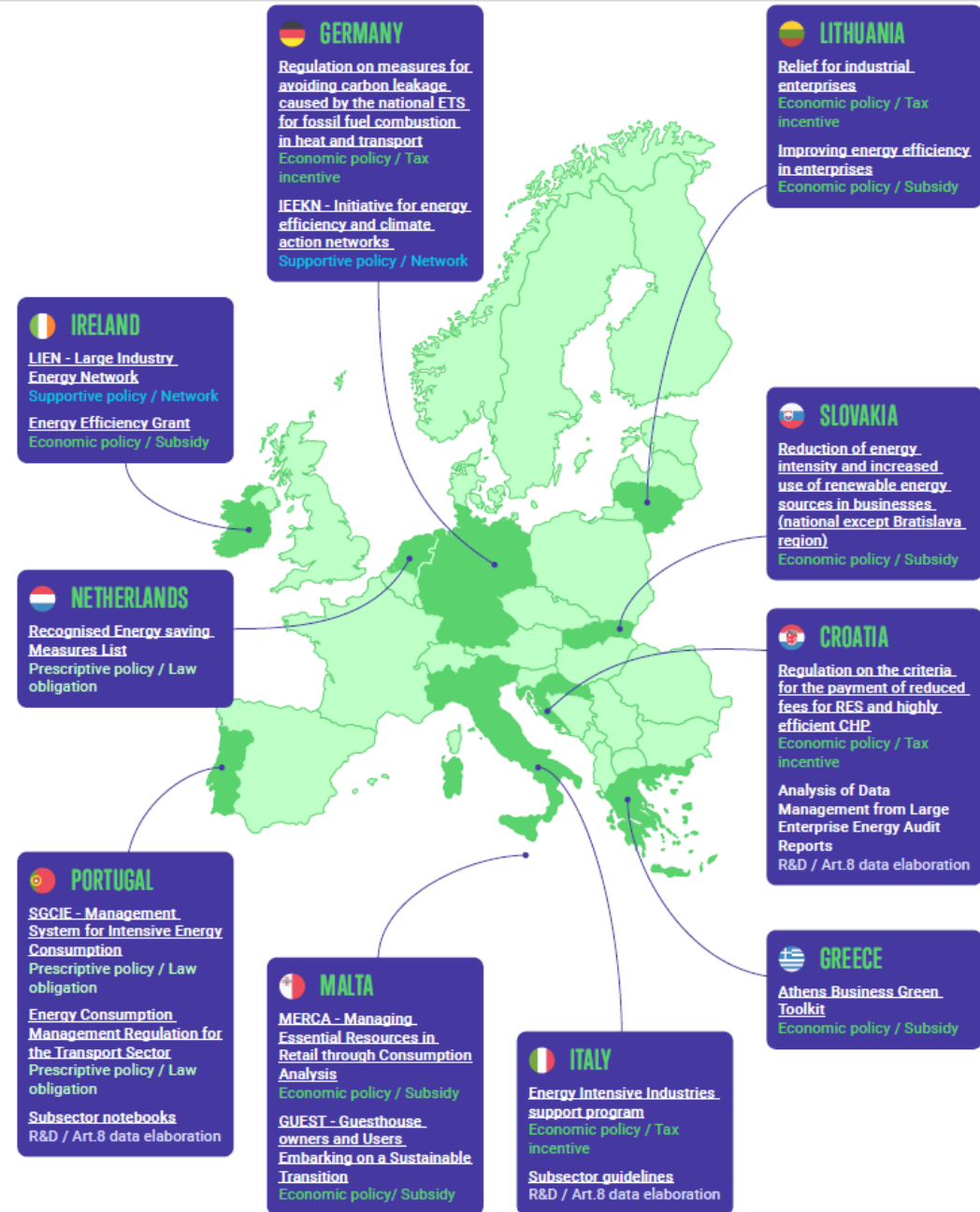
Tax incentives for energy intensive industries under the condition that an EA is conducted or **Subsidies** and structural funds to support the implementation of EA recommendations

□ Supportive policies:

Networks of companies where having an EA is a condition to participate

□ R&D:

Subsector notebooks analysing sectoral data from EAs and identifying EEMs

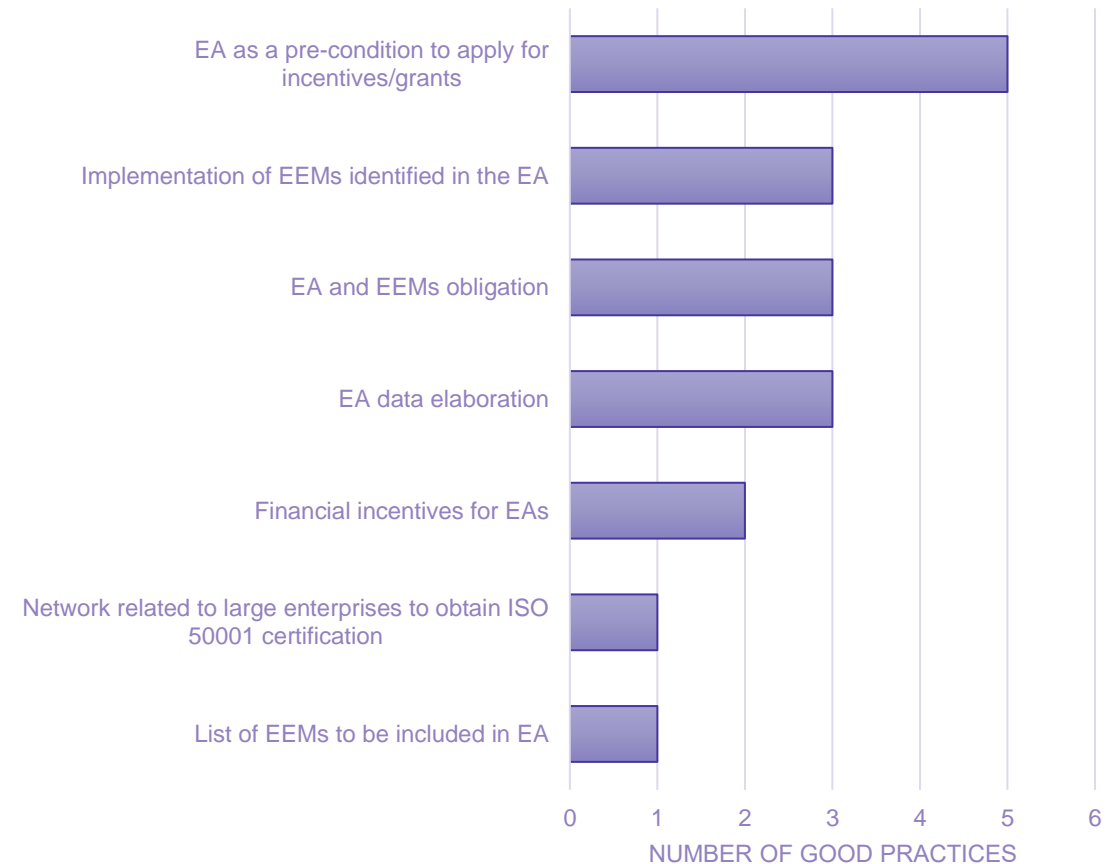


Characteristics of Art. 8 good practices

Identified good practices show different links with EA

- **EA as a pre-condition to apply for incentives/grants:** Croatia, Germany, Ireland, Italy, Lithuania
- **Implementation of EEMs identified in the EA:** Germany, Slovakia
- **EA and EEMs obligation:** Lithuania, Portugal
- **EA data elaboration:** Croatia, Italy, Portugal
- **Financial incentives for EAs:** Greece, Malta
- **Network related to large enterprises to obtain ISO 50001 certification:** Ireland
- **List of EEMs to be included in EA:** Netherlands

How good practices are related to EAs or EnMS?



Evolution of the transposition of Art. 8 EED across LEAPto11 countries

Strengthening obligations for energy-intensive companies

- Mandatory periodic EAs or strengthened reporting on implemented/recommended EEMs
- New requirements for implementing cost-effective EEMs with PBT lower than a threshold

Improvement in data collection & management

- Enhanced data collection systems, shifting from PDFs to digital databases & online platforms
- Prerequisite for better monitoring of energy consumption and EEMs implementation

Introduction of minimum thresholds for EA obligations

- Exclusion of large companies with low energy consumption
- Impact on EEM data collection

Transitioning to Article 11: Key Changes and Challenges

Obligation to implement EEMs

Portugal

- **Obligation to implement EEMs** under Art.8
- Monitoring since 2008 via SGCIE system and **nearly 100% implementation rate**

Netherlands

- Obligation for EEMs with a ≤ 5 -year PBT under national regulations (not related to Art.8)
- Companies report every 4 years, tracking 120 standard EEMs

Italy

- Obligation for **energy intensive companies** applying for a tax relief to develop an EA and implement at least one measure

Other countries

- In Germany and Ireland no obligation but collect data on implementation
- In remaining countries no obligation to implement EEMs, and no data collected

Action plans

Voluntary action plan practices

- ✓ Drawing an action plan: Greece, Lithuania
- ✓ Publishing an action plan: Germany, Greece, Lithuania, Portugal

Drawing an action plan mandatory due to national law

- ✓ Germany, the Netherlands, and Portugal require action plans as part of national regulations

In five out of ten countries there are neither voluntary practices nor legal obligations for drawing or publishing action plans

No country adopts voluntary practices for publishing implementation rates

Main conclusions



Standardisation

Harmonised EA practices can help to identify sector-specific EEMs

Harmonising the monitoring and reporting of EEMs is essential to improve cross-country comparisons and policy evaluation



Improvement in data collection and reporting

Gradual shift towards databases, but many countries lack a structured monitoring system for EEMs

Variability in publication of implementation rates and scarce adoption of action plans



Cultural and institutional support

Promoting an energy efficiency culture and adopting international standards are key factors



Incentives

EAs used as prerequisites for accessing different types of financial incentives

Incentives must be stable, selective, and data-driven to maximise energy savings and ensure financial sustainability

LEAPto11 National Observatory

National Observatory for Energy Audits and Energy Management Systems under EED: Enhancing Quality, Support, and Promotion

- ✓ 🏛️ **Policy Makers** (National, Regional, or Local Authorities)
- ✓ 👤 **Professional Associations** (Energy Auditors, Consultants, etc.)
- ✓ 💰 **Funding & Regulation Bodies** (Public and Private Institutions)
- ✓ 🏦 **Financial Institutions** (Banks, Investment Funds, etc.)
- ✓ 🏭 **Business Associations** (sectoral or industrial organizations)
- ✓ 🎓 **Academia & Research Institutions** (Universities, R&D Centers)





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Questions?

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