LEAP 4 SME

ENERGY AUDIT POLICIES TO DRIVE ENERGY EFFICIENCY

Compilation of good practices

February 2022

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 893924.

DELIVERABLE 3.1	TITLE OF DELIVERABLE
Related Work Package	WP3: SMEs characterization through stakeholders' engagement
Deliverable number and Lead	D3.3, ENEA, KAPE
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Grant Agreement/ Funding Body	893924/Horizon 2020 Research and Innovation Programme
Date of last update	28th of February 2022
Project website	www.leap4sme.eu

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Executive Summary

The report “Compilation of good practices” is developed under the LEAP4SME task 3.3 “Successful case studies and supporting programmes on energy audits” with the objective of reviewing the good practices on the development of policies for the encouragement of energy audits (EAs) in small and medium enterprises (SMEs).

The data and findings are based on the work carried out by the project partner Agencies in collecting, listing and analyzing the main energy audit policies and programmes for Small-medium sized enterprises (SMEs) in their respective Countries (Austria, Croatia, Greece, Italy, Malta, Poland, Portugal, Slovakia, United Kingdom).

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 that are not represented by National Agencies in LEAP4SME project. 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.
From the first analysis of the collected policies and programmes of the nine LEAP4SME partner Agencies it is possible to observe some interesting trends, such as:

- The implementation of Energy efficiency measures appears to be sensibly dependent of the territorial scale of the mechanism (national or local), being the more frequently mandatory in national than in regional programmes.
- The obligation of implementation EPIAs is generally correlated with more stringent requirements of the energy audits (use of international standard, obligation of certified auditors, etc.).
- It is also possible to observe as the policies based on EED art.8 present a lower degree of obligation of implementation of energy efficiency measures compared to the policies not-

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based on the EED. However, the policies based on art.8 are more restrictive in terms of the quality of the audits, mostly due to the specific requirements of EED (Annex VI - Minimum criteria for energy audits including those carried out as part of energy management systems).

All of the presented good practices will be further investigated under the activities of LEAP4SME WP4 “Framework for the Implementation of Energy Audit Programmes and Services for SMEs”.

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1. Introduction

LEAP4SME aims to improve the national and local policies in place to encourage SMEs to undertake energy audits and implement the recommended energy-saving measures. The project aims to overcome the barriers to SMEs in taking up energy audits and works to provide a series of replicable recommendations applicable to SMEs across the project partner countries and the EU more widely. A first work of recognition and analysis of 173 energy efficiency policies, programmes and projects for SMEs has been made in 2021 and presented within the published report "*Existing support measures for energy audits and energy efficiency in SMEs*".

The present report *"Compilation of good practices"* makes a step forward, focusing specifically on energy audit programmes for SMEs. The data and findings are based on the work carried out by the project partner Agencies in collecting, listing and analyzing the main energy audit policies and programmes for Small-medium sized enterprises (SMEs) in their respective Countries (Austria, Croatia, Greece, Italy, Malta, Poland, Portugal, Slovakia, United Kingdom). Within this exercise, the partners have been required to evaluate some of these policies according to six specific criteria in order to check if they could have been considered good practices. According to each Agency evaluation, 21 policies and programmes dealing with energy audits in SMEs have been then listed, analysed, and presented in a format easily readable by any user interested in the topic (policy maker, researcher, enterprise, business association, chamber of commerce).

In addition to the partner Countries' good practices, the deliverable includes a recognition, first analysis and categorisation of twelve additional policies and programmes from nine more European Countries and ten good practices from non-EU Countries.

The activities carried out and included in the present report are very helpful to support the Consortium in identifying the main barriers for unlocking the potential of energy efficiency measures through energy audit recommendations and in proposing solutions for policy makers for energy efficiency schemes including energy and non-energy benefits. Furthermore, the good practices contents will be also useful in the forthcoming phase of direct mobilization and information of private stakeholders about existing opportunities.

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2. Compilation of good practices

Methodology

The starting point for each Country has been to retrieve the information/policies collected in Work Package 2 (2020-2021) tasks *"Analysing National and European state of the art of energy support to SMEs"* and *"Energy audits market overview and main barriers to auditing SMEs"* matching the keywords *energy audit policies/programmes/initiatives for SMEs*.

The second step has been to check if any new energy audit policy for SMEs had been introduced in 2021 or early 2022, also considering the recent National recovery plans.
In the third step, each Agency has been asked to analyse each policy/programme applying the following six criteria and providing an evaluation on a scale 1-5:

- Use of international standards, norms, protocols and certification procedures (e.g. EN 16247, ISO 50001, CMVP, national Certification standards of Energy Auditors).
- Implementation of energy saving measures addressed in the audit with measured (or measurable) results.
- Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.
- Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit (e.g. water savings, energy savings connected with water savings, environmental benefits, positive effects on the maintenance processes, competitiveness).
- Use of European and/or local incentives/funds/programmes within the energy audit campaign.
- Use of the Energy Performance contracting.

At the same time, an extensive exercise of state-of-the-art literature analysis (scientific journals, EC website proceedings, EU funded projects deliverables[1]) has been carried out to look for interesting policies outside the nine partner Countries and include any relevant one.

[1] A non-extensive list of main databases consulted:
- Publications Office of the European Union https://op.europa.eu/en/home
- IEA Policies database: https://www.iea.org/policies/about
- ODYSSEE-MURE policy mapper https://www.measures.odyssee-mure.eu/policy-mapper-efficiency-tool.html#/

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A different analytical approach has been used depending on the country analysed.

When the policy-programme is referred to a LEAP4SME partner country, the information has been provided by the correspondent National Agency according to its experience (directly managing the programmes in several cases). These good practices have been described and analyzed qualitatively in detail according to the six mentioned criteria.

When the policy-programme is in force in an EU Member State that is not represented by National Agencies in LEAP4SME project, the good practices have been described and analyzed qualitatively in six categories without any quantitative mark according to the six criteria. They have all been collected in form of desk work, from different published sources. For this reason, it is plausible that some good practices from other EU countries were not included in this report if difficult to find in published literature or reports available in English (this was outside the scope of the work).

Non-EU country policy-programme are presented schematically to provide some insights of different approaches. These practices have been collected from literature analysis not pretending to be an extensive neither detailed review.

- EnR Library of best practices https://enr-network.org/library/
- Concerted Action Energy Efficiency Directive https://www.ca-eed.eu/Expert-area/energy-audits-and-management-systems/
- ECEEE Conference proc. library https://www.eceee.org/library/conference_proceedings/

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Overview of good practices

A total number of 43 good practices have been selected and analyzed in three different categories (Figure 1):

1) LEAP4SME countries: 21 good practices (49% of total) from 9 countries that correspond to good practices in the countries involved in the project. These good practices have been analyzed in detail, also according to the six mentioned criteria.
2) EU countries: 12 good practices (28% of total) from 9 Countries corresponding to good practices in Member States of European Union that are not represented by National Agencies in LEAP4SME project. These practices have been described without assessing them according to the six criteria.
3) Non-EU countries: 10 good practices (23% of total) from 9 countries.

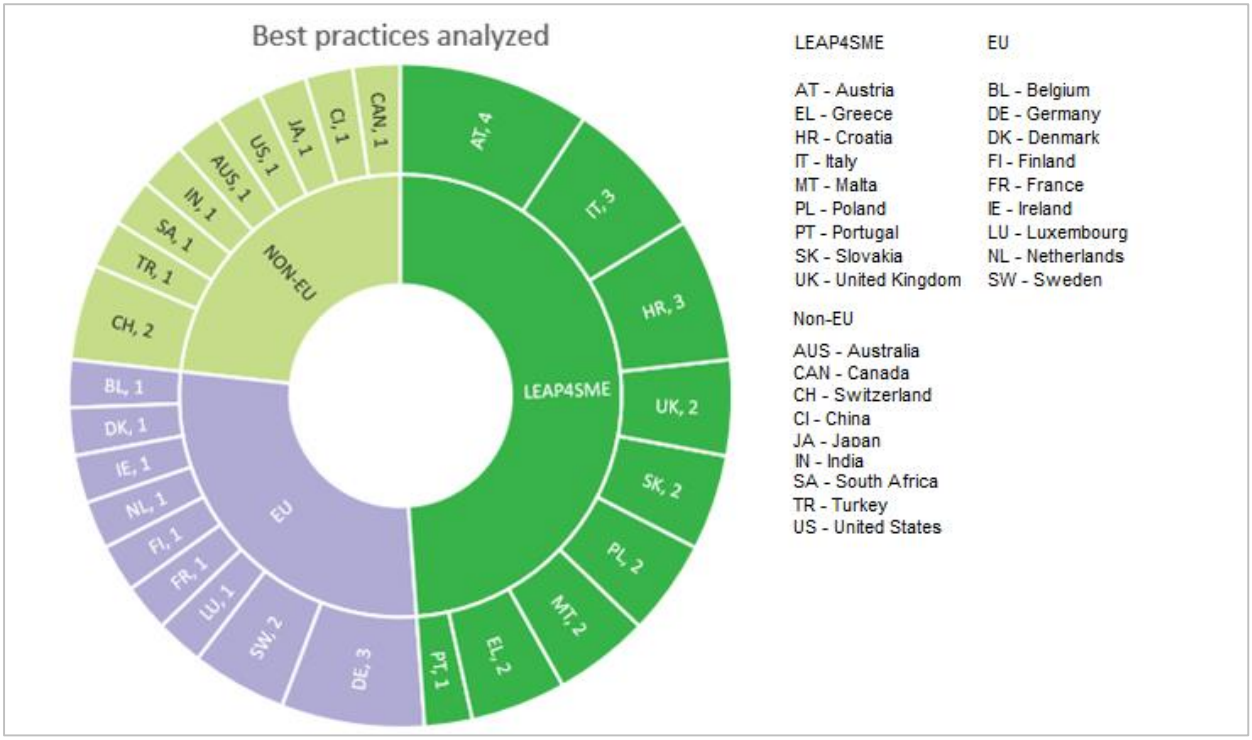

Figure 1 - Overview of good practices by country

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The 21 LEAP4SME countries good practices analyzed are summarized in the following table.

Table 1 - List of LEAP4SME countries good practices

ID	Country	Programme Name
AT1	Austria	*Federal support programmes*
AT2	Austria	*Klimaaktiv Building and Renovating*
AT3	Austria	*SME Energy Efficiency Voucher*
AT4	Austria	*Climate Alliance Austria - climate alliance programme for companies*
HR1	Croatia	*Public calls for energy audits and energy management systems*
HR2	Croatia	*Public calls issued by local communities*
HR3	Croatia	*Energy audits for SMEs in Croatian food processing industry*
HL1	Greece	*Special levy on pollutant emissions (SLPE) for SMEs with energy audits*
HL2	Greece	*Athens Business Green Toolkit*
IT1	Italy	*Regional programmes for energy efficiency/ energy audits*
IT2	Italy	*Energy Intensive Industry programme*
IT3	Italy	*Technology and Innovation for Energy saving and Energy Efficiency*
MT1	Malta	*Promotion of Energy Audits in Small and Medium Enterprises*
MT2	Malta	*Managing Essential Resources in Retail through Consumption Analysis*
PL1	Poland	*Thermomodernisation Loan for Enterprises II*
PL2	Poland	Energy Plus
PT1	Portugal	*Intensive Energy Consumption Management System*
SK1	Slovakia	*Operational Programme Quality of Environment*
SK2	Slovakia	*Support for performing energy audits of micro- and SMEs located in Bratislava region - second round*
UK1	United Kingdom	*SME Loan Fund*
UK2	United Kingdom	*Coventry and Warwickshire Green Business Programme*

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A map of the LEAP4SME countries good practices analyzed is shown in Figure 2.

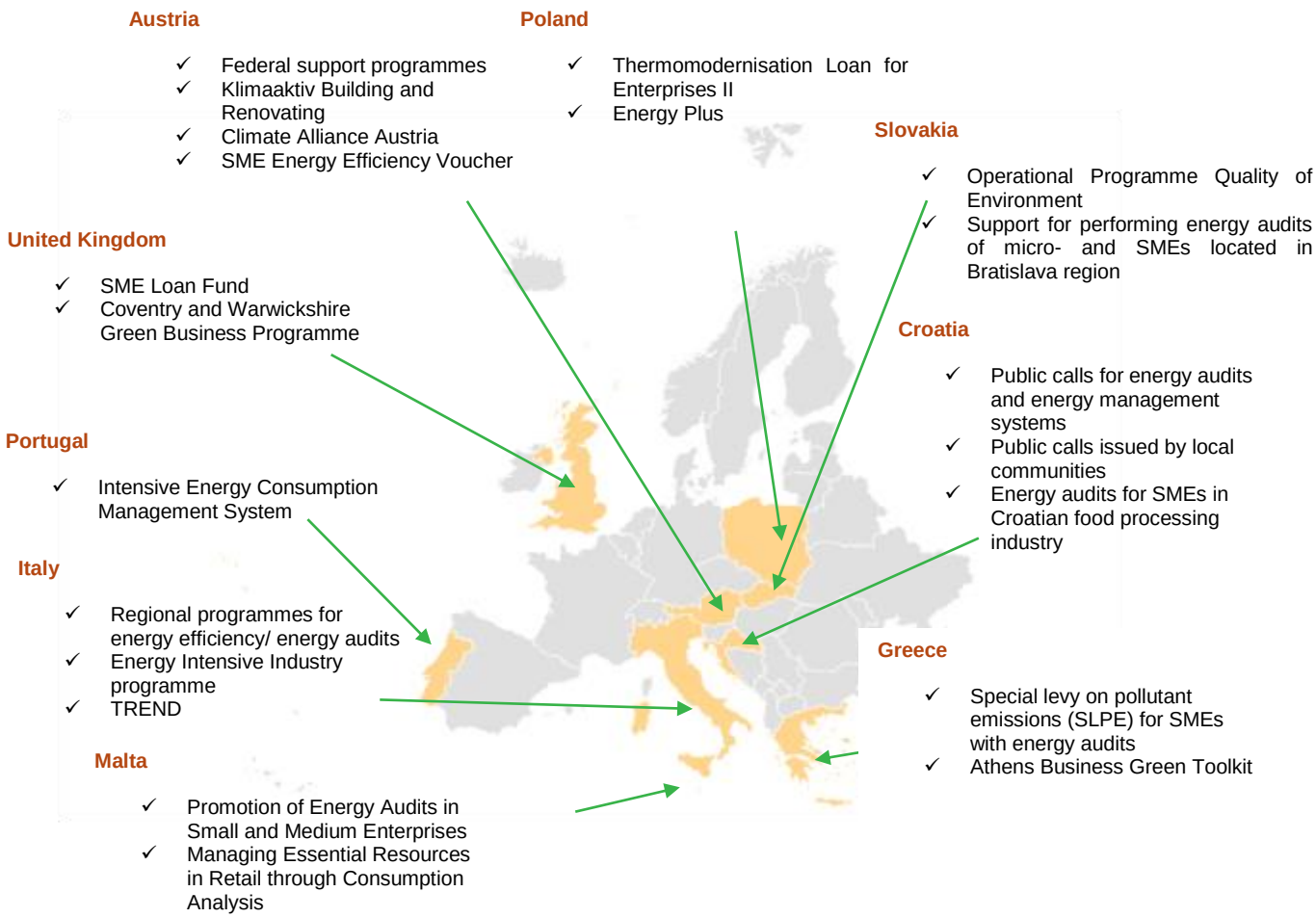

Figure 2 - Map of LEAP4SME countries best practices

Analysis of good practices in LEAP4SME countries

The national energy agencies involved as partner in LEAP4SME project have proposed 21 good practices. They have been described considering different aspects, presented in Figure 3:

- Geographical applicability: the applicability of the policies could be at national level or at sub-national level (regional or local). These two categories have been codified as “National” and “Regional” categories, with 12 and 9 programmes respectively.

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- Energy Efficiency Directive (EED) Impact: all of these policies must be directly correlated with EED Art. 8 (Energy audits) and linked with EED Art. 7 (Energy efficiency obligation schemes). However, the origin of the national programmes could be due to the transposition of the EED (after 2012) or based on other national strategies. These two categories have been codified as “YES” or “NO” developed in the framework of article 8 EED. Additionally, the savings linked to these policies could be linked or not with Art.7. The savings of 13 programmes are not accounted by Art.7, and 8 policies are directly correlated with Art.7 schemes.
- Obligation implementation EPIAs: energy audits must comprise a) a detailed review of the energy consumption and b) propose clear energy performance improvement actions (EPIAs). Art.8.2 of EED is aimed to “develop programmes to encourage SMEs to undergo energy audits and the subsequent implementation of the recommendations from these audits”. Hence, the selected good practices included in all cases the development of energy audits, but only in 13 policies the implementation of at least one of the proposed EPIAs is mandatory. The remaining 8 cases are energy-audits stand-alone programmes where the implementation of EPIAs is voluntary.
- Typology of programme: Other relevant information about the analyzed good practices can be a) if there are “obligation” or “voluntary programmes”, b) if it includes (or not) financial support, and c) if the mechanism includes financial incentives they could be oriented to the development of the energy audit and/or for the implementation of EPIAs. The 21 good practices have been categorized in six types:
    - Obligation and includes a financial incentive both on the audit and on the energy efficiency measures implemented = two good practices.
    - Obligation with no financial support or incentive schemes in the programme itself = two good practices.
    - Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented = seven good practices.
    - Voluntary programme and includes a financial incentive only on the energy efficiency measures implemented = one good practice.
    - Voluntary programme including a financial incentive on the energy audit = eight good practices.
    - Voluntary programme with no financial support = one good practice.

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Hence most of the good practices are voluntary programmes with financial incentives for energy audits (15).

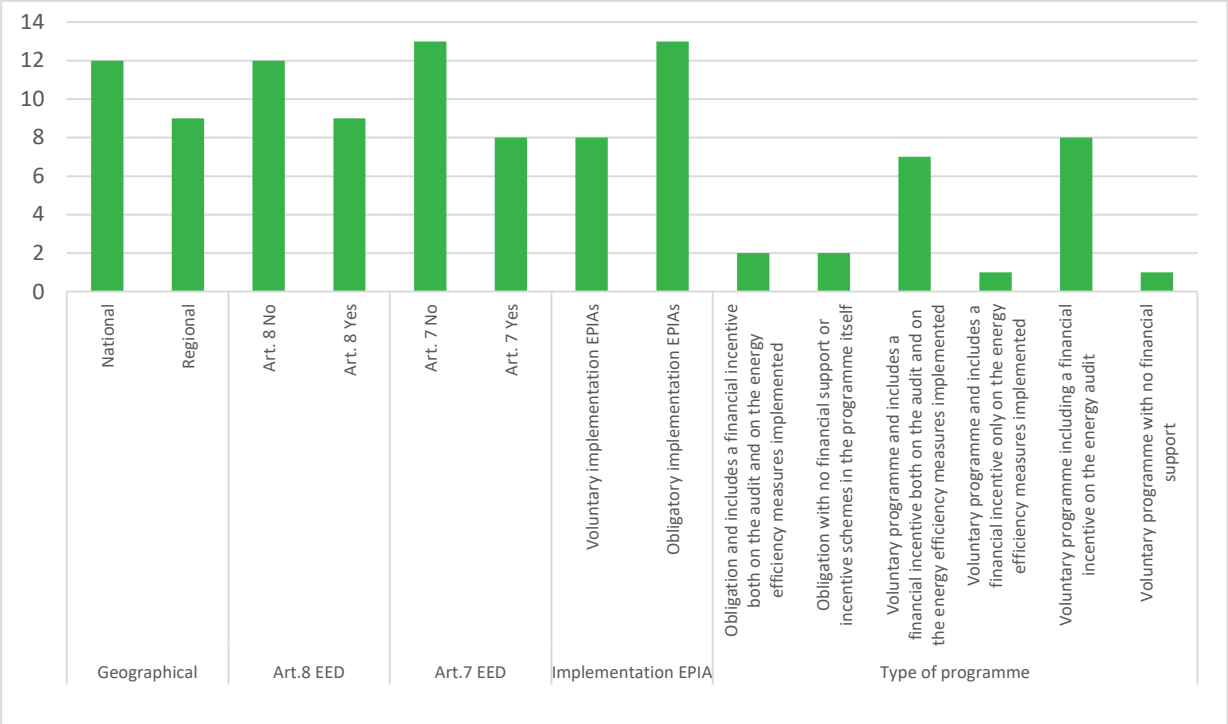

Figure 3 - Typology of analysed good practices

A quantitative analysis of the good practices in LEAP4SME countries has been developed based on the marks included in evaluation of national good practices by the different Energy Agencies. The analysis presents the average of the values obtained in Table 1 of all the measures (not weighted by country).

Firstly, an analysis of geographical applicability of the policies is presented in Figure 4. The implementation of EPIAs is sensibly dependent of the territorial scale of the mechanism, being more frequently mandatory in national (4.0) than in regional (3.3) programmes. This obligation is correlated with more stringent requirements of the energy audits (in terms of compliance with international standards and qualified auditors), varying from 4.2 to 3.7 the mark from national to regional. The evaluation of the other parameters seems to be independent from the geographical applicability with mean valuations of 4.1, 3.9, 2.6 and 1.2 on the replicability, use of EU funds, analysis of co-benefits and use of EPC respectively. The high mark of replicability

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can be due to the fact that most of the programmes are usually generalist. Hence, there are not oriented neither to specific sectoral SMEs neither to specific energy intensity ranges.

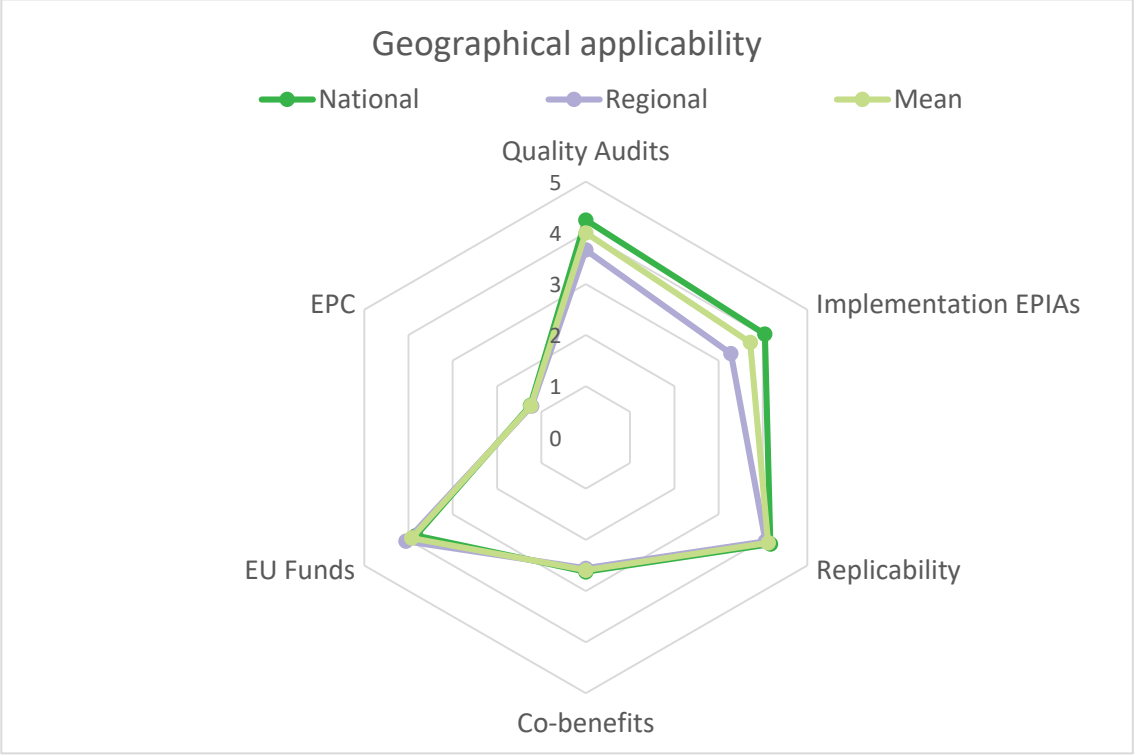

Figure 4 - Evaluation of geographical applicability of the best practices

Secondly, the analysis of the impact of Art.8 and Art.7 of EED in the definition of the policies is presented in Figure 5. It is possible to observe that the policies based on Art.8 present a lower degree of obligation of implementation of EPIAs compared to the policies not-based in EED (3.2 vs 4.1). However, the policies based on Art.8 are more restrictive in terms of the quality of the audits (4.4 vs 3.7), due to the specific requirements of EED (Annex VI - Minimum criteria for energy audits including those carried out as part of energy management systems). The programmes that are not-based on Art.8 are slightly more oriented to co-benefits (2.8 vs 2.3). The impact of Art. 7 is notable in the use of EPC. The EPCs are oriented to long-term agreements, hence correlated to the savings obtained by the implementation of EPIAs. Hence, they are only considered in some policies related to Art. 7 (1.7 vs 1).

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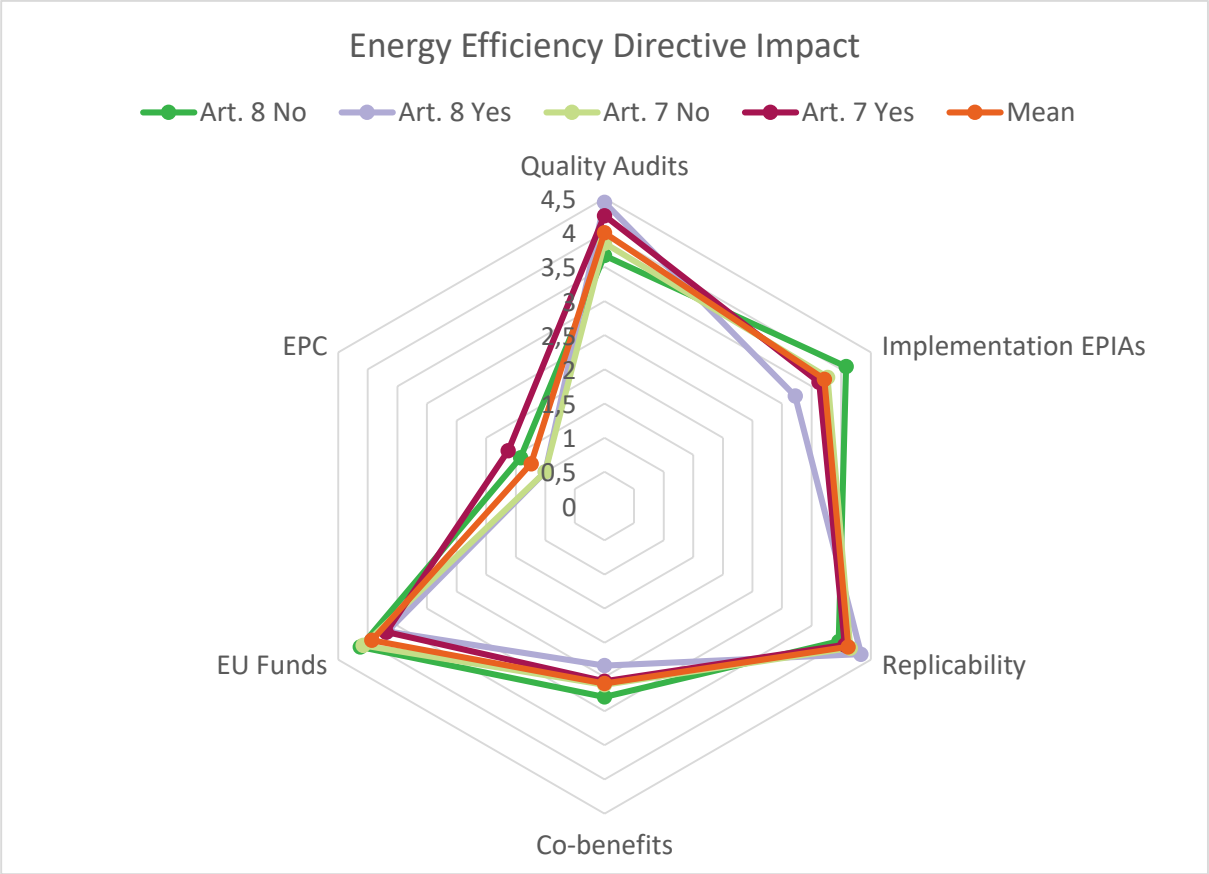

Figure 5 - Evaluation of EED impact of the definition of good practices

Thirdly, the impact of include the obligation (at least partially) of the implementation of EPIAs is presented in Figure 6. The partial obligation of the implementation in some cases is evaluated with a mark lower than 5 and the specific encouragement of voluntary implementation of EPIAs is marked with higher mark than 1. For these reasons the evaluation of "implementation of EPIAs" varies from 3.2 to 4.3 instead of a theoretically 1 to 5. As observed previously, the obligation is correlated with more stringent requirements of the energy audits varying from 4.2 to 3.7. It is worth noticing that the voluntary implementation of EPIAs present a higher orientation to include co-benefits (3.1 vs 2.3) and the use of EU funds (4.4 vs 3.9).

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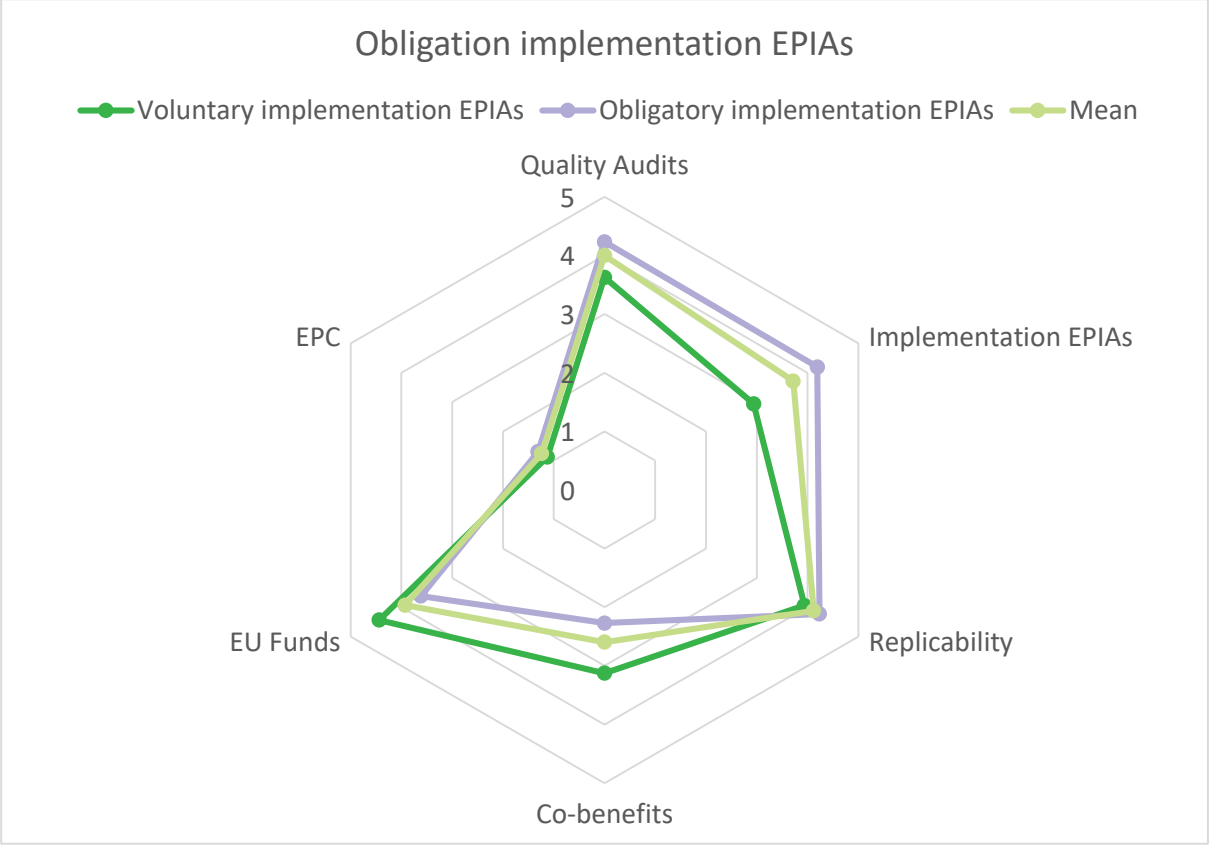

Figure 6 - Evaluation of the obligation of implementation of EPIAs in the good practices

Lastly, the five combined typology of policies have been analysed in Figure 7. It is worth noticing that most of the different sub-sections (4 out of 6) are formed by one or two programmes, hence its analysis must be considered qualitative. 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. This is linked to previous findings and with most of the policies that fund the development of energy audits (15 out of 21). However, 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. However, the analysis of co-benefits presents a high dispersion (from 1 to 4). On the one hand, the obligation policies without financial support are only energy oriented. On the other hand, the voluntary programmes with financial support for both energy audit and implementation of EPIAs can

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cover the impact of co-benefits of energy efficiency. Finally, the use of EPC is only included in the obligation policies.

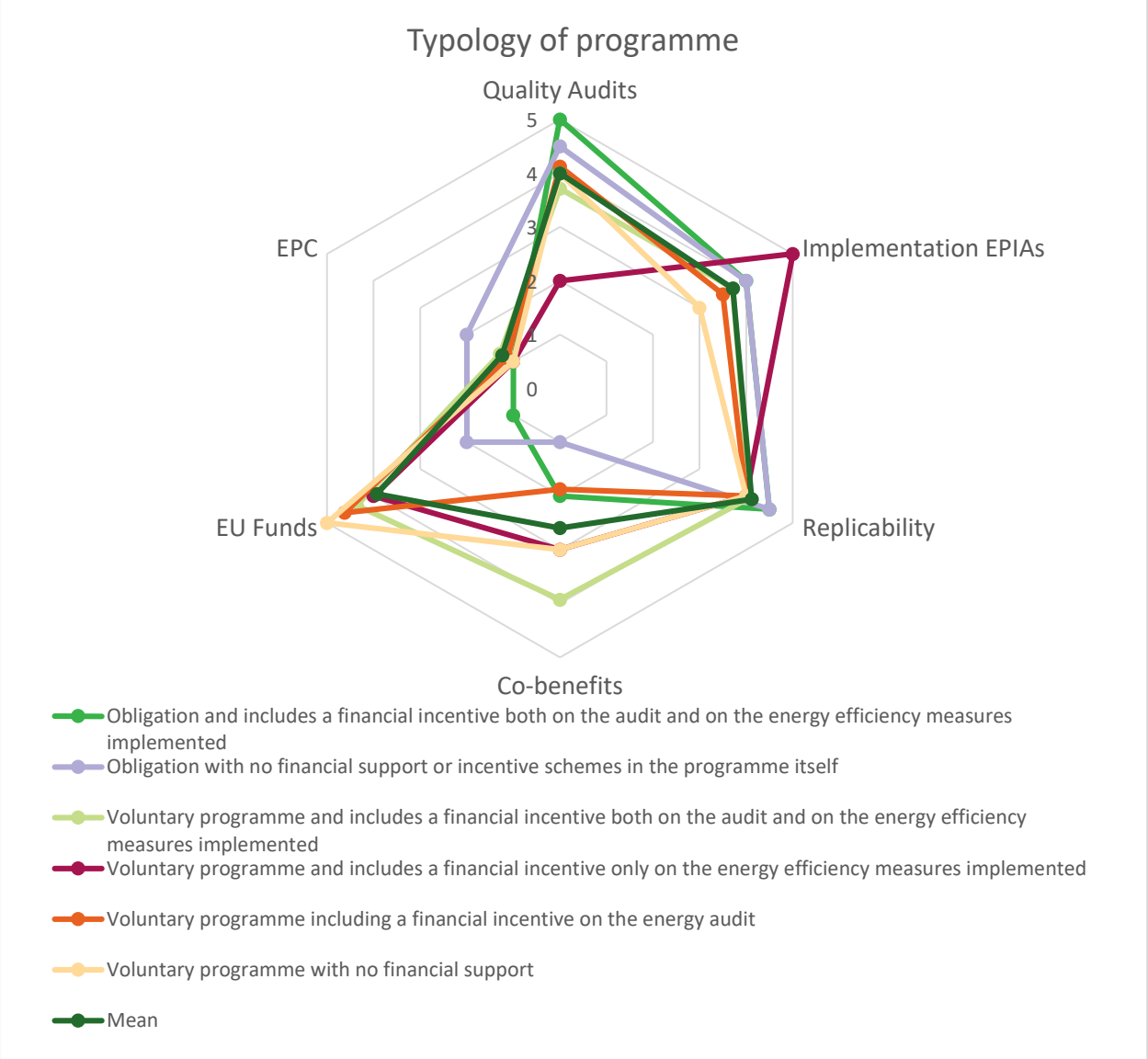

Figure 7 - Evaluation of the impact of different typologies of good practices

Concerning the longevity of the analysed programmes, the most of them are fully or partially (sub-programmes related to the parent policy or programme) currently ongoing since several years as shown in Figure 8.

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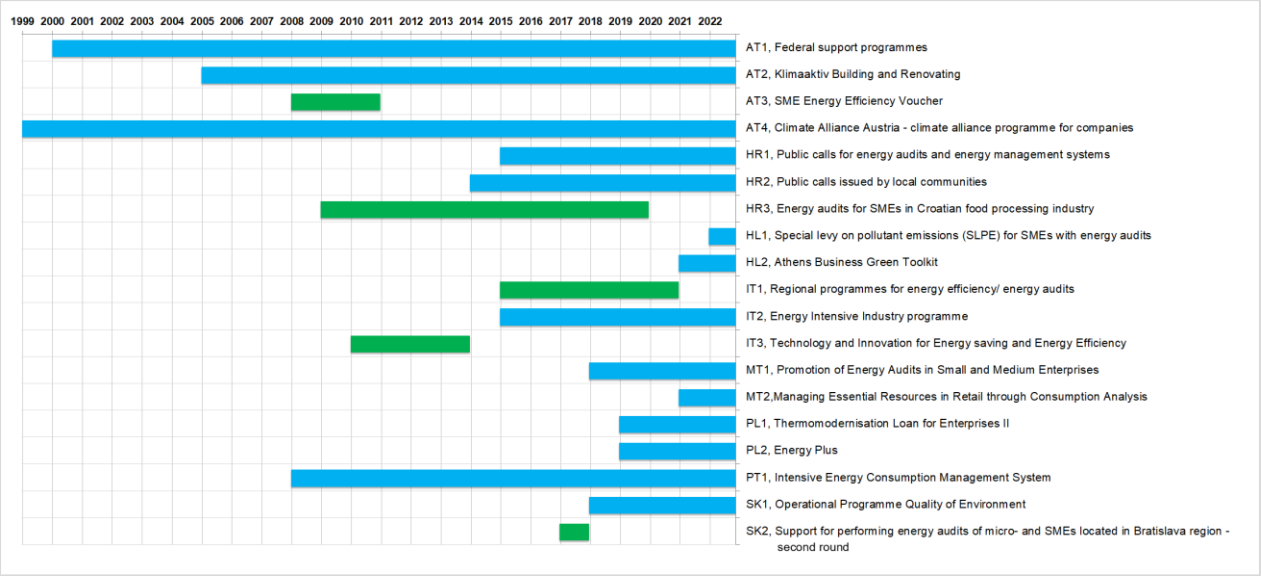

Figure 8 – Longevity of the good practices (green=completed, blue=ongoing)

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3. Good practices – LEAP4SME countries

Austria

Best Practice #	AT1
Country	Austria
Programme/policy/initiative name in its original language	***Regionalprogramme der Bundesländer***
Programme name in English	Federal support programmes
Applicability	Regional
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programmes that includes financial incentives on the audit/consulting services Note: within some sub-programmes the implementation of measures is a requirement. In addition, for investments in energy efficiency and renewable energy, subsidies are available.
Requirement to implement energy efficiency measure recommended in the audit	No, except programmes with certification (e.g. EMAS, ISO 14001, Umweltzeichen Toursimus) guaranteeing the implementation of energy relevant measures
Programme description	Federal support programmes in Austria: every province of the nine provinces of Austria has its own support programme. Here are presented in detail two provinces: Vienna and Styria **<u>Federal support programmes</u>** Subsidise the consulting services for SMEs (all sectors) related to energy and other environmental aspects different programmes, e.g.: • energy efficiency measures (electricity and heat), • mobility management, • waste, • resource efficiency, • greenhouse gas emissions, • efficient buildings (new buildings and refurbishment), • renewable energy (e.g. PV) **<u>OekoBusiness Vienna</u>** Subsidise the cost of consulting services for SMEs (all sectors):

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	OekoBusiness Vienna funds certain consultancy services to encourage businesses to take action to reduce their environmental impact and to improve their corporate social responsibility performance. In individual meetings, consultants develop solutions tailored to the needs of each business. There are three steps to this process. Step 1 Consultants working within the OekoBusiness Vienna network conduct a sustainability check-up together with the company to find savings potential and identify fields where the company's environmental and social performance could be improved. Step 2 Based on the results of step 1, the company management can decide whether to participate in the programme and select a suitable consultancy module. Step 3 Supported by tailored consultancy services and expert input, the company develops its sustainability project(s) and begins implementing them during the first year of participation. An independent commission assesses the progress made and decides whether to award the company the OekoBusiness Vienna distinction. All measures taken are documented in the OekoBusiness Vienna database, which can be accessed publicly (unternehmen.oekobusiness.Vienna.at/unternehmen). <u>OekoBusiness Wien - programme modules with Energy Efficiency focus</u> OekoBusiness Wien - programme with Energy Efficiency focus in 2 steps: 1st step: Check – subsidised 8 hours consultancy (advice)by a qualified consultant (cofinanced with € 480 excl.) 2nd step: Energieeffizienz - subsidised 20 hours consultancy (advice) with energy focus by a qualified consultant (cofinanced with € 1,200 excl.) <u>OekoBusiness Wien - programmes with focus on environmental aspects (energy as part)</u> • ÖkoBonus: subsidised consultancy (advice) by a qualified consultant (cofinanced with € 1,800 excl.) • OekoWin: subsidised consultancy (advice) and workshops by qualified consultants/trainer (co-financed with € 4,400 excl.) - focusing on environmental aspects • ISO 14001: subsidised consultancy (advice) by a qualified consultant (cofinanced with € 3,600 excl.) - focusing on the implementation of the international environmental management system standard ISO 14001 • EMAS: subsidised consultancy (advice) by a qualified consultant (cofinanced with € 4,200 excl.) - focusing on the implementation of the European environmental management system standard EMAS

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- Umweltzeichen Tourismus: subsidised consultancy (advice) by a qualified consultant (cofinanced with € 2,400 excl.) - focusing on the implementation of tourism label"

Wirtschaftsinitiative Nachhaltige Steiermark (WIN) - Styria

Subsidise the cost of consulting services for SMEs (all sectors).

Wirtschaftsinitiative Nachhaltige Steiermark (WIN) - programme module Impulsberatung - Styria

With the "Impulse Advice" module, companies, municipalities or other institutions can apply for introductory advice on the following advice projects once per location, e.g.:

- Entry into the 2030 Agenda and its importance as a guide for municipal or company decisions
- Corporate Social Responsibility (CSR)
- Preparatory work for the implementation of an environmental management system or a greenhouse gas balance
- Short consultations on the topics of energy and resource consumption, renovation, mobility

Consulting projects in this module are recognized with a maximum of 18 consulting hours and funded with a maximum of 70% (cap € 1,000). The cost share is € 440 and will be refunded after the completion of the consulting project.

Wirtschaftsinitiative Nachhaltige Steiermark (WIN) - programme module with Energy Efficiency focus - Styria

Advice on the following topics:

- Reduction of energy use
- Reduction of fossil fuels
- Use of renewable energy sources
- Energy efficiency, thermographs, etc.

Subsidised 80 hours consultancy (advice) with energy focus by a qualified consultant.

Wirtschaftsinitiative Nachhaltige Steiermark (WIN) - programmes with focus on environmental aspects (energy as part) -Styria

- OEKOPROFIT Steiermark: subsidised consultancy (advice) and workshops by qualified consultants/trainer - focusing on environmental aspects.
- ISO 14001: subsidised consultancy (advice) by a qualified consultant - focusing on the implementation of the international environmental management system standard ISO 14001.

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	• EMAS: subsidised consultancy (advice) by a qualified consultant - focusing on the implementation of the European environmental management system standard EMAS. • Umweltzeichen Tourismus: subsidised consultancy (advice) by a qualified consultant - focusing on the implementation of tourism label Umweltzeichen. • WIN Klimabilanzierung: subsidised consultancy (advice) by a qualified consultant - focussing on the creation of a GHG emission balance.
Website link	www.eabgld.at www.oekofit.at www.oekomanagement.at www.energiesparverband.at www.umweltservicesalzburg.at www.win.steiermark.at www.tirol2050.at/ecotirol www.energieinstitut.at
Link to a description in English-	https://www.energiesparverband.at/en https://unternehmen.oekobusiness.wien.at/en/
Status	Ongoing
Starting year	1998, 2000, 2003
Closing year	-
Main results	Yes and available
Failures, barriers, lessons learned	<u>Lessons learnt (OekoBusiness Vienna)</u> • Standardised templates for reports can increase the quality of the audits/consultancy activities and outputs: within the modules OekoWin and Bonus the report templates have to be used by the consultants. • Supporting the implementation of measures/activities is important. • Good to have a mix of different modules to address SMEs: eg OekoBonus is a good module for smaller SMES to start with environmental activities, OEKOWIN is a module to involve larger companies, Umweltzeichen Tourismus is focusing on tourism sector. • Particularly important is the evaluation of the modules of the programme (once a year). • Awarding of companies for good environmental practises is important. • Publish good practises and activities of companies on the internet. • Calculation of energy savings: helpful can be default values for calculating energy saving measures. • Hard to reach micro SMEs, because they have mostly rented offices and flat-rate utility bills: involvement of landlord is important.

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	OEKOWIN benefits: networking of companies (Peer-to-Peer learning); awareness raising of environmental managers of companies through workshops in addition to consultancy. <u>Quality Management within the WIN – programme</u> Lessons learnt and benefits WIN programme: • During the last 18 years WIN has succeeded in building up a pool of about 120 consultants. Since these experts are the multipliers and representatives of the WIN - programme, they have to fulfil certain criteria. • The consultants are required to document their projects (environmental impacts as well as cost reductions) in an online database. This online tool includes detailed information about the participating companies, the project descriptions as well as the results and is the basis of the external programme evaluation (on effectiveness and efficiency; last time in winter 2021 by the Research Institute for Managing Sustainability of the Vienna University of Economics and Business Administration; https://www.win.steiermark.at/cms/beitrag/12857061/10341345) One of the advantages of such program is that the module structure is thematically straightforward and flexible in order to respond to the needs of businesses and to integrate new issues if necessary. For example, in 2008 it has been created a campaign on energy efficiency, called “WINenergy” (https://www.win.steiermark.at/cms/beitrag/11251829/57528373/). Currently the climate crisis and the calculation of Greenhouse Gas emissions is the main focus (https://www.win.steiermark.at/cms/beitrag/12762703/155219014 One of our weaknesses is the limited visibility of the brand “WIN” among the target group and no networking activities for SMEs are existing. <u>WIN Impulse Action</u> Programme for SMEs to start environmental activities and to identify areas of actions. <u>WIN Energy efficiency</u> The programme does not financially support the implementation of measures, but in addition for the implementation of measures investment subsidies are existing. <u>(WIN)- programme modules for addressing all environmental aspects (energy is one of the aspects)</u> Lessons learnt: Qualification of consultants is important;

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	Programmes with certification (e.g. EMAS, ISO 14001, Umweltzeichen Toursimus) guarantee the implementation of energy relevant measures; Programme management should have direct contact with companies (e.g. awarding of companies for good environmental practises); Peer-to-peer exchange between companies is important (e.g. within workshops of OEKOPROFIT Steiermark); Sustainable reporting of SMEs.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	High standards, external auditors
Evaluation* (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Only in programmes with mandatory implementation
Evaluation* (1= Not at all, 5= YES, completely)	3.5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Programmes non-sectoral non-size oriented
Evaluation* (1= Not at all, 5= YES, completely)	3.5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Specific programmes addressing all environmental aspects (energy is one of the aspects)
Evaluation* (1= Not at all, 5= YES, completely)	4
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Both regional and European (ERDF)
Evaluation* (1= Not at all, 5= YES, completely)	4.5
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme
Evaluation* (1= Not at all, 5= YES, completely)	2

* The value is the average of the evaluations of all of the programmes/policies listed in the "Programme description"

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Best Practice #	AT2
Country	Austria
Programme/policy/initiative name in its original language	***klimaaktiv Bauen und Sanieren***
Programme name in English	klima**aktiv** Building and Renovating
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme including a financial incentive on the energy audit/consulting services Note: within some sub-programmes the implementation of measures is a requirement. In addition, for investments in energy efficiency and renewable energy, subsidies are existing.
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	In order to promote energy-efficient buildings in Austria, the klima**aktiv** programme “Bauen & Sanieren” (Building and Renovating) is engaged in influencing all areas of market activity, so that energy-efficient building and utilising renewable sources of energy help to cut back on greenhouse gases. The central component of this strategy is the “klima**aktiv** building standard” declaration. Another major focus point in addition to the declaration of compliance of buildings (residential buildings and office buildings) is the consulting of planners, property developers, SMEs and house owners. The key players in planning and execution are supported nation-wide by klima**aktiv** experts with tailor-made consulting packages. Criteria catalogues, checklists and guidelines are all available online. More than 265 service and over 926 residential buildings have been built and renovated according to the klima**aktiv** building standard. More than 5,000 consultations have been carried out since the programme was launched in the year 2005. klima**aktiv** Bauen und Sanieren - Modul Erstberatung With the "Initial check" module (worth: 500€), property developers, planners, SMEs companies and others can apply for introductory advice on energy efficient residential or service buildings and using renewable energy. klima**aktiv** Bauen und Sanieren - Modul klima**aktiv** Gebäudestandard Planungsdeklaration With the “klima**aktiv** building standard” planning declaration module (worth: 3,000€ at least 30%), property developers, planners, SMEs companies and

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	others can get support for the creation of the planning declaration in line with the klima**aktiv** building standard for residential or service buildings. klima**akt**iv Bauen und Sanieren - Modul klima**aktiv** Gebäudestandard Fertigstellungsdeklaration With the "klima**aktiv** building standard" implementation declaration module (worth: 3,000€ at least 30%), property developers, planners, SMEs companies and others can get support for the creation of the implementation declaration in line with the klima**aktiv** building standard for residential or service buildings.
Website link	https://www.klimaaktiv.at/bauen-sanieren.html
Link to a description in English-	https://www.klimaaktiv.at/english/buildings/Buildings.html
Status	Ongoing
Starting year	2005, 2011
Closing year	-
Main results	Yes and available
Failures, barriers, lessons learned	The programme has been started in 2005 for residential buildings; the programme for buildings has been started in 2011; For the programme the following topics are important: - qualified consultants; - transparency: all relevant information and contact persons on the klima**aktiv** Website klima**aktiv** Bauen und Sanieren - Modul klima**aktiv** Gebäudestandard Planungsdeklaration For the programme the following topics are important: - klima**aktiv** building standards and criteria for buildings are available as open source on the klima**aktiv** website; - klima**aktiv** office buildings with planning declaration are listed on the website; - klima**aktiv** building standard: stronger criteria as legal requirements; also other criteria than energy are addressed; revision every 3 years with involvement of relevant stakeholder. klima**aktiv** Bauen und Sanieren - Modul klima**aktiv** Gebäudestandard Fertigstellungsdeklaration For the programme the following topics are important: - klima**aktiv** building standards and criteria for buildings are available as open source on the klima**aktiv** website; - klima**aktiv** offices with implementation declaration are listed on the website; - awarding of buildings in line with klima**aktiv** building standard.

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	- klima**aktiv** building standard: stronger criteria as legal requirements; also other criteria than energy are addressed; revision every 3 years with involvement of relevant stakeholder.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	klima**aktiv** building standard.
Evaluation* (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	certificate klima**aktiv** building standard.
Evaluation* (1= Not at all, 5= YES, completely)	4.5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Programmes non-sectoral non-size oriented.
Evaluation* (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	-
Evaluation* (1= Not at all, 5= YES, completely)	4.5
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Both regional and European (ERDF).
Evaluation* (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme.
Evaluation* (1= Not at all, 5= YES, completely)	1

* The value is the average of the evaluations of all of the programmes/policies listed in the "Programme description"

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Best Practice #	AT3
Country	Austria
Programme/policy/initiative name in its original language	***KMU-Energieeffizienzscheck***
Programme name in English	SME Energy Efficiency Voucher
Applicability	National
Developed in the framework of article 8 EED	No
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	Within the energy efficiency audit (holistic approach) by a qualified auditor/consultant, savings potentials in all operational processes and services of companies were identified. The proposed measures were discussed with the company in order to motivate the entrepreneur to implement them. The advice includes an on-site survey, a report and a standardized evaluation.
Website link	https://www.klimafonds.gv.at/call/kmu-energieeffizienzscheck/ https://www.energieinstitut.net/en/node/109 https://www.klimaaktiv.at/energiesparen/energieeffiziente_betriebe/branchenkonzepte/branchenfolder.html
Link to a description in English-	N/A
Status	Completed
Starting year	2008
Closing year	2010
Main results	Yes and available
Failures, barriers, lessons learned	• Programme stopped, no follow-up after 2010 • No requirement for the implementation of measures Lessons learnt: • results were used to create benchmarks for energy efficiency in different branches (important benchmarks for a first analysis within energy audits) • templates for contracts (initial audit and follow-up audit) were created • requirements for the scope of the audit (initial audit and follow-up audit) • related study to factors for motivation and demotivation to increase energy efficiency in SMEs was carried out

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Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Scope of services were defined for initial audit and follow-up audit.
Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Within the audit.
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Programmes non-sectoral non-size oriented.
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Only energy related.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Vouchers for consultancy/audit (90% of the costs were subsidised).
Evaluation (1= Not at all, 5= YES, completely)	4
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	AT4
Country	Austria
Programme/policy/initiative name in its original language	***Klimabündnis Österreich - Klimabündnis Betriebe Programm***
Programme name in English	Climate Alliance Austria - climate alliance programme for companies
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	Any company/organization can become a Climate Alliance company, regardless of the sector or size. From the bakery to the hospitality industry to industrial companies, commercial businesses. Climate check: after an information session, the data will be collected by a consultant. The business consultant will come to the company on site and carry out a climate check. The analysed areas are: energy, procurement, mobility, employee motivation and climate. The result of the climate check is a CO_2 and energy balance. The Climate Alliance also advises on possible funding. Climate target: In coordination with the company a catalogue of measures will be created and fixed - also together (company and consultant)- an individual climate protection target will be defined. After that, it will be accepted as a climate alliance company. Climate package: The tasks agreed in the catalogue of measures are implemented on an ongoing basis. An evaluation takes place after 3 or 5 years. The "Companies in the Climate Alliance" program will run for 8 years from the date of admission. After that, the Climate Alliance operation can undergo another climate check and commit to new Climate Alliance goals.
Website link	https://www.klimabuendnis.at/betriebe
Link to a description in English-	https://www.klimabuendnis.at/english/info-in-english
Status	Ongoing
Starting year	1999
Closing year	-
Main results	Yes and available

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Failures, barriers, lessons learned	Lessons learned: • The climate check is not only focusing on energy. It is a good, low-threshold offer for companies to easily get started with climate protection. It is designed for to be a step into a more advanced programme for energy efficiency or environmental management systems; • In federal states (provinces) with a good financial support for the climate alliance programme, participation of companies is significantly higher; • For many companies, the motivation for participation is also that they can use the climate alliance logo for marketing activities. • Becoming a climate alliance partner is not a certification of what the company has already done in terms of sustainability. But it is a declaration of conviction and that they show that they are seriously on their way.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Qualified consultants.
Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	A voluntary commitment to implement concrete measures is agreed. The commitment is the base for the partnership.
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Programmes non-sectoral non-size oriented
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The advice aims to achieve energy savings, improve sustainability (e.g. procurement, biodiversity, mobility, financing, climate adaptation), motivate employees on the topics of climate and environmental protection.
Evaluation (1= Not at all, 5= YES, completely)	5
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Financial support by the federal and state governments (Betriebliche Umweltoffensive des Landes Oberösterreich (BUO), Umweltförderung Inland)
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme
Evaluation (1= Not at all, 5= YES, completely)	1

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Croatia

Best Practice #	HR1
Country	Croatia
Programme/policy/initiative name in its original language	Javni pozivi za energetske preglede i sustave upravljanja energijom
Programme name in English	Public calls for energy audits and energy management systems
Area of Application	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme including a financial incentive on the energy audit
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	The Environmental Protection and Energy Efficiency Fund is periodically publishing calls for the co-financing of energy audits for buildings and facilities (SME facilities fall into the latter category) and for the introduction of the energy management systems, compliant with the HRN EN ISO 50001 norm, targeted to the SMEs and small private businesses. The co-financing is up to 80%, 60% and 40%, depending on the criteria. The higher co-financing is targeted for the projects in areas of particular care, of islands and remote mountain areas. The co-financing of audits is maximal 6,700 EUR per project. The performers of energy audit and/or introduction of energy management system can be only the persons certified for the energy audits, and persons authorized for the issuing of certificates for compliance with HRN EN ISO50001, and expert consultants. The acceptable costs pertain to the energy auditing, comprising the necessary measurements, and the costs related to reporting.
Website link	https://www.fzoeu.hr/docs
Link to a description in English-	https://www.fzoeu.hr/eprijave/8812
Status	Ongoing
Starting year	2015
Closing year	-
Main results	Energy audits performed, energy management systems introduced
Failures, barriers, lessons learned	- More info on available financing schemes for audits needed - More appropriate contacts with expert auditors need to be established

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Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Only the norm HR EN ISO50001 is stipulated, the quality of audit is assumed by the best practice and checked competence of the auditor.
Evaluation (1= Not at all, 5= YES, completely)	3
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Generally, if the findings point to significant improvement potentials, the implementation of the proposed measures is considered.
Evaluation (1= Not at all, 5= YES, completely)	3
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	No exact quantitative assessment, but the programme is targeted to the projects which can be applied to the similar facilities within sector.
Evaluation (1= Not at all, 5= YES, completely)	2
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Understood but not particularly emphasized.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Yes, as co-financing.
Evaluation (1= Not at all, 5= YES, completely)	3
Use of the Energy Performance contracting.	
Description	Not stipulated but applicable.
Evaluation (1= Not at all, 5= YES, completely)	2

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Best Practice #	HR2
Country	Croatia
Programme/policy/initiative name in its original language	Javni pozivi koje objavljuju jedinice lokalne/područne uprave
Programme name in English	Public calls issued by local communities
Area of Application	Regional - Local communities (counties) and cities in Croatia
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	Calls for co-financing of the energy efficiency measures for counties/cities, applicable for local SMES; example of the programme call issued by a city: - analysis of the energy characteristics and energy consumption and costs - analysis of the possible improvement measures, and selection - energy, economic and ecologic evaluation of the proposed measures - final reporting - issuing of certificate (if applicable)
Website link	https://eko.zagreb.hr/
Link to a description in English-	https://eko.zagreb.hr/en
Status	Ongoing
Starting year	2014
Closing year	-
Main results	Results not available.
Failures, barriers, lessons learned	Lack of appropriate communication (possible potentials and benefits) between local communities and programme users.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Generally yes but not stipulated
Evaluation (1= Not at all, 5= YES, completely)	2
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	

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Description	Generally, if the findings point to significant improvement potentials, the implementation of the proposed measures is considered.
Evaluation (1= Not at all, 5= YES, completely)	3
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	No exact quantitative assessment, but the programme is targeted to the projects which can be applied to the similar facilities within sector.
Evaluation (1= Not at all, 5= YES, completely)	2
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Understood but not particularly emphasized.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Yes, as co-financing.
Evaluation (1= Not at all, 5= YES, completely)	3
Use of the Energy Performance contracting.	
Description	Not stipulated but applicable.
Evaluation (1= Not at all, 5= YES, completely)	2

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Best Practice #	HR3
Country	Croatia
Programme/policy/initiative name in its original language	Energetski pregledi za MSP u hrvatskoj prehrambenoj industriji
Programme name in English	Energy audits for SMEs in Croatian food processing industry
Area of Application	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive only on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	Related to the national energy programmes for energy efficiency, and the increasing awareness of the benefits from rational use of energy and implicating energy audits, a number of companies from food processing industry have committed to thorough audits. The introduction of integral audits was an advancement compared to the practice where energy analyses were done mostly for particular targeted measures of energy efficiency improvement. The integral audits were also targeted to getting the experience with various efficiency measures, in use of electrical and thermal energy, and to typifying the measures to be applicable to similar facilities. This was particularly pertaining to the use of thermal energy, since the consumption of electricity was simpler to measure and analyse, and the methods for that were more developed. The models for economic analysis, and assessment of energy and environmental benefits, were developed to facilitate the sectoral statistics and to amend the assessment of potentials on the national level.
Website link	-
Link to a description in English	-
Status	Completed
Starting year	2009
Closing year	2019
Main results	Available but undisclosable
Failures, barriers, lessons learned	<u>Barrier: the profile of the auditor</u> - In integral industrial energy audits, it is difficult for auditors to match the technical competence, in particular processes, of the experienced company's staff – and the audit report needs to be convincing to support further actions. This is the problem of the diversity of industrial processes, with which the auditor must be well acquainted.

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	Barrier: reliability of measurements - Metering of energy consumption is often inadequate to provide the long-term data for consumption profiles, which is more present in analyses of the thermal energy use, vs. these for the electric energy. In many cases the estimations and modelling are required, which makes the audit more complex. Lesson learned: reliability of audit findings - When the measure, proposed based on the audit findings, is more complex or needs higher investments, the proof of the benefits of such proposed measure has to be reliable; so, a good economic analysis is required, with competent energy savings and/or environmental assessment.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Not particularly, up to the auditor.
Evaluation (1= Not at all, 5= YES, completely)	2
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Yes, this is part of the audit report.
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Yes, within the industry group/cluster. Sector oriented policy, group of food processing industries in Croatia.
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Usually yes, the integral audit can have additional findings of possible benefits.
Evaluation (1= Not at all, 5= YES, completely)	3
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Intended, upon economic analysis the financial schemes can be worked out and funding programmes are considered.
Evaluation (1= Not at all, 5= YES, completely)	4
Use of the Energy Performance contracting.	
Description	Very rarely, the ESCO providers may be interested upon potentials are established through the audit.
Evaluation (1= Not at all, 5= YES, completely)	1

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Greece

Best Practice #	HL1
Country	Greece
Programme/policy/initiative name in its original language	Government Gazette B' 3373/31.08.2019, ΥΠΕΝ/ΓΔΕ/76979/4917
Programme name in English	Special levy on pollutant emissions (SLPE) for SMEs with energy audits
Area of Application	National
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	Not known
Typology	Voluntary programme including a financial incentive on the energy audit
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	In compliance with Article 8 of the EU Energy Efficiency Directive, Greek Law 4342/2015 introduced the Energy Audit for industry and Small to medium-sized enterprises. In order to enhance the implementation of energy audits, the Government Gazette B' 3373/31.08.2019 announced the Ministry Decision to allow the application for Special levy on pollutant emissions (SLPE) only to companies that have been energy audited. In that way, the SMEs with Energy Audits can reduce their energy costs.
Website link	https://www.dapeep.gr/perivallon/diarroi-anthraka/meiomenes-xreoseis-etmeap/
Link to a description in English	-
Status	Ongoing
Starting year	2022
Closing year	2027
Main results	Not available
Failures, barriers, lessons learned	- The implementation of the programme has been delayed. - The implementation of the programme is expected to start for SMEs within the year 2022.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Guidelines on State aid for environmental protection and energy 2014-2020 (2014/C 200/01).
Evaluation (1= Not at all, 5= YES, completely)	4

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Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	It is provided by the programme announcement.
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Replicability of the initiative on a relevant number of SMEs in terms of sector, size, and the energy consumption is provided.
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	No available data.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Local incentives/programmes.
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	Not applicable.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	HL2
Country	Greece
Programme/policy/initiative name in its original language	Athens Business Green Toolkit
Programme name in English	Athens Business Green Toolkit: Upgrading businesses in the Historic Center of Athens with terms of Green Operations, in order to improve their image.
Area of Application	Region/Province (Athens City)
Developed in the framework of article 8 EED	No
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	At least one
Programme description	The programme supports SMEs and micro enterprises to upgrade their operations based on the principles of energy efficiency and bioclimatic design (Athens Business Green Toolkit). The purpose is the business premises to have as little energy consumption as possible, to become environmentally friendly, to offer the required safety and comfort to the users. Besides, it aims to integrate modern operating elements with the utilization of innovation, in order to ensure improved internal operating conditions, as well as to promote the environmental upgrading of the urban environment.
Website link	https://www.espa.gr/el/Pages/ProclamationsFS.aspx?item=5234
Link to a description in English-	https://www.espa.gr/el/Pages/ProclamationsFS.aspx?item=5234
Status	Ongoing
Starting year	2021
Closing year	-
Main results	Yes and available
Failures, barriers, lessons learned	- Great participation for SMEs and micro SMEs - Many applications were submitted - 163 Energy Certificates were submitted
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Energy audit according to the Greek Regulation on the Energy Performance of Buildings (EPB), Energy audit performed by a certified professional (Certified Energy Auditor).

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Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	The implementation of energy saving measures is calculated in the energy audit with measurable results (kWh/m2).
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	There will be this feature in the next programme invitation.
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Water savings and energy savings connected with water savings.
Evaluation (1= Not at all, 5= YES, completely)	4
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Local incentives/programmes.
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	Not applicable.
Evaluation (1= Not at all, 5= YES, completely)	1

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Italy

Best Practice #	IT1
Country	Italy
Programme/policy/initiative name in its original language	***Bandi regionali diagnosi energetiche***
Programme name in English	Regional programmes for energy efficiency/ energy audits
Applicability	Regional
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	At least one
Programme description	The Decree of the Ministry of Economic Development and the Ministry of the Environment of 12 May 2015, following art. 8 EED, started the program aimed at stimulating SMEs towards a more efficient and conscious energy consumption. According to the Decree, the regions and autonomous provinces could present programmes aimed at supporting the implementation of energy audits in small and medium-sized companies. The Ministerial Call for co-financing consisted of a financial support divided at 50% between individual Region and Ministry of Economic Development, to finance the implementation of energy audits in SMEs (with a maximum contribution of € 5,000 per audit) or the adoption of an ISO 50001 certified energy management system (with a maximum contribution of 10,000 €). In these calls, the realization of at least one intervention of those identified in the audit is binding for obtaining the contribution.
Website link	Regional Websites
Link to a description in English-	Partially translated in the NEEAPs it_neeap_2017_en.pdf (europa.eu)
Status	Completed
Starting year	2015
Closing year	2020
Main results	In 2015, EUR 15 million was made available for the co-financing of regional incentive programmes for energy audits of SMEs or the adoption of energy management systems in accordance with ISO 50001. A further EUR 15 million was provided by the Regions. Altogether the funding covered 50 % of the energy audit costs. Regarding the call for 2015, seven Regions have set aside more than EUR 13 million for the co-financing of energy audits of SMEs

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	and for the adoption of energy management systems in accordance with ISO 50001. The initiative was repeated in 2016 and 2017.
Failures, barriers, lessons learned	The analysis of the impact achieved by the various regional calls for proposals for the promotion of energy efficiency in SMEs, pursuant to art. 8 of Legislative Decree no. 102/2014, highlighted some critical issues. The regional calls did not have the expected effect in terms of results achieved. Not all Italian regions have joined the calls (as shown in Table 1) and among those that have implemented a regional call only Lombardy (234 companies) Sardinia (58 companies, 29 have also reported intervention) and Campania (56 companies audits and funded intervention) have achieved concrete and satisfactory results. As regards the latter two probably the good results are mainly due to the fact that the regional calls also included a financing of the energy efficiency intervention implemented after the audits. The call of the Emilia Romagna region has also obtained good results (156 financed companies) thanks to the extension to 100% of the contribution for the costs for the realization of the audits or for the adoption of ISO 50001 certification and the establishment of a Subsidized Finance Fund aimed at supporting companies and in particular for the realization of interventions aimed at reducing energy consumption and the production of energy from renewable sources.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The energy audit must be drawn up in accordance with the criteria set out in Annex 2 of Legislative Decree 102/2014, proven by compliance with the UNI CEI 16247-1-3 technical standard. The auditor does not require specific certification.
Evaluation (1= Not at all, 5= YES, completely)	3
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	To receive the financing, it is necessary to carry out at least one energy saving measure and quantify the achieved savings.
Evaluation (1= Not at all, 5= YES, completely)	3
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Regional programmes are open to all non-obliged SMEs
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The co-benefits that may emerge from the implementation of the energy audit are not addressed within this system.
Evaluation (1= Not at all, 5= YES, completely)	1

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Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Both regional and European (ERDF).
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	IT2
Country	Italy
Programme/policy/initiative name in its original language	***Obbligo energivori***
Programme name in English	Energy Intensive Industry programme
Area of Application	National
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	No
Typology	Obligation with no financial support or incentive schemes in the programme itself
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	All the energy-intensive companies (Large or SMEs) subjected to partial tax relief in the purchased electricity (registered in the list of the Environmental Energy Services Fund - CSEA, a government agency) are obliged to carry out energy audits. These companies are named -in Italian - *"Energivori"* and they present large energy consumptions (relatively to their internal costs and higher than 1GWh/y), and they must be part of some specific industrial sectors (mainly Annexes 3 and 5 of EU Guidelines 2014/C 200/01). Energy intensive industries, according to the Legislative Decree 73/2020 are obliged to implement at least one of the energy efficiency measures identified in the energy audit in the 4-year time interval between mandatory energy diagnoses. Energy audits of Energy Intensive SMEs are submitted to ENEA as per D.Lgs. 102/14. Alternatively, energy-intensive companies can choose to implement an ISO 50001 compliant energy management system.
Website link	https://energivori.csea.it/Energivori/
Link to a description in English-	Not available
Status	On going
Starting year	2015
Closing year	-
Main results	At the end of July 2020 an overall number of 2,845 energy audits regarding 2,546 SMEs (reference year 2018-2019) had been submitted to ENEA. The 94% of those are manufacturing SMEs, with an overall consumption of about 8.8 Mtoe.
Failures, barriers, lessons learned	• The success of the program in terms of implementation of the interventions is closely linked to the preliminary publication of sectorial guidelines that help companies in drafting energy audits and in the identification of effective interventions.

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	• An information campaign on the opportunities for SMEs linked to the energy audit obligation is essential.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The energy audit must be drawn up in accordance with the criteria set out in Annex 2 of Legislative Decree 102/2014, proven by compliance with the UNI CEI 16247-1-3 technical standard.
Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	At the end of July 2020 global savings of 102 ktoe/year related to energy efficiency interventions carried out and declared in the audit report. Almost 60% of the interventions carried out ranks in three areas: lighting (26%), production lines (17%) and general interventions (15%) which include the installation of monitoring systems, ISO 50001 etc.
Evaluation (1= Not at all, 5= YES, completely)	3
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	This obligation scheme is applied only to energy-intensive SMEs and non-SMEs (of specific industrial sectors as defined by Annexes 3 and 5 of EU Guidelines 2014/C 200/01) to benefit from the tax relief requested voluntarily by the companies.
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The co-benefits that may emerge from the implementation of the energy audit are not addressed within this system.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	No use.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	IT3
Country	Italy
Programme/policy/initiative name in its original language	TREND (Tecnologia e innovazione per il Risparmio e l'efficienza ENergetica Diffusa)
Programme name in English	Technology and Innovation for Energy saving and Energy Efficiency
Applicability	Regional
Developed in the framework of article 8 EED	No
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	At least one
Programme description	The project TREND was aimed at promoting awareness, competences, and tools for energy efficiency in SMEs. It was carried out in three steps: 1. ANALYSIS & SCOUTING main findings •Verifying the awareness about energy audit and implemented measures for improving energy performances in SMEs •Identification of the most implemented measures for improving energy performances of SMEs (by sector) and size 2. ENERGY AUDIT • Matching demand/supply of energy management through a call for energy experts (general requirements based on national standard UNI CEI 11339) • Notice for financing 75% of total costs (with a maximum of 5.000 €) to carry out energy audits in interested SMEs of manufacturing sector 3. MEASURES FOR IMPROVING ENERGY PERFORMANCES • Matching demand/supply of clean technologies and energy efficiency services through a call for suppliers of technology and/or energy service (general requirements for ESCo based on national standard UNI CEI 11352) • Notice reserved to the enterprises participating to audits in the 2nd phase, and aimed to identify and to finance (50% of total costs with a maximum of 50 k€) the best projects for improving energy performances (in terms of innovation, energy saving, environmental benefits and competitiveness). The analyses realized on the presented projects for improving energy performances have made to emerge a greater attention for the reduction of the electric consumptions privileging, for this reason, all the interventions planning: the substitution of obsolete electric machinery with others working more efficiently (27 % of the projects); the adoption of devices for power regulation (inverters and transformers, 9% of the projects).
Website link	https://www.finlombarda.it/finanziamentieservizi/trend

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Link to a description in English-	https://www.ca-eed.eu/content/download/4151/file/Trend%20Vilnius%202nd%20CA%20EED%20Mutti%20%28public%29.pdf
Status	Completed
Starting year	2010
Closing year	2013
Main results	• 60 organizations answering the call for suppliers of technology and/or energy services and subscribing in the dedicated part of the project website • 175 enterprises presented a project in the notice for financing measures for improving energy performances, after a formal evaluation 169 of these were admitted to technical assessment • The necessary time to carry out the call for suppliers and the notice for projects was about 1 year • A technical assessment has evaluated 88 best projects for improving energy performances (in terms of innovation, energy saving, environmental benefits and competitiveness) that were financed. Enterprises had 1 year to complete the projects • The total cost of the 88 financed project was about 8,5 M€ (average 96.600 €) of which 3,34 M€ of public funding (average 38.000 €)
Failures, barriers, lessons learned	-
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The programme takes into account two national norms (UNI CEI 11339 and 11352) regarding the certification of the competences. In the energy audit call, the programme also aims to match demand/supply of energy management through the involvement of energy experts (general requirements based on national standard UNI CEI 11339). In the call for energy efficiency measures the programme also aims to match demand/supply of energy management through the involvement of suppliers of technology and/or energy service (general requirements for ESCo based on national standard UNI CEI 11352)
Evaluation (1= Not at all, 5= YES, completely)	4
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Notice reserved to the enterprises participating to audits in the 2nd phase, and aimed to identify and to finance (50% of total costs with a maximum of 50 k€) the best projects for improving energy performances.
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	

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Description	TREND is an interesting case study which can be replicated at sectoral and regional/province levels
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Regional + EDFR
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme
Evaluation (1= Not at all, 5= YES, completely)	1

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Malta

Best Practice #	MT1
Country	Malta
Programme/policy/initiative name in its original language	Promotion of Energy Audits in Small and Medium Enterprises
Programme name in English	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	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. After reviewing the application, the Agency will inform the enterprise that it can proceed with the audit. 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.
Website link	https://www.energywateragency.gov.mt/energyaudits/
Link to a description in English	https://www.energywateragency.gov.mt/energyaudits/
Status	Ongoing
Starting year	2018
Closing year	-
Main results	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. 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.

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Failures, barriers, lessons learned	Lessons Learnt - 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 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.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The Promotion of Energy Audits in Small and Medium Sized Enterprises scheme follows ISO 50002 framework. The Energy and Water Agency considers the energy audits requested of a level 2- ISO standard.
Evaluation (1= Not at all, 5= YES, completely)	4
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Currently there is no obligation to implement energy saving measures addressed in the audit.
Evaluation (1= Not at all, 5= YES, completely)	1
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	In view that the programme is open to all SMEs without any distinction between sectors, size and energy consumption, the programme can be considered replicable to the extent it is applied to an enterprise as an entity, but not replicable for sectors, size and energy consumption.
Evaluation (1= Not at all, 5= YES, completely)	2
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The EA scheme also aims to address water consumption in enterprises which consume large amounts of water.
Evaluation (1= Not at all, 5= YES, completely)	3

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Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	The Energy Audit Scheme is fully supported with local funds.
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	There is no use of Energy Performance Contracting.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	MT2
Country	Malta
Programme/policy/initiative name in its original language	MERCA
Programme name in English	Managing Essential Resources in Retail through Consumption Analysis
Area of Application	National
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme with no financial support
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	The MERCA pilot project will, amongst other actions carry out a number of energy audits within the identified establishments to characterise the energy and water usage in these sub-groups, whilst assisting these outlets with the available opportunities to implement audit recommendations. The Agency will also gather information on the consumption patterns and savings achieved. In this way, enterprises will be able to assess their performance and potentially, similar enterprises can identify the opportunity cost of changing their approach.
Website link	https://www.energywateragency.gov.mt/news/pilot-project-to-assist-food-retail-outlets-in-efficient-use-of-energy-and-water/
Link to a description in English-	https://www.energywateragency.gov.mt/news/pilot-project-to-assist-food-retail-outlets-in-efficient-use-of-energy-and-water/
Status	Ongoing
Starting year	2021
Closing year	-
Main results	Available but undisclosable
Failures, barriers, lessons learned	Not applicable - The project is still in its initial phases and data is currently being collected.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The energy audits to be carried out will be in line with ISO 50002 standard. The aim is to have a level 2- ISO standard.
Evaluation (1= Not at all, 5= YES, completely)	4

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Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	The aim is to guide the shops to implement some of the measures identified in the audits through existing financial schemes.
Evaluation (1= Not at all, 5= YES, completely)	3
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Yes, this is considered a pilot project as it can be replicated with other sectors.
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The audits will be looking at both energy and water consumption. Measures to improve both are expected to be identified.
Evaluation (1= Not at all, 5= YES, completely)	3
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	The MERCA project is fully supported with local funds.
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	There is no use of Energy Performance Contracting.
Evaluation (1= Not at all, 5= YES, completely)	1

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Poland

Best Practice #	PL1
Country	Poland
Programme/policy/initiative name in its original language	Pożyczka Termomodernizacyjna dla Przedsiębiorstw II
Programme name in English	Thermomodernisation Loan for Enterprises II
Area of Application	Regional (Podlaskie Voivodeship)
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	Yes
Typology	Obligation and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	More than one
Programme description	Support (loans) for projects aimed at improving the energy efficiency of micro, small and medium-sized enterprises, the use of renewable energy sources and deep comprehensive energy modernisation of buildings, increasing energy efficiency by at least 25% in relation to the initial state defined in the energy audit, including: - modernisation and improvements introducing new facilities, control systems into establishments, technical installations and equipment aimed at improving energy efficiency in existing facilities, installations and technical equipment, - installations enabling the recovery of heat energy generated in the course of industrial processes industrial processes or during its production, improving the energy efficiency of technological systems, saving thermal energy and reducing CO2 emissions to the atmosphere, - use of energy-saving equipment and technologies and implementation of energy management systems, - deep energy modernization of buildings belonging to the enterprise, through, among others ✓ insulation of the facility, replacement of windows and external doors; ✓ energy-efficient lighting ✓ conversion of heating systems (including replacement and connection of heat source to more efficient and environmentally friendly one) ✓ installation of cooling systems, including using RES ✓ conversion of ventilation and air-conditioning systems ✓ use of weather-compensated control systems ✓ use of building management systems ✓ construction and reconstruction of internal consumption systems and decommissioning of existing heat sources existing heat sources; ✓ installation of micro-cogeneration or micro-trigeneration for own consumption

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	✓ installation of RES in energy-efficient modernized buildings or if it results from ✓ installation of RES in energy-efficient refurbished buildings or if resulting from an energy audit ✓ installation of individual heat, cooling and domestic hot water meters ✓ installation of sub-ceiling valves and thermostats; ✓ installation of equipment for energy production for own use based on RES, change of the system of generation or use of fuels and energy, ✓ carrying out an ex-ante energy audit as part of an investment project specified in the above points.
Website link	http://pozyczkowy.com.pl/wp-content/uploads/regulamin_termomodernizacja.pdf
Link to a description in English-	-
Status	Ongoing
Starting year	2019
Closing year	2022
Main results	Yes but not available
Failures, barriers, lessons learned	• 53 companies benefited from the loan, • the programme budget: 31 000 000 PLN
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The achievement of the assumed indicators is confirmed by - an ex-post audit (according EN 16247) indicating that the material target has been met, which determined the achievement of energy efficiency improvements of the amount specified in the ex-ante energy audit, Or - confirmation of the designer on the conformity of the construction project with the positively verified ex-ante energy audit and confirmation of the investor's supervision inspector on the execution of the project in accordance with the construction project - which thus confirm the achievement of the indicators calculated in the ex-ante audit.
Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	-

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Evaluation (1= Not at all, 5= YES, completely)	4
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1
Use of the Energy Performance contracting.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 893924.

Best Practice #	PL2
Country	Poland
Programme/policy/initiative name in its original language	Energia plus
Programme name in English	Energy Plus
Area of Application	National
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	No
Typology	Obligation and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	The project aims to: - reduce the consumption of primary raw materials, - reduce harmful emissions into the atmosphere, - support the construction of new heat and power sources, - boost the modernisation/extension of district heating networks, - support the energetic use of geothermal resources, - construction, expansion or modernisation of existing production facilities or industrial equipment, leading to a reduction in consumption of primary raw materials.
Website link	https://www.gov.pl/web/nfosigw/nabor-energia-plus
Link to a description in English-	https://www.gov.pl/web/nfosigw-en/current-priority-programmes
Status	Ongoing
Starting year	2019
Closing year	2025
Main results	Results obtained but not available
Failures, barriers, lessons learned	• 280 applications were submitted, • 150 companies benefited from the loan, • the programme budget: 4 000 000 000 PLN.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The implementation of the project is conditional on carrying out an energy audit in at least one of the following scopes: a) energy audits of industrial buildings according EN 16247, b) energy audits of internal heating networks, c) energy audits of heat, electricity and cooling sources, d) energy audits of technological processes, e) energy audits for electrical energy - optimization of electricity consumption

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	in buildings, installations and internal transmission networks. The implementation of energy management system is also recommended.
Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	4
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Under the measure "Reduce consumption of primary raw materials" the water consumption per unit of final production (m3/unit of production) must be reduced not less than 5%.
Evaluation (1= Not at all, 5= YES, completely)	3
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1
Use of the Energy Performance contracting.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1

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Portugal

Best Practice #	PT1
Country	Portugal
Programme/policy/initiative name in its original language	SGCIE - Sistema de Gestão dos consumos intensivos de energia
Programme name in English	Intensive Energy Consumption Management System
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Obligation with no financial support or incentive schemes in the programme itself
Requirement to implement energy efficiency measure recommended in the audit	At least one
Programme description	The Intensive Energy Consumption Management System (SGCIE) was published on 15 April 2008, through Decree-Law 71/2008, being one of the measures of the NEEAP - National Energy Efficiency Action Plan that results of an extension up to 2016 of the measure of the PNAC 2006 (National Climate Change Plan), relative to the revision of the RGCE- Regulation of Energy Consumptions Management. It was changed by the Law 7/2013 of January 22nd and later by the Decree-Law 68-A/2015, of April 30th. Its objective is to promote the increase of energy efficiency through the modification of production processes, the introduction of new technologies and behaviors changes. The SGCIE applies for all companies and facilities (also named “Operators”) that have an annual consumption over 500 toe/year, imposing binding energy audits, with an 8-year periodicity. Facilities under European Emissions Trading System (ETS) are not covered by SGCIE, but they may participate on a voluntarily basis, as can facilities with annual energy consumptions lower than 500 toe. Intensive energy users are obliged to elaborate and execute Energy Consumption Rationalization Plans (PREn), establishing targets for Energy and Carbon intensity and Specific energy consumption, which also outlines energy rationalization measures. The Plan must be submitted through an online system to the Directorate General for Energy and Geology (DGEG), as well to submit biennial execution and progress reports. Upon DGEG’s approval, as the competent authority that supervises and inspects the SGCIE's operation,

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	PREn becomes a Rationalization Agreement for Energy Consumption (ARCE). By the end of each PREn period, operators must reduce their target indicators – Energy intensity and Specific energy consumption – in 4% or 6% depending on if they have reference energy consumptions over 500 toe/year or under 1000 toe/year respectively. They also must, at least, maintain Carbon intensity. The ARCE provides facility operators with excise duty exemptions on oil (Imposto sobre Produtos Petrolíferos – ISP), electrical power and energy products (coal, oil coke, fuel oil, oil gases, and natural gas), as well as possibility to apply for incentives on energy audit costs and on investments in energy management and monitoring equipment. Exemptions in excise duties are foreseen in the national budget for fuels used either by consumers committed to the reduction of CO_2 emissions in the framework of the ETS or by consumers that have an ARCE.
Website link	https://sgcie.pt/
Link to a description in English-	https://www.measures.odyssee-mure.eu/successful-efficiency-measures-tool.html#/country_details
Status	Ongoing
Starting year	2008
Closing year	-
Main results	Yes and available. Until December 2020, 1290 intensive energy consuming companies were registered online and 1850 PREn were approved. There were 1850 audit whose potential is 186 ktoe/year of final energy, from transversal and specific measures.
Failures, barriers, lessons learned	The uncertainty of data collection of SGCIE is related to possible differences between estimated energy efficiency potential and metered energy efficiency implemented.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	To fulfil their obligations under the SGCIE, operators must rely on technicians or entities duly authorized for the preparation of energy audits and Energy Consumption Rationalization Plans, and to monitor its implementation and progress, including the preparation of reports on implementation and progress. The technicians that are interested in being accredited must submit requests for approval to ADENE and DGEG, demonstrating that they meet the minimum academic and professional qualification and experience appropriate to the objectives in question. Until December 2020 around 300 technicians or entities were recognized.
Evaluation (1= Not at all, 5= YES, completely)	4

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Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	The implemented measures and quantified energy savings achieved can be consulted at: https://sgcie.pt/estatisticas/
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	This system is applied to SMEs and non-SMEs. The SGCIE applies for all companies and facilities that have an annual consumption over 500 toe/year.
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The co-benefits that may emerge from the implementation of the energy audit are not addressed within this system.
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	The Portuguese Recovery and Resilience Plan Call "Support for the Decarbonization of Industry" is part of a set of measures that aim to contribute to the objective of carbon neutrality, promoting the energy transition through energy efficiency and renewable energies' support, focusing on the adoption of low carbon technologies, energy efficiency measures, incorporation of energy from renewable sources, and energy storage within the Portuguese Industry. This call is directed to companies, of any size or legal form, in the industry sector, as well industrial parks managing authorities. Entities may apply individually or in consortia. More information available on: https://www.iapmei.pt/Paginas/Descarbonizacao-da-Industria.aspx
Evaluation (1= Not at all, 5= YES, completely)	3
Use of the Energy Performance contracting.	
Description	Not contemplated within the programme, but the operator can choose to perform an EPC to implement one or more energy efficiency measures (there is nothing against it).
Evaluation (1= Not at all, 5= YES, completely)	3

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Slovakia

Best Practice #	SK1
Country	Slovakia
Programme/policy/initiative name in its original language	1) OPKZP-PO4-SC421-2019-59 Zníženie energetickej náročnosti a zvýšenie využívania obnoviteľných zdrojov energie v podnikoch 2) OPKZP-PO4-SC421-2018-46 Zníženie energetickej náročnosti a zvýšenie využívania obnoviteľných zdrojov energie v podnikoch Implementácia opatrení z energetických auditov 3) OPKZP-PO4-SC451-2019-60 Výstavba, rekonštrukcia a modernizácia zariadení na výrobu elektriny a tepla vysoko účinnou kombinovanou výrobou s maximálnym tepelným príkonom 20 MW 4) OPKZP-PO4-SC411-2019-61 Výstavba zariadení na využitie vybraných druhov OZE 5) OPKZP-PO4-SC411-2020-63 Zvýšenie podielu obnoviteľných zdrojov energie na hrubej konečnej energetickej spotrebe SR
Programme name in English	1) Reducing energy demand and increasing use of renewable energy in enterprises 2) Reducing energy demand and increasing use of renewable energy in enterprises. Implementation of measures/ recommendations from energy audits 3) Construction, refurbishment and modernization of facilities for electricity and heat production by combined production with maximum heat input of 20 MW 4) Construction of facilities using selected renewable energy sources 5) Increasing share of renewable energy sources on gross energy consumption in Slovakia
Area of Application	National (except Bratislava region)
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	Yes (No for programme n.3)

This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 893924.

Programme description	OPKZP-PO4-SC421-2019-59 and OPKZP-PO4-SC421-2018-46 Items: 1. Refurbishment of buildings in the industry sector and linked services 2.Refurbishment of energetic systems/equipment 3.Refurbishment of compressed air systems 4.Implementation of measurement and management systems including EMAS 5.Construction and refurbishment of energy pipelines 6.Refurbishment of outdoor lighting systems 7.Other measures contributing to reduction of primary energy needs OPKZP-PO4-SC451-2019-60 Refurbishment of heat producing facilities with highly effective combined heat and electricity production OPKZP-PO4-SC411-2019-61 Items: B2 Construction of equipment using hydro-energy B3 Construction of equipment using solar energy for heat production B4 Construction of equipment using aerothermal, hydrothermal and geothermal energy by the means of heat pumps B5 Construction of equipment using geothermal energy directly for heat production or in combination with heat pumps B6 Construction of equipment for production or energetic use of landfill gas or gas from waste water processing plants OPKZP-PO4-SC411-2020-63 Items: A: Construction of plants using biomass by refurbishing existing energetic facilities with max power 20MW using fossil fuels B: Construction of facilities: B3 using solar energy for heat production B4 using aerothermal, hydrothermal and geothermal energy by the means of heat pumps B5 using geothermal energy directly for heat production or in combination with heat pumps B6 for energetic use of landfill gas or gas from waste water processing plants
Website link	1) https://www.op-kzp.sk/wp-content/uploads/2019/12/Vyzva_usm_1.pdf 2) https://www.op-kzp.sk/wp-content/uploads/2018/12/V--zva----46-v-znen---Usmernenia---.2.pdf 3) https://www.op-kzp.sk/wp-content/uploads/2019/12/Vyzva_60_U1.pdf 4) https://www.op-kzp.sk/wp-content/uploads/2019/12/411_B_vyzva.doc.pdf 5) https://www.op-kzp.sk/wp-content/uploads/2020/05/Vyzva_OPKZP-PO4-SC411-2020-63.pdf
Link to a description in English-	https://www.op-kzp.sk/wp-content/uploads/2020/02/OP-QE-vs-10.1en.pdf

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Status	Three completed, two ongoing
Starting year	OPKZP-PO4-SC421-2019-59: 2019 OPKZP-PO4-SC421-2018-46: 2018 OPKZP-PO4-SC451-2019-60: 2019 OPKZP-PO4-SC411-2019-61: 2019 OPKZP-PO4-SC411-2020-63: 2020
Closing year	OPKZP-PO4-SC421-2019-59: 2021 OPKZP-PO4-SC421-2018-46: 2022 OPKZP-PO4-SC451-2019-60:- OPKZP-PO4-SC411-2019-61:- OPKZP-PO4-SC411-2020-63: 2021
Main results	Available but undisclosable
Failures, barriers, lessons learned-	Barriers: - Lack of knowledge and understanding of SMEs on the benefits of the audits - Missing requirements on quality of the audits in the programmes resulting in purchasing the cheapest, not the best audit - Insufficient data provided by the auditors from energy audits in SMEs to monitoring system. It is not required by law, detailed data are required only from energy audits in large enterprises. Lack of data from SME makes analysis very difficult and hard to make recommendations for policy makers and SMEs - Bureaucracy and application approval process is quite long and can take several months - SMEs have limited capacity to properly apply for funds and this is resulting in 95% of applications incomplete Lessons learnt: there was a small support scheme (Programme 6 – it was additional scheme to the OP Quality of environment) to provide funds for SMEs to purchase energy audits but the interest was low and the main reason was that recommended measures from audits were not supported, therefore for SMEs there was no point to invest time in dealing with application and process of energy audit. Less than 10 SMEs received funds and the data from energy audits were not recorded. SMEs had to provide the results of the audits but the data were not gathered. So an important lesson is to better record the data and to provide funds for recommended measures.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Law 321/2014 and Edict 179/2015 STN EN 16247 standards.

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Evaluation (1= Not at all, 5= YES, completely)	5
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	The programmes support only measures described in the energy audits. Energy audit is a requirement for the grant provision. The results are measured based on the indicators set in the project documentation
Evaluation (1= Not at all, 5= YES, completely)	5
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	All kind of enterprises including SMEs.
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The supported measures are comprehensive, but the impact is not measured, we can only assume the co benefits from the realized measures. The applications are evaluated by the complexity of the project, more complex projects are prioritized. It also depends on concrete measures which co-benefits emerged, further analysis of concrete projects would have to be done.
Evaluation (1= Not at all, 5= YES, completely)	5
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Use of European structural and investment funds in these programmes but not from 50 – 95%.
Evaluation (1= Not at all, 5= YES, completely)	4
Use of the Energy Performance contracting.	
Description	EPC is not used in combination with grants.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	SK2
Country	Slovakia
Programme/policy/initiative name in its original language	Podpora na vykonanie energetických auditov mikropodnikov, malých podnikov a stredných podnikov so sídlom v Bratislavskom kraji - druhé kolo
Programme name in English	Support for performing energy audits of SMEs located in Bratislava region - second round
Area of Application	Regional (Bratislava)
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme including a financial incentive on the energy audit
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	Programme to support SMEs by providing grants for purchasing energy audit. The max. amount is 10 000 and covers 85% of the costs. The programme was aimed only on Bratislava region. SMEs had to provide report from the audit and accounting documents to prove funds were spent correctly.
Website link	https://www.op-kzp.sk/wp-content/uploads/2019/12/Vyzva_usm_1.pdf
Link to a description in English-	https://www.op-kzp.sk/wp-content/uploads/2020/02/OP-QE-vs-10.1en.pdf
Status	Completed
Starting year	2017
Closing year	2017
Main results	Yes and available
Failures, barriers, lessons learned	The interest in the programme was unfortunately low and the main reason was that recommended measures from audits were not supported, therefore for SMEs there was no point to invest time in dealing with application and process of energy audit. Less than 10 SMEs received funds and the data from energy audits were not recorded. SMEs had to provide the results of the audits but the data were not properly gathered. An important lesson learnt has been to improve to process of data recording and to provide funds for recommended measures.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	5

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Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	5
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	3
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	OPKŽP
Evaluation (1= Not at all, 5= YES, completely)	5
Use of the Energy Performance contracting.	
Description	-
Evaluation (1= Not at all, 5= YES, completely)	1

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United Kingdom

Best Practice #	UK1
Country	United Kingdom
Programme/policy/initiative name in its original language	SME Loan Fund
Programme name in English	SME Loan Fund
Area of Application	Regional (Scotland)
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	The project aims to: - reduce the consumption of primary raw materials, - reduce harmful emissions into the atmosphere, - support the construction of new heat and power sources, - boost the modernisation/extension of district heating networks, - support the energetic use of geothermal resources, - construction, expansion or modernisation of existing production facilities or industrial equipment, leading to a reduction in consumption of primary raw materials.
Website link	https://energy.zerowastescotland.org.uk/SMELoan
Link to a description in English-	https://energy.zerowastescotland.org.uk/SMELoan
Status	Ongoing
Starting year	2013
Closing year	-
Main results	Yes but not available
Failures, barriers, lessons learned	Overall, financial constraints are typically cited as the reason for not implementing recommendations. When SMEs reject one of the recommended measures, it is usually because it is perceived as unsuitable. Quantifying impacts in some situations is challenging, particularly when SMEs receive light-touch support (i.e. only advice). It's also challenging to quantify impact where implementation following in-depth support has occurred at additional sites, or where the

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	recommendations taken forward are different to the original measures proposed.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Energy assessments are carried out by Business Energy Scotland's team of advisors and technical specialists.
Evaluation (1= Not at all, 5= YES, completely)	3
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	An evaluation is carried out on a sample of SMEs who engaged with the programme. The last evaluation was done in 2018.
Evaluation (1= Not at all, 5= YES, completely)	3
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	The programme is open to all SMEs, so it applies to SMEs of all sizes and sectors.
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Evaluation of programme covers energy use reduction, carbon savings from energy, cost savings from energy, reduced water use, cost savings from water, reduced material consumption, reduce waste outputs, carbon and cost savings from materials, jobs created, jobs safeguarded.
Evaluation (1= Not at all, 5= YES, completely)	4
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Yes, loans are offered to cover cost of energy efficiency and renewable energy investments. Funding comes from Scottish government and ERDF.
Evaluation (1= Not at all, 5= YES, completely)	4
Use of the Energy Performance contracting.	
Description	No use of EPC.
Evaluation (1= Not at all, 5= YES, completely)	1

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Best Practice #	UK2
Country	United Kingdom
Programme/policy/initiative name in its original language	Coventry and Warwickshire Green Business Programme
Programme name in English	Coventry and Warwickshire Green Business Programme
Area of Application	Regional: Coventry, Warwickshire (UK)
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	The Coventry and Warwickshire Green Business Programme supports SMEs based in Coventry and Warwickshire to improve energy and water efficiency, reduce waste and benefit from low carbon technologies. The programme offers energy and resource efficiency grants between £1,000 -£50,000, free energy and resource efficiency audits to help identify energy, water and waste savings, membership to the Green Business Network, advice on waste and water savings, access to specialist support to enable growth and innovation, free events, workshops and 1:1 support.
Website link	https://www.coventry.gov.uk/coventry-warwickshire-green-business-programme/coventry-warwickshire-green-business-programme-1
Link to a description in English-	https://www.coventry.gov.uk/coventry-warwickshire-green-business-programme/coventry-warwickshire-green-business-programme-1
Status	Ongoing
Starting year	2016
Closing year	-
Main results	Yes but not available
Failures, barriers, lessons learned	-
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	No details available.
Evaluation (1= Not at all, 5= YES, completely)	1

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Implementation of the energy saving measures addressed in the audit with measured (or measurable) results.	
Description	Programme measures, CO2 savings, number of jobs created, number of SMEs that received support.
Evaluation (1= Not at all, 5= YES, completely)	2
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption.	
Description	Could be replicable on a regional scale.
Evaluation (1= Not at all, 5= YES, completely)	4
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	No details available
Evaluation (1= Not at all, 5= YES, completely)	1
Use of European and/or local incentives/funds/programmes within the energy audit campaign.	
Description	Regional funding and ERDF funding.
Evaluation (1= Not at all, 5= YES, completely)	4
Use of the Energy Performance contracting.	
Description	No use of EPC.
Evaluation (1= Not at all, 5= YES, completely)	1

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4. Good practices – Other countries

The 12 good practices regarding other EU Countries outside the LEAP4SME ones are summarized below. Each one of them is described and analyzed in the following sections.

List of other EU-Countries Best Practices		
ID	**Country**	**Programme Name**
BG1	Bulgaria	*Operational Programme 'Innovation and Competitiveness' 2014–2020 (OPIC)*
DK1	Denmark	*Renewable Energy for production process*
FI1	Finland	*Energy Audit Programme*
FR1	France	*Help in decision making system*
DE1	Germany	*SME Energy Consulting Programme*
DE2	Germany	*Energy Efficiency Networks Initiative*
DE3	Germany	*SME Initiative for Energy Reforms and Climate Protection*
IE1	Ireland	*Support Scheme for Energy Audits*
LU1	Luxembourg	*Grants for SMEs and non-industrial enterprises*
NE1	The Netherlands	*Long-Term Agreements on Energy Efficiency for the non-ETS sector – LTA3*
SE1	Sweden	*Swedish Energy Audit Programme (SEAP)*
SE2	Sweden	*Energy efficiency incentive*

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Bulgaria

Best Practice #	BG1
Country	Bulgaria
Programme/policy/initiative name in its original language	OPIK
Programme name in English	Operational Programme 'Innovation and Competitiveness' 2014–2020 (OPIC)
Area of Application	Country
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes, relative to the section of the scheme devoted to large enterprises which was added as alternative measure in 2019.
Typology	Voluntary programme and includes a financial incentive only on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	OPIC 2014-2020 concentrates resources on Thematic Objective 4. "Supporting the shift towards a low-car-bon economy in all sectors" to support the reduction of energy intensity as a priority in the manufacturing industry. The investments are under Priority Axis 3 "Energy and Resource Efficiency" which provides support for reducing the energy intensity of the economy, primarily through increased energy efficiency and flexibility of the enterprises, consistently with Bulgarian Energy Strategy and National Action Plan on Energy Efficiency. Target group are existing enterprises (except for trade and services sectors). The programme is structured in two procedures "Energy Efficiency for SMEs" and "Enhancement of Energy Efficiency in Large Enterprises". The second one has been included as alternative measure in art.7 EED since 2019. Support for increasing energy efficiency in enterprises is provided relative to energy efficiency audits in enterprises, implementation of the measures recommended in the audit report and investments in tangible and intangible fixed assets, among which energy management systems. Other support areas are, for example, reuse of residual heat in industry, renewable energy related activities for own consumption, complementary support for construction activities to improve the energy and thermal performance of the building stock of factory buildings.
Website link	https://en.opic.bg/
Link to a description in English	https://enr-network.org/wp-content/uploads/Factsheet-1-SEDA.pdf
Status	Ongoing

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Starting year	2014
Closing year	
Main results	According to the data in the information system for management and monitoring of EU funds in Bulgaria 2020 (https://eumis2020.government.bg/en) there have been 454 contracts under the scheme. A recent academic work (https://doi.org/10.1007/s12053-021-09933-4) the total value of the grants is approximately EUR 159 million, while the overall project costs (i.e. including the final beneficiaries' co-financing) is close to EUR 250 million. The substantial value of the contracted grants represents 14.2% of the overall EU financing of the programme, which is EUR 1.12 billion. Considering the contracted budget under the scheme and the remaining time for implementation of the programme (until 2023), this will likely remain the overall number of projects financed by the SME scheme. The rate of the grant support under the scheme varies between 35% and 90%, depending on the size of the supported company, the region of implementation, and the selected state aid regime. Savings associated to the procedure "Energy Efficiency for SMEs" range between 550 and 355 GWh, whereas savings of the procedure "Enhancement of Energy Efficiency in Large Enterprises" are estimated equal to 555 GWh.
Failures, barriers, lessons learned	Long payback periods are a key obstacle to implementing energy efficiency activities. A short payback period is associated by the scheme scoring methodology to more points to obtain the grant (below 6 years, 9 points; 6–8 years, 5 points; 9–10 years, 3 points; and above 10 years, 0 points). Nevertheless, an analysis of the interventions financed by the procedure "Energy Efficiency for SMEs" shows a relatively high PBT, also if compared to the one of large enterprises. The scheme has not resulted in geographical focus, for example in areas with a higher SMEs concentration. Moreover, it has reached a very small percentage of the SMEs in Bulgaria (0.2%) showing that the high number of SMEs makes very difficult reaching a high coverage.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	No guidelines for audit elaboration are provided and there is no reference to international standards.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	A list of energy saving measures are collected on this website UMIS 2020 (eufunds.bg) but no information on measured or measurable energy saving is available.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	

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Description	Enterprises in all sectors can apply to the programme: most financed projects are in the manufacturing sector, but the construction sector has also been covered by many projects.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Some projects had additional environmental objectives related to the reduction of water used and waste management.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	The program uses more than 150 million of European financing coming from European Regional Development Fund (national contribution equal to almost 100 million).
Use of the Energy Performance contracting	
Description	There is no use of Energy Performance Contracting.

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Denmark

Best Practice #	DK1
Country	Denmark
Programme/policy/initiative name in its original language	'VE til proces' scheme
Programme name in English	Renewable Energy for production process
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	Yes
Programme description	In connection to the replacement of fossil energy by renewable energy in production, a subsidy can be given for both energy audits and implementation of energy saving measures in SMEs. The scheme, which is directed at both non-SMEs and SMEs, is based on lov nr. 607 af 12. juni 2013 om tilskud til fremme af vedvarende energi i virksomheders processer (Act No 607 of 12 June 2013 on grants to promote renewable energy in the production processes of enterprises). The third NEEAP states that there has been a strong demand for the scheme from SMEs in agriculture. Generally this programme allows companies to request an investment aid to convert their energy consumption in production processes to renewable energy sources. This also includes grants for energy audits and energy efficiency measures. Currently the Danish Energy Agency seeks to further promote this programme. Initially this scheme was set up in June 2013 to promote renewable energy in the production processes of enterprises. Under the Act, the award of grants can also be made conditional on the beneficiary conducting an audit to demonstrate that the project concerned is energy efficient. The programme covered up to 50% in small and 40% in medium enterprises of the costs of energy audits and implementation of EE measures. The scheme was targeted at companies that converted their process energy into renewable energy or district heating. VE for Process also supported energy savings implemented in conjunction with the conversions.

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Website link	https://ens.dk/service/tilskuds-stoetteordninger/ve-til-proces
Link to a description in English	https://ec.europa.eu/energy/sites/ener/files/documents/EED-Art8-Implementation-Study_Task12_Report_FINAL-approved.pdf
Status	Closed
Starting year	2013
Closing year	2017
Main results	Not available.
Failures, barriers, lessons learned	Closed with the restructuration of energy agreements (specifically the electricity market equalization) Energy Agreement (kefm.dk)
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	No specific information about the Energy audits is available.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Energy audits are preparatory to the main objective of the programme (substitution of fossil-fuel based energy with renewable or district heating). Hence the implementation of RES measures was mandatory and the implementation of additional related EE voluntary.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	The programme was opened to all sector and company sizes (with more stringent rules and limits for large companies). The RES and district heating measures was funded up to 65%,55% and 45% for small, medium and large companies respectively. The EE correlated measures were funded up to 50%,40% and 30% for small, medium and large companies respectively.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Co-benefits are focused in the linking between EE and RES.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	National funds. Up to 15m EUR by project.
Use of the Energy Performance contracting	
Description	N/A

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Finland

Best Practice #	FI1
Country	Finland
Programme/policy/initiative name in its original language	Energiakatselmustoiminta / Täsmäkatselmus
Programme name in English	Energy Audit Programme
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme
Requirement to implement energy efficiency measure recommended in the audit	Yes
Programme description	Finland´s Energy Audit Programme (the EAP) is one of the oldest energy efficiency subsidy schemes in place. The EAP started as a subsidy policy in 1992, was developed into a programme in 1993 and was launched in practice in 1994. The EAP is a full-scale programme consisting of the following elements: programme administration, detailed guidelines, auditor training and authorisation as well as a monitoring system and promotion activities. The EAP is a voluntary programme but promoted by a 40% subsidy for industrial participants by the Ministry of Economic Affairs and Employment (MEAE). Since 5 June 2014 large companies have not been receiving subsidies for audits because they are within the sphere of mandatory audits required by the Energy Efficiency Directive. This is leading to the observed decline in the impact of the measure because the volume of voluntary agreements is lower. The Energy Authority is responsible for the implementation of the EAP. In practice, it has designated the operation to Motiva Oy (www.motiva.fi/en/). The Energy Department of the MEE is the Administrator and is responsible for all official decisions. Most of the energy auditors come from consulting companies and their clients are industry and the service and energy sectors. Business Finland and the Ministry of Economic Affairs and Employment grant subsidies for Motiva energy auditing. The maximum amount of a subsidy is as a rule 50% of the approved audit's working costs. The exception to this concerns subsidies for municipalities and micro-enterprises and SMEs linked to the energy efficiency agreement regime, for which the maximum

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	subsidy is 50% of approved costs. Subsidies for implementation projects covers up to 20%.
Website link	https://www.motiva.fi/en/solutions/energy_audits
Link to a description in English	Energy audits aided by the Ministry of Economic Affairs and Employment - Motiva https://www.ca-eed.eu/wp-content/uploads/2021/10/WG8.1-Tracking-implementation-of-audits-in-Finland.pdf
Status	Ongoing
Starting year	1992
Closing year	-
Main results	Yes and available. In 1992–2014 energy aid given to energy audits totalled EUR 37.6 million covering industry, services and energy sectors. The number of sites audited were about 9800 at the end of 2014. In 2014, 82% of energy audit subsidies were given to industries participating in the Energy Efficiency Agreements.
Failures, barriers, lessons learned	- After the introduction of mandatory energy audits as required by the Energy Efficiency Directive, volumes of voluntary energy audits declined rapidly. In 2018-2021 the number of sites totalled only 10 and they received about EUR 60 000 of audit subsidies. The programme has been entirely new type of targeted audit will be piloted in 2021–2022 with the aim of increasing energy audits among SMEs and accelerating the implementation of energy efficiency measure, in order to increase flexibility through a more free-form implementation.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Nine audit models have been developed for different type of buildings and for different sectors. Motiva is responsible for monitoring the energy audit volumes and results and for the quality of the reported energy audits. Two separate models have been developed for the energy sector, namely District Heating Energy Audit (a model for heating plants and distribution network) and Power Plant Energy Analysis. These two models are also subsidised by the MEE. Audit aid is not available for the mandatory energy audits of major corporations. Such aid is available for voluntary, what are referred to as Motiva-modelled energy audits for any companies other than large corporations. The Energy Audit Models applicable in the industrial sector are:

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	• Industrial Energy Audit: The lighter model for facilities with low energy intensive core processes or facilities where the saving potential of the process is known to be marginal • Industrial Energy Analysis: The heavier model for facilities with medium energy intensive core processes or facilities where the saving potential of the process is known to exist • Process Industry Energy Analysis: A two-step Energy Audit model for energy intensive process industry, where the first step is a scanning phase and the second step consist of one or more above mentioned Industrial Energy Audits or Analyses • Energy Inspection: A model for very small buildings in the tertiary and industrial sectors • Building Energy Audit: The basic model for tertiary buildings • Post–acceptance Energy Audit (PEA): A model for new and renovated tertiary buildings. The model is specially designed to set the energy consumption into an optimal level after the building has been taken into use • Follow-up Energy Audit (FEA): A model to update previous energy audits. The model is suitable for the tertiary sector, but in industry where the "follow-up auditing" is also possible, the basic industrial models are used instead • Power Plant Energy Analysis: A model for power plants producing electricity for communities or for industry • District Heating Analysis The Motiva Energy Audits are carried out by two experts, one specialised in HVAC and another one in electric systems. Approximately 2000 experts have been authorised to operate as Motiva Energy Auditors (end of 2013).
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Investment subsidies for companies and communities can be granted for such things as projects that promote energy saving and make use of new technology or which promote the use of renewable energy. In addition, companies and communities that have joined the energy efficiency agreements can obtain subsidies on a case-by-case basis for carrying out conventional technical savings investments. Conventional technical savings investments must be stated in energy auditing reports, analyses or other such studies.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Audit aid is not available for the mandatory energy audits of major corporations. This system is applied to SMEs and public

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	and private organizations and communities can also applied in different sectors with specific approaches.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Energy audits always cover a facility's entire energy /heat, fuels, electricity, cooling) and water saving potentials, as well as utilization of renewable energy. Specific programmes of audits for SMEs have been developed: • A Motiva-modelled energy audit is especially suitable for small and medium-sized enterprises (and municipalities) which want to investigate the possibilities for increasing the efficiency of energy use. The government grants aid for their implementation. • A materials audit is suitable for industrial companies of all sizes. Aid for their implementation may be granted.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	The Ministry for Economic Affairs and Employment (MEAE) has annually contracted Motiva for assignments for the energy audit activity and its monitoring and evaluation since 1994. The budget for the assignments is over 0.35 million euros in 2017.
Use of the Energy Performance contracting	
Description	N/A

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France

Best Practice #	FR1
Country	France
Programme/policy/initiative name in its original language	Aides a la realisation
Programme name in English	Help in decision making system
Area of Application	Country
Developed in the framework of article 8 EED	Yes
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	This incentive mechanism is aimed to encourage SMEs to play their role in the energy transition, in particular relative to undertaking energy audits and investing in energy efficiency. The mechanism is managed by the French Energy and environment agency ADEME, which provides financial support to SMEs that decide to make an energy audit. Additional funding is also available for helping to implement the recommended energy efficiency actions and investments. The amount of the support depends on the enterprise size. As for the energy audit, 60% of its cost is granted for medium enterprises and 70% for small ones. The maximum eligible budget of the action cannot exceed EUR 50k. As for investments in energy efficiency, 50% and 40% of eligible costs are funded for small and medium enterprises respectively.
Website link	https://www.ademe.fr/aides-financieres-lademe
Link to a description in English	https://energy.ec.europa.eu/system/files/2017-09/fr_neeap_2017_en_0.pdf (see p.61)
Status	Ongoing
Starting year	2011
Closing year	-
Main results	According to the study carried out in 2013 by the Gallileo consultancy for the ADEME (Titre (ademe.fr)), 92% of beneficiary businesses in the industrial and agricultural sectors are expected to take action or have already taken action and 72% have already implemented measures. Estimates based on a sample of 90 beneficiaries in the agricultural and industrial sectors (+large commercial buildings) for operations contracted between 2008 and 2012 and completed between 2010 and 2012. In 2015, 414 studies were conducted in

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	the industrial and agricultural sectors. These are pre-diagnostic, diagnostic and feasibility studies, corresponding to agreements legally concluded between 2011 and 2015 and terminated between 2013 and 2015. The last review carried out in 2015 showed that one business out of two receiving support to conduct an energy audit could make potential energy savings in excess of 15 % of its consumption.
Failures, barriers, lessons learned	Although these two incentive measures are mentioned in NECP, no information is available.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	No information on energy audit available. Externally to the incentive mechanism described here, Ademe finances 70% of the cost of the support tool "Diag Eco-Flux" provided by the public investment bank BPIFrance (https://www.bpifrance.fr/catalogue-offres/transition-ecologique-et-energetique/diag-eco-flux). It is aimed to perform a first energy evaluation of the company and identify low cost improvement options. It has been active since September 2020, following the program "TPE-PME gagnantes sur tous les coûts" which started in 2015.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Not required.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Companies in all sectors can apply to the mechanism and the grant intensity changes according to the company size, both for supporting energy audits and investments.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The incentive scheme does not include co-benefits. By contrast, the Diag Eco-Flux tool, developed externally to the incentive scheme, could cover them.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	Only national funds are used.
Use of the Energy Performance contracting	
Description	There is no use of Energy Performance Contracting.

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Germany

Best Practice #	DE1
Country	Germany
Programme/policy/initiative name in its original language	Energieberatung Mittelstand
Programme name in English	SME Energy Consulting Programme
Area of Application	Country
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	This programme was launched by BMWi (Ministry for Economic Affairs and Energy) in 2008. It was initially administered by KfW (Kreditanstalt für Wiederaufbau - Reconstruction Credit Institute) and was transferred to BAFA (The Federal Office for Economic Affairs and Export Control) at the beginning of 2015. The programme aims to help companies to overcome deficits in know-how and other obstacles concerning energy usage. It offers financial support for screening and detailed energy audits in SMEs by qualified and independent consultants. Companies with annual energy costs above € 10,000 can get funding of 80% of the eligible costs (up to € 6,000) and companies with annual energy costs of up to € 10,000 can obtain funding of 80% of the eligible costs (up to € 1200).
Website link	https://www.bafa.de/DE/Energie/Energieberatung/Energieberatung_Mittelstand/energieberatung_mittelstand_node.html;jsessionid=A99FC6EED16899E9589B7D0EE8E60A27.1_cid387
Link to a description in English	https://www.bmwi.de/Redaktion/EN/Artikel/Energy/energy-consulting-and-funding-for-companies.html
Status	Closed
Starting year	2008
Closing year	2020
Main results	In 2014 and evaluation of the program has been published by Fraunhofer (evaluation-des-foerderprogramms-energieberatung-im-mittelstand.pdf (bmwi.de)) while a more recent evaluation of the programme was carried out by PricewaterhouseCoopers (PWC) in 2018 (https://www.bafa.de/SharedDocs/Downloads/DE/Bundesamt/evaluation_ebm.pdf?__blob=publicationFile&v=2). The results indicate that: • Companies were able to save on average 14 % of their energy consumption per year, for the period between 2015 and 2020.

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	• The entire programme has saved on average 502 GWh per year between 2015 and 2020. • Consultation on energy efficiency has led to the implementation of on average 2.45 energy efficiency measures per company. • Interviews show that the quality of consultations has increased compared to the previous study by ISI from 2014. Over 75% of consultation participants considered the consultation to be beneficiary.
Failures, barriers, lessons learned	The PWC report shows that businesses are actively seeking consultation on the matter of energy efficiency. They were able to increase measurements for increased energy efficiency and in the process save energy and costs. German energy audit programme accelerated adoption of energy efficiency measures in small business organizations.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Energy advice is only admissible if provided by an energy consultant approved by BAFA. The selection of the energy consultant is the responsibility of the requesting company.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Not required.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Eligible organizations were SMEs with a maximum of 250 employees in manufacturing and non-manufacturing sectors.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The incentive scheme does not include co-benefits.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	Only national funds are used.
Use of the Energy Performance contracting	
Description	There is no use of Energy Performance Contracting.

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Best Practice #	DE2
Country	Germany
Programme/policy/initiative name in its original language	INITIATIVE ENERGIEEFFIZIENZ NETZWERKE
Programme name in English	Energy efficiency networks
Area of Application	Country
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme with no financial support
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	As part of the National Action Plan on Energy Efficiency (NAPE), the German Federal Government and 21 industry associations have founded the Energy Efficiency Networks Initiative (IEEN). By the end of 2025, 300 to 350 new networks (with 5-15 companies per network), are expected to be started, saving 9 to 11 TWh of final energy and 5 to 6 million tons of greenhouse gas emissions. The initiative makes an essential contribution to achieving the Federal Republic of Germany's climate and energy policy goals. Energy efficiency networks offer companies a structured exchange of experiences with energy efficiency projects. Each network formulates an energy saving goal that companies aspire to reach by the end of the network cooperation. At the end of a network cooperation, an independent monitoring institute verifies if stated measures have been implemented by participating companies. Starting point of the network cooperation is an assessment of efficiency potentials (energy audit) within each participating companies. Over the course of the network cooperation (generally 3-4 years), the participants meet regularly in workshops and on-site consultations. No direct financial support is paid to the participants by the federal government, however three (of 16) state governments do offer financial support schemes for EENs on their own. Administrative costs of the networks are financed by the network participants, who can in some regions or federal states apply for financial support in separate programmes. Network participation costs vary between 1000 and 5000 € per company and year. Each network has organised an average of four meetings per year for which network moderators invested about 20 working hours per meeting.
Website link	https://www.effizienznetzwerke.org/
Link to a description in English	https://www.bmwi.de/Redaktion/EN/Artikel/Energy/energy-efficiency-networks-initiative.html
Status	Ongoing
Starting year	2014

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Closing year	-
Main results	The results of the rough assessment [Durant, 2018, *Energy efficiency networks: lessons learned from Germany*] show that savings expected by the German government for the IEEN are possible. The average energy saving target per network accounts for 31.8 GWh final energy. Around 76 % of energy savings targets considered for the assessment were under 25 GWh, 17 % between 25 and 100 GWh and 7 % over 100 GWh
Failures, barriers, lessons learned	The energy efficiency networks experience in Germany has shown that: • participation in a network results in motivational and organizational benefits for companies. A survey of the head office of the IEEN shows that the 94 % of EENs` participants would recommend other companies to join an EEN; • 3 or 4 working days are required to persuade a company to join a network and therefore acquisition costs are quite high and generally cannot be recovered by a fee that participants are ready to pay, especially not before being convinced by the benefits of the EEN concept [Durant, 2018, *Energy efficiency networks: lessons learned from Germany*].
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Energy advice is only admissible if provided by an energy consultant approved by BAFA. The selection of the energy consultant is the responsibility of the requesting company.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	75 PJ/y (20.8 TWh/y) primary energy savings and 5 Mt CO_{2eq}/y in cumulated annual savings in 2020 from actions implemented over 2014-2020
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Eligible organizations were SMEs with a maximum of 250 employees in manufacturing and non-manufacturing sectors. The Energy Efficiency Networks Initiative aims at mobilizing companies of all sizes and from several sectors, including trade and commerce.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Co-benefits are not quantified in this program
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	No direct financial support is paid to the participants by the federal government, however three (of 16) state governments do offer financial support schemes for EENs on their own
Use of the Energy Performance contracting	
Description	There is no use of Energy Performance Contracting.

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Best Practice #	DE3
Country	Germany
Programme/policy/initiative name in its original language	Mittelstandsinitiative Energiewende und Klimaschutz [MEK]
Programme name in English	SME Initiative for Energy Reforms and Climate Protection
Area of Application	Country
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	The SME Initiative Energiewende and Climate Protection supports the German SME sector in implementing the energy transition. It aims at exploring the energy saving potential in companies and improving their energy efficiency. The SME Initiative Energy Transition and Climate Protection is a joint project of the German Association of Chambers of Commerce and Industry (DIHK), the German Confederation of Skilled Crafts (ZDH), the Federal Ministry for Economics and Energy and the Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety. DIHK and ZDH are the umbrella organizations of the 79 Chambers of Commerce and Industry and 53 Chambers of Crafts. They are the local contacts, consultants and service providers for all German companies. The initiative has three main focus: Strengthening the local dialogue; Optimising information and consultation; Improving education, training and exchange of experience. Thus, SMEs have the opportunity to engage dialogue with the Initiative's stakeholders, to benefit from local contacts as well as receiving trainings and information and concrete assistance in the process of becoming more energy efficient.
Website link	https://www.mittelstand-energiewende.de/ueber-uns/
Link to a description in English	https://www.mittelstand-energiewende.de/en/about-us.html
Status	Ongoing
Starting year	2013
Closing year	2018
Main results	-
Failures, barriers,	-

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lessons learned	
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	-
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Not required.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Eligible organizations were SMEs with a maximum of 250 employees in manufacturing and non-manufacturing sectors.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	The incentive scheme does not include co-benefits.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	Only national funds are used.
Use of the Energy Performance contracting	
Description	There is no use of Energy Performance Contracting.

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Ireland

Best Practice #	IE1
Country	Ireland
Programme/policy/initiative name in its original language	Support Scheme for Energy Audits
Programme name in English	Support Scheme for Energy Audits
Area of Application	Country
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	The Support Scheme for Energy Audits (SSEA) is designed to encourage SMEs and other non-obligated entities (small public bodies) to get an energy audit. The SSEA is a voucher scheme targeted at SMEs that spend at least €10,000 on energy per year at the site. The voucher value is €2,000 and if the audit costs more than this the Applicant (the SME) pays the difference. Applicants apply for the voucher through an online portal and receive the voucher automatically via email, as long as they meet the self-declared criteria. Organisations that are mandated to get energy audits under Article 8 of the EED are not eligible for the SSEA. The Applicant must choose an auditor from SEAI's Register of Energy Auditors – auditors on this register must meet various criteria regarding their qualifications and experience. The audit report must be completed using the standardised template provided by SEAI. Once the audit is complete, SEAI pays the auditor upon submission of a satisfactory audit report that the Applicant has signed off on. In the report, auditors are encouraged to direct Applicants to the grants and other supports for measures that are available from SEAI.
Website link	https://www.seai.ie/business-and-public-sector/small-and-medium-business/supports/energy-audits/
Link to a description in English	https://www.seai.ie/business-and-public-sector/small-and-medium-business/supports/energy-audits/
Status	Ongoing
Starting year	2021
Closing year	-
Main results	+700 companies have registered for the scheme +340 vouchers have been issued

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	+100 audits have been completed
Failures, barriers, lessons learned	Lessons learned: - keep the eligibility criteria as open as possible so as to maximise potential impact of scheme: we adjusted our rules to ensure that VAT-exempt organisations can participate. - An online application system that is simple, intuitive and free from errors is essential, otherwise the scheme won't work at scale. It was difficult to set up and required support from an experience IT team, but some issues remain.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	The audits are standardised to try and ensure they are completed to a high standard. SEAI developed a template report and calculator that is issued to the auditors, and which they must use. The template is based on best practice auditing principals, with allowance made for the fact that the value of the audit is relatively low and the target clients are relatively small (SMEs).
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
	Currently there is no feedback required from clients on the measures that they have installed, but a methodology for tackling this will be developed during this year.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	The programme is open to all non-obligated SMEs that spend at least €10,000 per year on energy and are tax compliant, so is highly replicable.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	SMEs who get an SSEA audit get additional marks in the 'innovation' category if they apply for SEAI's Community Energy Grant (which funds measures for community groups, whose members may include SMEs) It is hoped that this will encourage more SMEs to get the SSEA voucher and also more SMEs to then implement the measures identified in the audit.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	Not used
Use of the Energy Performance contracting	
Description	Not considered and currently no plans to.

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Luxembourg

Best Practice #	LU1
Country	Luxembourg
Programme/policy/initiative name in its original language	Subventions directes dans le domaine des projets d'utilisation rationnelle de l'énergie
Programme name in English	Grants for SMEs and non-industrial enterprises
Area of Application	Country
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive both on the audit and on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	Investment grants are provided to industrial as well as crafting and commercial SMEs. Grants are provided in the fields of environmental protection and the rational use of energy, for both material and non-material investments, such as licences as patents, as well as non-patented knowledge and training. Grants are provided to SMEs in different areas, namely adaptation to new standards, surpassing existing standards, energy investments and consulting fees. The focus for energy efficiency is specifically on the last two areas. As for consulting fees, for SMEs requiring consultation services in the field of environmental protection or rational use of energy (among which, energy audits), the scheme covers up to 70% and 60% of the fees paid respectively for small and medium enterprises. As for energy investments, the grant scheme can be accessed by enterprises of all sizes that make investments leading to energy-savings, renewable energy, or the production of combined heat and power (CHP). The grant depends on the company size and it amounts 30% of eligible costs for large enterprises, 40% for medium and 50% for small enterprises.
Website link	https://guichet.public.lu/fr/entreprises/financement-aides/aides-environnement/industrie-services/aide-protec-environnement.html
Link to a description in English	https://www.iea.org/policies/993-investment-grants-for-smes-and-non-industrial-enterprises?country=Luxembourg&q=sme&qs=luxemb&topic=Energy%20Efficiency
Status	Ongoing
Starting year	2004

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Closing year	
Main results	The measure in mentioned in last NECP but there is no information available.
Failures, barriers, lessons learned	The measure in mentioned in last NECP but there is no information available.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Energy audit is covered by this measure since it is included among the consultation services in the field of environmental protection or rational use of energy. Neither specific guidelines or references to international standards are provided.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
	No obligation to implement measures exists.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Open to SMEs in all sectors, potentially replicable.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Co-benefits are not considered.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	Only national funds are used.
Use of the Energy Performance contracting	
Description	Energy performance contracting is not considered.

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The Netherlands

Best Practice #	NL1
Country	Netherlands
Programme/policy/initiative name in its original language	Meerjarenafspraken energie-efficiëntie – MJA3
Programme name in English	Long-Term Agreements on Energy Efficiency for the non-ETS sector – LTA3
Area of Application	Country
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	Yes
Typology	Voluntary programme and includes a financial incentive on the energy efficiency measures implemented
Requirement to implement energy efficiency measure recommended in the audit	Yes
Programme description	Voluntary agreements (or covenant) on energy efficiency between the national government, the trade associations and the participating companies have been in force in the Netherlands since 1992. In particular, LTA3 agreement is with large and medium-sized companies and institutions in the industrial, agricultural, transport and services sectors. LTA3 relates to three aspects: process efficiency, chain efficiency and the generation and purchase of renewable energy. The programme itself does not include a financial support but it is part of a wider policy package of interacting policies: companies participating in the covenant are eligible for an energy tax refund and they can apply to supporting schemes such as the Energy Investment Allowance, tax relief schemes for environmentally friendly investments and the Environmental Management Act. Companies joining LTA3 are committed to: draw up an energy efficiency plan (EEP) every four years, which maps out the company's energy efficiency goals and a list of cost-effective actions to reach them; implement cost-effective energy saving measures from the EEP list; provide monitoring data on an annual basis to Netherlands Enterprise Agency (RVO). Since 1 July 2019, large companies must also submit energy efficiency audits (ultimately before 31 December 2020), since they are not anymore exempted from EED art.8 obligation. RVO aggregates the EEPs' objectives in the different sectors into long-term plans, in which the objective for the sector is formulated, and provides yearly reports on the results in the different sectors participating in LTA3.
Website link	https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/energie-besparen/mja3-mee
Link to a description in English	https://www.measures.odyssee-mure.eu/policy-mapper-efficiency-tool.html#/
Status	closed

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Starting year	2008
Closing year	2020
Main results	More than 1,000 companies in more than 30 sectors have joined LTA3. As part of the LTA3, industry has agreed to improve energy efficiency by 2% per year. Overall, the aim of the LTA3 covenant is to support the businesses that signed the agreement (1,160 by 2012) to reach a 30% improvement in energy efficiency from 2005-2020. The 946 companies that reported their results for LTA3 in 2016 consumed 247 PJ (primary energy) in 2016. They represented about 23% of the total energy consumption in industry, and about 7% of the total primary energy consumption in the Netherlands. As of April 2018, there are 1067 companies participating in 37 different sectors.
Failures, barriers, lessons learned	Additionality of savings is an important issue: since measures to be implemented have a short pay-back time the autonomus saving should be considered (namely, the share of total saving which would have been achieved even without any policy scheme). The accuracy of savings reported data is another issue.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	Energy audit are mandatory only for large enterprises involved in the program. No specific information about the Energy audits is available.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Savings are not measured but are estimated by means of deemed savings. Indeed, in 2010 a new monitoring methodology for reporting gross energy saving was introduced. Since then, companies have to report their energy efficiency improvements in their process or chain on the basis of bottom-up energy savings per energy efficiency project. Until 2010, the energy efficiency improvements were monitored in terms of energy use per unit of production, adopting a top-down approach and energy efficiency indicators.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	The involved companies are mainly in industry sector, with a significantly lower number of companies in services and transport sectors. The replicability is potentially high.
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Co-benefits are not taken into account.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	The program does not include any financial incentive using these funds.
Use of the Energy Performance contracting	
Description	Not used.

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Sweden

Best Practice #	SE1
Country	Sweden
Programme/policy/initiative name in its original language	Swedish Energy Audit Programme (SEAP)
Programme name in English	Swedish Energy Audit Programme (SEAP)
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive on the audit
Requirement to implement energy efficiency measure recommended in the audit	No

Programme description	The energy audit support scheme is directed towards companies which use at least 500 MWh per year of energy, i.e. relatively energy-intensive companies. The support covers 50% of the cost of the energy audit, up to maximum of SEK 30 000 (5000 EUR). The government decided to introduce the support in December 2009. Applications are to be sent to the Swedish Energy Agency before the energy audit takes place and the support is paid to the company following completion of the energy audit and when suggestions for measures to be taken are in place. The measures will then be followed up a few years after the energy audit.
Website link	https://www.energimyndigheten.se/en/
Link to a description in English	https://www.iea.org/policies/2276-energy-audits-for-companies?country=Sweden&qs=swed New energy audit programme – in a broader context (eceee.org)
Status	Ongoing
Starting year	2010
Closing year	---
Main results	Yes and available. Between 2010 and 2014. The programme resulted in annual net energy efficiency savings equivalent to 340 GWh/year or 6% of the 713 participating companies' energy end use. The implementation rate in the audit programme was 53%. On average, the public cost of one implemented measure was € 700. The audit programme's annual cost-effectiveness is €7/MWh saved energy. Savings 5-10 % of total energy use.

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	Small companies save more (in percentage of total energy use) than bigger ones. Often measures are in surrounding systems, such as lighting and ventilation. Total savings often greater, compared to what is reported in final report. The audits make a difference
Failures, barriers, lessons learned	Higher ambitions with new programme: - Supporting SMEs management of energy, not financing technical investments. - Collaboration between different programs. All types of SMEs have a potential to grow, and bring the energy efficiency work and knowledge to a greater organization.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	No specific information about the Energy audits is available. External certified auditors carried out the audits but not mandatory the use of the type 3 audit (ISO 50002), used for obtaining additional information associated with high-investment projects. This type of audit requires longer and more accurate measurements and results in a more comprehensive energy analysis followed by a thorough report with more detailed calculations of savings and investment costs. The type of energy audit can be chosen according to a company's needs and available resources
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Stand-alone programme only focus on the development of EAs. However, more than 50% of companies implement measures.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	The programme was opened to all sector and SMEs: industry 50%, real state / buildings 17%, agriculture 11%, trade / business 10 (in 2010-2014) and focused in manufacturing for 2015-2020
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	N/A
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	50%National funds + 50%ERDF
Use of the Energy Performance contracting	
Description	N/A

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Best Practice #	SE2
Country	Sweden
Programme/policy/initiative name in its original language	Incitament för energieffektivisering
Programme name in English	Energy efficiency incentive
Applicability	National
Developed in the framework of article 8 EED	No
Energy savings accounted in article 7 EED	No
Typology	Voluntary programme and includes a financial incentive on the audit
Requirement to implement energy efficiency measure recommended in the audit	No
Programme description	Beginning in March 2016 and due to end in December 2021, the project was divided into four phases. In the first phase, the Swedish Energy Agency, the county administrative boards and municipalities mapped out the energy-related services and competencies of the regional and local authorities. They identified the SMEs who fall under the authorities' supervision and who would therefore be in the project's scope. Phases two and three were carried out in parallel: in phase two, the educational materials were developed and supervisors were trained in energy efficiency, with a focus on methods, tools and using the communications materials; in phase three, the supervisors started helping and supporting SMEs control and monitor their energy use and implement energy-saving measures. The project's goal is that by the end of 2021, the new methods will have been used during 2 500 supervisory visits to SMEs and that 1 500 of those SMEs will be working strategically and systematically to decrease their energy usage. The fourth and final stage of the project will see an evaluation of the whole project and its success. This programme cooperates with the industrial energy-efficiency networks (IEENs) 32 energy efficiency networks established from 2013.
Website link	https://www.energimyndigheten.se/en/
Link to a description in English	https://www.eceee.org/library/conference_proceedings/eceee_Industrial_Summer_Study/2016/1-policies-and-programmes/energy-effiency-networks-for-small-and-medium-sized-enterprises-bosting-the-energy-efficiency-potential-by-joining-forces/ https://ec.europa.eu/regional_policy/en/projects/Sweden/helping-swedish-smes-become-more-energy-efficient
Status	Ongoing

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Starting year	2016
Closing year	-
Main results	Yes and available. By January 2020, the project had already provided additional training to around 700 environmental supervisors, visited almost 2 000 SMEs across Sweden, and supported 422 SMEs in establishing and implementing plans to improve their energy efficiency.
Failures, barriers, lessons learned	N/A.
Does the programme/policy consider the Energy audit performed according to the best practices?	
Description	No. Swedish SMEs that are subject to environmental supervision were already being visited by supervisors. Thanks to dedicated training, these supervisors can also now provide advice, methodology and tools for improving energy efficiency. However, specific information about quality of EAs is not provided.
Implementation of the energy saving measures addressed in the audit with measured (or measurable) results	
Description	Yes.
Replicability of the audit programme/initiative on a relevant number of SMES in terms of sector/size/energy consumption	
Description	Focused on industrial SMEs with environmental obligations
Comprehensive approach in terms of successful co-benefits that emerged from the implementation of the energy audit	
Description	Supervisors able to assist and advise SMEs on both environmental and energy matters, companies are better supported in taking a holistic approach – when companies become more energy efficient they lower their costs, strengthen their competitiveness and protect the environment. As a result, companies can comply with the requirements set by the Environmental Code for companies to conserve energy and mainly use renewable energy sources.
Use of European and/or local incentives/funds/programmes within the energy audit campaign	
Description	50%National funds + 50%ERDF
Use of the Energy Performance contracting	
Description	N/A

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Other Non-EU countries[2]

Country	Company targeted	Instruments	Type of instrument
Canada	SMEs	Climate Action Incentive Fund	Financial
China	Large & SMEs	Top-10,000 programme (includes compulsory energy audit and rewards if energy saving projects are successfully implemented and exceed a minimum savings threshold of 147 TJ)	Regulatory
Japan	SMEs	Free Energy Audit	Financial
Switzerland	Large & SMEs	Canton de Vaud audit programme	Financial
Switzerland	Large & SMEs	Voluntary target agreements	Voluntary
United States	SMEs	SMEs Industrial Assessment Centres (IACs) (free energy audits for manufacturers only conducted by university engineering students)	Information
Australia	Large & SMEs	National Greenhouse and Energy Reporting Act (compulsory energy audit if regulator suspects firms that operate facilities with more than 25 kt of greenhouse gas emissions (GHG) per year not to be respecting the obligatory purchase of “carbon units”, which are tradable permits for each tonne of GHG emitted)	Regulatory
India	Large & SMEs	Energy Conservation Act (ECA) (compulsory energy audit to nine energy-intensive sectors)	Regulatory
South Africa	Large & SMEs	National Energy Efficiency Leadership Network (EELN)	Voluntary
Turkey	Large & SMEs	Energy Efficiency Law	Voluntary

[2] Main sources:

S. Hirzel et al., A Study on Energy Efficiency in Enterprises: Energy Audits and Energy Management Systems. European Commission. Publications Office of the European Union, 2016.

L. Nabitz, et al., “How can energy audits and energy management be promoted amongst SMEs? A review of policy instruments in the EU-28 and beyond,” in Eceee Industrial Summer Study Proceedings, 2016, vol. 2016-Septe, pp. 401–415.

P.-B. Brutscher and P. Ravillard, “Promoting energy audits: Results from an experiment,” EIB Work. Pap., p. 2019/06, 2019.

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5. Summary and conclusions

The work underlying the “Compilation of good practices” aimed to review, categorise and analyse national and local energy audit policies for SMEs presenting specific features such as replicability, use of best practices in carrying out and delivering the audit, support to the implementation of energy efficiency measures. A total number of 21 good practices have been selected and evaluated by the nine partner National Energy Agencies covering the areas of Austria, Croatia, Greece, Italy, Malta, Poland, Portugal, Slovakia, United Kingdom and a first quantitative analysis of these practices has been developed.

In addition, 12 more good practices from European Union Countries have been collected and presented and 10 more policies and programmes worldwide have been identified and categorized to be further investigated in connection with the project Observatories.

From the first analysis of the collected policies and programmes of the nine partner Agencies we can see that the implementation of Energy efficiency measures is sensibly dependent of the territorial scale of the mechanism (national or local), being the more frequently mandatory in national than in regional programmes. The obligation of implementation EPIAs appears to be generally correlated with more stringent requirements of the energy audits (use of international standard, obligation of certified auditors, etc.). It is also possible to observe that the policies based on EED art.8 present a lower degree of obligation of implementation of energy efficiency measures compared to the policies not-based on the EED. However, the policies based on art.8 are more restrictive in terms of the quality of the audits, mostly due to the specific requirements of EED (Annex VI - Minimum criteria for energy audits including those carried out as part of energy management systems). Very few programmes consider the use of multiple energy benefits.

All of the collected, categorized and analysed policies and programmes will be further investigated under the activities of WP4 “Framework for the Implementation of Energy Audit Programmes and Services for SMEs”.

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