

Championing sustainable energy in SMEs



A Policy Brief from the Policy Learning Platform on Low-carbon economy

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**Interreg
Europe**



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Table of Contents

Summary 3

Why support SME energy performance? 3

Barriers to SME action 4

Policy Context: Directives and Standards 5

European support: Funding, incentives and advice 6

 Direct Funding & Stimulating Investment 7

 Addressing market barriers 7

 Research & Innovation 8

 Technical assistance and knowledge sharing 8

Support under Interreg Europe 8

 The Policy Learning Platform 9

State Aid Rules 10

National and regional support measures 11

 Regulatory interventions, mandates and frameworks 11

 Informational interventions 13

 Capacity-building interventions 14

 Financial interventions and incentives 17

Bringing it all together: Integrated SME Programmes 18

Recommendations & key learnings 21

Sources and further information 22

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Summary

Small and Medium Enterprises (SMEs) are the backbone of Europe's economy, making up 99% of businesses and two-thirds of private sector employment. Their prevalence means that they have a significant impact on the economy and the environment, but their fragmentation makes their low-carbon transition a particular challenge. SMEs face a significant number of barriers to investing in energy efficiency and sustainable energy measures including low-awareness, risk-avoidant culture, a lack of expertise, personnel and time, and low availability of capital and access to finance. However, SMEs must overcome these barriers to meet carbon emissions targets and limit global warming, opening space for the public sector to support transition. Many options are open the public authorities to help SMEs by encouraging them to implement energy audits and energy management systems, and policy instruments can provide access to advice and support, but also partial grants for project development, external expertise, and investment into new equipment. To fully overcome barriers and unlock their potential, SMEs need holistic support – from outreach to project implementation – ideally from a single contact point. This policy brief presents barriers for SMEs to make the transition, introduces facets of successful support schemes, outlines available European support and provides good practices from across Europe to inspire regions in the new 2021-2027 programming period.

Why support SME energy performance?

The [Paris Agreement](#), entering into force in 2016, commits all signatory countries to work towards the binding target of limiting global warming to 'well below' two degrees Celsius above pre-industrial levels. This will require decarbonisation in all parts of the economy, and actions will need to be implemented at all levels, including single companies, even those with very small footprints.

Globally, Small and Medium Enterprises (SMEs) represent 99% of enterprises in the economy, around 60% of employment, and around 13% of global total final energy demand – about 74 exajoules – as calculated by the International Energy Agency.¹ Although they may individually have a small impact, it all adds up. The IEA calculated that cost-effective energy efficiency measures could reduce SME energy consumption by 30% (22 exajoules) – more than the total energy consumption of France, Italy and Spain, combined, per year.²

European Commission Definition of an SME

1. The category of micro, small and medium-sized enterprises (SMEs) is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or an annual balance sheet total not exceeding EUR 43 million.
2. Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million.
3. Within the SME category, a microenterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million.

[Recommendation 2003/361/EC, Article 2](#)


¹ IEA, Accelerating Energy Efficiency in Small and Medium-sized Enterprises (2015)

² 2019 figures. Italy - 6.37 EJ; France - 9.6; Spain - 5.72 EJ; Total - 21.45 EJ. Source: [Statista](#)




Clearly, improving the energy performance of SMEs can make a significant contribution to fighting climate change, but that is not the only benefit. Sustainable energy use will also help to avoid pollution, thus improving air quality and protecting the environment, and in the long-term, efficiency measures also contribute to energy security and, vitally, boost competitiveness. Improved efficiency can help companies save money on their energy bills, reducing overall production costs, which, in turn, improves profitability or results in lower prices, with improved competitiveness on the market.

Energy Efficiency Benefits




For Industrial SMEs

- Reduced energy consumption & lower energy bills
- Less resources used
- Reuse of resources e.g. waste heat
- Improved public image of the SME
- Increased competitiveness
- Reduction of maintenance costs of equipment
- Increased productivity and improved processes




For Environment

- Less emissions, lower pollution
- Reduction of waste
- Less resources used




For Public authorities

- Evaluations of energy policies & better design of future policies
- Energy savings & lower CO2 emission in the region
- Enhanced collaboration with regional energy agency



For Public

- Less tax payers money spent on energy related policies
- Increased competitiveness of the region
- Improved collaboration between companies in the region
- New job opportunities



European Union
European Regional
Development Fund

Source: [SMEPlus Project](#)

Barriers to SME action

So, what stops SMEs from taking action? The topic has been frequently examined in recent years as both the private and public sector recognise the benefits to be had.

The main barriers to implement energy efficiency measures and invest in renewable energy relate to **resource availability** – specifically, **finance**, **time** and **expertise** – and although the importance of sustainable energy is becoming better understood, there is still low awareness in SMEs of their performance and the opportunities and benefits of sustainable energy, and investments are regarded as being of low priority and low return.

With low awareness and concern, there is little incentive to perform an energy audit and identify improvements. According to one survey, less than 50% of SMEs in Europe make use of energy monitoring systems, and many just rely on looking at their energy bills for consumption monitoring.³ The same study, however, found that 72% of companies that do perform an energy audit did then implement energy efficiency improvements, suggesting the importance of getting SMEs to actually assess their situation.

The current lack of monitoring results in a **lack of understanding** of both the current situation, how performance could be improved, and how it compares against benchmarks and competitors. Even if

³ Southernwood, et. al. – Energy Efficiency Solutions for Small and Medium-Sized Enterprises (2020)



SMEs are aware that their performance can be improved they often do not know how to improve it, what system or technological solutions are suitable, or what the impact of intervention would be. Energy management expertise – lacking in most SMEs – is essential to assess performance and find cost-performance optimal solutions. Often, interventions are low-risk and fast-return, such as changing lighting or heating systems, as SMEs are **reluctant to make deep interventions** that may put production lines and product quality at risk. These deeper interventions, and corresponding carbon emissions, require a high-level of trust and significantly improved access to finance.

On the financial front, SMEs typically **do not have the necessary financial resources** to make energy efficiency investments, and awareness remains low of funding opportunities – whether through public schemes or the financial sector. Public support schemes are few and far between and SMEs may be put off by the bureaucracy or complexity of applying, whilst financing from banks can be costly as a result of perceived high risk, with many financial institutions themselves not understanding the sustainable energy market, whose fragmented small-scale nature is also an impediment.

There are also barriers to be considered in relation to the wide number of sectors in the economy, with construction, manufacturing, agriculture, hospitality, retail, and so on, all facing different challenges, energy profiles and technologies, with **targeted approaches** being needed. There is no one-size-fits-all approach for the EU's 23.5 million SMEs, and specific expertise and considerations are needed depending on the target audience.⁴

The challenge of getting SMEs to invest in sustainable energy improvements will only get tougher as a result of the COVID-19 pandemic, with many SMEs simply struggling to survive. Now, more than ever, public support is needed to improve performance and boost competitiveness.

Policy Context: Directives and Standards

Energy efficiency and renewable energy use has been on the EU's policy agenda since the 1990s, gaining particular prominence over the past fifteen years. The current framework is ambitious, committing the European Union a 55% reduction in CO₂ by 2030, and climate-neutrality by 2050.

The main initiative affecting energy performance of SMEs is the [Energy Efficiency Directive](#) (EED), which entered into force in 2012, establishing a common framework of measures across the European Union, to place Member States on track to meet a 20% improvement in efficiency by 2020. The EED was amended in 2018 as part of the [Clean energy for all Europeans](#) package to extend measures to the new 2030 target of 32.5%, a figure which may be revised upwards in 2023 after a revision as part of the European Green Deal and the ['Fit for 55%'](#) package.

Under Article 8 of the EED, 'Energy Audits and Energy Management Systems,' EU Member States are required to develop programmes for SMEs that can encourage them to perform energy audits, implement energy efficiency improvements and develop an Energy Management System. Energy audits analyse energy consumption and suggest actions to take, while an Energy Management System enables continuous improvement.

⁴ 2015 figure for EU28 – includes the United Kingdom. Source: [Eurostat](#)



An **Energy Audit** means a systematic procedure with the purpose of obtaining adequate knowledge of the energy consumption profile of a building or group of buildings, an industrial or commercial operation or installation or a private or public service, identifying and quantifying cost-effective energy saving opportunities, and reporting the findings

An **Energy Management System** means a set of interrelated or interacting elements of a plan which sets an energy efficiency objective and a strategy to achieve that objective.

[Commission Guidance Note on the EED](#)

Under the EED, Energy Audits are mandatory for large companies, but only 'encouraged' for SMEs, with Member States (and regions) to devise their own support systems. Whilst there is flexibility in Member States on such schemes, Energy Audits and Energy Management Systems are both covered by international standards which the EED requires be taken into account:

- [ISO 50001](#) on Energy Management Systems sets a framework in which organisations can develop an energy policy, fix targets and objectives, use data to understand and make decisions about energy, measure the results, review the policy and continually improve energy management;
- [ISO 50002](#) and [EN 16247-1](#) on Energy Audits specify the process requirements for performing an energy audit and the resulting delivered reports.

Whilst the recast [Renewable Energy Directive](#) (RED II) does not contain specific Articles on SMEs, they are recognised as a key part of the energy transition, encouraged to own and operate renewable generation technologies for self-consumption and participate as shareholders in renewable energy communities. In particular, the RED II instructs Member States to establish support schemes for renewables, remove barriers to renewable energy communities and 'prosumers', simplify administrative procedures and permits for small installations, "in order to foster the uptake of renewable energy by microenterprises and small and medium-sized enterprises (SMEs) and individual citizens," and recognises that, "production of energy from renewable sources often depends on local or regional SMEs," with a corresponding regional economic benefit. The directive also places an obligation on Member States to develop support schemes and provide information and training to relevant actors. As with the EED, the RED II is currently being examined in the context of the European Green Deal to increase its ambition.

European support: Funding, incentives and advice

To enable the European policy context and reach targets and goals, a number of funds and resources are available that can be used by regions, and directly by SMEs, to improve their energy performance. These vary in form, management and aim. Some are managed directly by European institutions and others are delegated to Member States, covering the full development value chain from research and innovation for new approaches, to market take-up of proven technologies.



Direct Funding & Stimulating Investment

In response to the COVID-19 pandemic, the European Union has established the [Recovery and Resilience Facility](#) to mitigate impacts and improve the sustainability of Europe's economy. With a total of 673 billion EUR available for loans and grants, a minimum of 37% has been set aside for climate investments and reforms. Each Member State has drafted a National Recovery and Resilience Plan setting out the reforms and investments that they want to support, under seven flagship areas, including Power Up (renewable energy investments) and Renovate (retrofitting and deep renovation of buildings). These can include the establishment of support systems for SMEs to make ecological and energy transitions – for example, France plans a tax credit for energy renovation of SMEs, up to 30% of costs, capped at 25,000 EUR per company.⁵

As well as this emergency facility, the long-term investment instruments of the [European Structural and Investment Funds](#) are prime for use in establishing instruments for SME support. The European Regional Development Fund, has low-carbon economic development as one its main goals, and for 2021-2027 the priority 'a greener, carbon free Europe'. The Cohesion Fund, for those regions whose gross national income per inhabitant is below 90% of the EU average, can fund energy-related projects with environmental benefits such as reduced carbon emissions, increased renewables use, or improved energy efficiency. Specifically, it also supports implementation of the [Energy Union](#) through the Energy and Managing Authorities Network.

As well as the ESIFs, a range of new instruments are being created to support the European Green Deal, in the form of the [European Green Deal Investment Plan](#) (EGDIP), combining parts of the EU budget with the [InvestEU](#) Programme to leverage private finance by providing guarantees to financial intermediaries to support SMEs. In the framework of the European Green Deal, the EU has also created the [Just Transition Mechanism](#), containing the Just Transition Fund, the InvestEU Just Transition Scheme and a European Investment Bank Public Sector Loan Facility. The Just Transition Fund will directly support regions most affected by the low-carbon transition, including economic diversification for companies and investments in SMEs to transform existing carbon intensive installations. To access the instruments, Member States will be required to develop Territorial Just Transition Plans for approval by the Commission. More details are expected in late 2021.

Addressing market barriers

The [Financial Instrument for the Environment](#) (LIFE) is one of the EU's most long-established programmes for environmental projects that can assist in meeting European policy goals for environment and climate action, specifically targeting SMEs and companies. The new programme for 2021-2027 will contribute to the low-carbon transition under the sub-programme [Clean energy transition](#), aiming to break market barriers and “accelerate technology roll-out, digitalisation, new services and business models, and enhance related professional skills on the market,” for energy efficiency and small-scale renewables. The work programme and first calls are expected in 2021. The EU is also launching the new [Single Market Programme](#) (SMP), replacing COSME, which will provide support to SME competitiveness, facilitate access to finance and international markets, and provide advice on the low-carbon transition via the [Enterprise Europe Network](#).

⁵ Gouvernement de la République Française – [Plan National de Relance et de Résilience](#) (2021), p.82



Research & Innovation

[Horizon Europe](#), the next framework programme for research and development, is expected to launch its first calls in June 2021, with plenty of topics for supporting SMEs. Horizon projects support fundamental and applied research, so do not support the widespread roll-out of technologies and services to companies, but instead develop new approaches that will have long-term impact, but that can provide a real boost to early adopters and innovators. SMEs have the chance to participate in collaborative projects directly as members on consortia but can also submit proposals to the [European Innovation Council](#) if they have specific ideas for innovative low-carbon products or services to develop.

As well as directly participating in projects, SMEs can also benefit from the wealth of knowledge and materials generated by existing endeavours. Horizon 2020 (the predecessor programme) funded projects such as [SPEEDIER](#), which explored one-stop-shops for SMEs, [SMEmPower](#), which sought to empower SMEs to undergo energy audits and implement their proposals, and [INNOVEAS](#), which has worked on capacity-building and training in SMEs for energy efficiency.


Technical assistance and knowledge sharing

As well as these financial support systems, there are a wide number of advisory services available. Perhaps the best known is the [ELENA facility](#) (European Local Energy Assistance) which can provide support to both the public and private sector with grants for technical assistance, to develop technical studies, implement energy audits, or provide legal advice. The other main Commission provided support is [Technical Assistance](#) in implementing Commission-funded programmes. This should be requested by the Member States in their ERDF, CF and ESF Operational Programmes to assist authorities and beneficiaries to better administer and support use of funds.



Support under Interreg Europe

Interreg Europe projects themselves have also explored how to improve the energy performance of SMEs. These projects involve sharing good practice and experience to develop regional action plans which can improve their policy frameworks. Improvements can include, for example, the creation of new support programmes, changes to existing programmes, reduction of administrative barriers, or new funding lines for activities such as capacity building and awareness raising.

Whilst a number of projects are exploring energy in the private sector as a sub-theme, there are currently three projects that are specifically targeting private sector energy consumption, as presented below.

	<p>Improving policy instruments to increase the energy efficiency in industrial SMEs</p> <p>SMEPlus helps SMEs to increase their energy efficiency. The partner regions are comparing and rethinking their energy policies, liaising with important stakeholders, exchanging solutions and improving their instruments towards SMEs. The project partners exchange and compare regional policy instruments in the eight regions, jointly develop regional policy action plans supporting the</p>
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	<p>implementation of energy efficiency programmes and exchange information and experience and through this help the stakeholders in supporting and implementing the action plans.</p> <p>Resources: SMEPlus Website and Good Practices</p>
	<p>SMEs powering a low carbon future</p> <p>SME POWER aims to ensure that public policy for the low carbon economy is better adapted to the needs of non-energy intensive SMEs, thus enabling them to be a key driver in the low carbon transition. To do this it supports SMEs to improve energy conditions in their buildings and processes, empower their role as a multiplier when developing more energy efficient products, and set a positive example for workers when investing in capacity building measures.</p> <p>Resources: SME Power Website and Good Practices</p>
	<p>Policies for Renewable Energy Sources in industry</p> <p>RESINDUSTRY aims to increase the energy independency of industry in the EU by decreasing its energy intensity through higher integration of RES. The long-term objective is to increase industry competitiveness by decreasing industry energy bills, and boosting use of renewables, thus uncoupling their energy costs from geopolitical externalities. The project is performing assessments for its seven regions and developing action plans to influence around 10 million EUR of funds.</p> <p>Resources: RESINDUSTRY Website and Good Practices</p>

The Policy Learning Platform

Interreg Europe, through its [Policy Learning Platform](#), provides a number of services to both ongoing projects and the wider regional policy [Community](#). As well as operating the [Good Practice Database](#), drawing together the best of the good practices identified by projects, and providing a [Knowledge Hub](#) of policy briefs and articles, the platform offers On-demand [Expert Support](#), including a helpdesk, matchmaking service and peer reviews to assist regions in their transition:

- Via the [Policy Helpdesk](#), Policy-makers may submit their questions to our helpdesk to receive a set of resources ranging from inspiring good practices from across Europe, policy briefs, webinar recordings, information about upcoming events, available European support and contacts of relevant people, as well as recommendations on matchmaking and peer review opportunities.
- A [Matchmaking](#) session is a thematic discussion hosted and moderated by the PLP and designed around the policy needs and questions put forward by the requesting public authority or agency. It brings together peers from other regions in Europe to present their experiences and successes to provide inspiration on overcoming regional challenges.
- [Peer Reviews](#) are the most deep and intensive of the on-demand services, bringing together peers from a number of regions for a two-day working session to examine the specific territorial



and thematic context of the requesting region, discuss with stakeholders, and devise recommendations for the region.

Matchmaking: Resource and energy efficiency support schemes for SMEs

On 22 April 2021, the Policy Learning Platform arranged a matchmaking session between the Region of Western Macedonia (Greece) and peers from Germany and Sweden, to explore support schemes for SMEs to become more sustainable, in terms of both energy and resources. The 90-minute session was shaped around the needs of Western Macedonia, with two well proven good practices presented that could be transferred, with regional policy-makers participating to be able to ask questions and learn directly from the good practice owners. A report on the lessons learned is [available here](#).

Do you want to improve your regional policy framework? Apply for a [Matchmaking](#) or [Peer Review](#), organised by the Policy Learning Platform.

State Aid Rules

Whilst public support may be needed to trigger widespread transition in SMEs, public authorities must remain aware of their obligations under European State Aid rules, which are in place to avoid distortions in the single market. State Aid is defined as financial aid or intervention (e.g., tax relief), by a public authority in favour of a market actor (“undertaking”) which puts said undertaking at an economic advantage compared to competitors.⁶ This includes financial support from local, regional or national governments, international aid and European Structural and Investment Funds (which are managed by the Member States) but excludes direct EU grants and support. State Aid is generally prohibited in the EU under the Treaty on the Functioning of the EU (TFEU), Article 107, unless covered by ‘block exemption’ or approved by the European Commission upon prior notification.

For notification to be required, the intervention must meet four criteria. It must:

1. Be an intervention by the state, or through state resources;
2. Confer a competitive advantage upon the undertaking, on a selective basis;
3. Distort competition;
4. Affect trade between Member States.⁷

A number of [rules and regulations](#) are in force, defining what does and does not require notification. Firstly, the EU has set a *de minimis* limit of aid up to 200,000 EUR, which may be awarded to a single undertaking over three fiscal-years, and not count as State Aid, and not requiring notification ([Regulation 1407/2013](#)). Such small investments are deemed incapable of affecting trade, though some exceptions apply for sectors such as fisheries and agriculture. The *de minimis* rules enable public authorities to make small investments in companies and create financing schemes and support instruments.

Moreover, in order to enable public funding to support European policy goals, the General Block Exemption Regulation ([Regulation 651/2014](#)) was adopted. Extended and updated in 2020, this instrument sets out the conditions in which notification to the EC is not required. In this respect, it lays

⁶ Rogulj, et. al – ENSMOV: State Aid and Article 7 of the Energy Efficiency Directive (2020)

⁷ European Commission – [Competition Policy](#)



down specific rules in the areas of: i) innovation aid, process and organisational innovation, ii) investment aid for energy efficiency measures, energy efficiency projects in buildings, iii) high-efficiency cogeneration and promotion of energy from renewable resources.

- **Innovation aid (Articles 28 & 29):** Innovation aid is compatible, covering seconding highly qualified personnel to work on innovation activities, up to 50% of total eligible costs. For provision of advisory and support services, up to 100% of eligible costs can be covered as long as the amount does not exceed 200,000 EUR per company in a three-year period. Process and organisational innovation in SMEs can be supported to cover personnel costs, costs of instruments, equipment, buildings, land, contractual research, and additional overheads, at up to 50%.
- **Energy Efficiency (Articles 38 & 39):** Aid may not be given to SMEs to meet existing EU standards for energy efficiency, only to exceed the minimum standards. Eligible costs are the extra investment costs required to meet the higher level. Aid intensity for small enterprises can be 50%, and 40% for medium enterprises. For buildings, aid must be in the form of an endowment, equity, guarantee or loan, via an Energy efficiency fund or financial intermediary, and no more than 10 million per project at maximum 80% of the loan. Member States can also apply additional frameworks for state aid.⁸
- **Renewable Energy (Articles 40 & 41):** Newly installed high-efficiency cogeneration capacity can be supported up to 55% for medium enterprises and 65% for small enterprises. New renewable energy installations can be supported – no back payments are eligible – at either 40 or 55% for medium companies, and 50 or 65% for small enterprises – depending on the method used to calculate eligible costs.⁹

Needless to say, the rules are complex, and this should not be taken as a definitive guide. To help regional and national authorities, the Commission produced a set of [Guidelines on State Aid for Environmental Protection and Energy](#) (2014-2020). A new version for 2021-2027 is currently in production to reflect the European Green Deal and accompany the wider revision to the climate and energy policy framework. Publication is expected in late 2021.¹⁰

National and regional support measures

Making use of European support, within state aid guidelines, there are a wide number of possible policy interventions that states and regions can make to overcome barriers. The most successful programmes and initiatives will integrate different interventions together into a comprehensive and holistic support package that can guide SMEs from beginning to end of project. This includes raising awareness, supporting SMEs to assess their energy use, identifying suitable changes to be made, guiding SMEs through the planning and contracting stages, supporting with access to finance, following-up to ensure customer satisfaction and building capacity for continuous improvement.

Regulatory interventions, mandates and frameworks

As already explored at the European level, regulations are a powerful tool for improving energy efficiency, with the Energy Efficiency Directive, Energy Performance of Buildings Directive, and Eco-design Directive setting minimum energy efficiency standards that all companies must meet. National

⁸ ENSMOV Project, State Aid and Article 7 of the Energy Efficiency Directive (2020), pp.19-20.

⁹ See Article 41, GBER

¹⁰ European Commission – [Have your Say - State aid for environmental protection and energy – revised guidelines](#)



authorities are free to go further and increase efficiency demands upon SMEs, as indeed, some countries have done (see Good Practice 1).



Good Practice 1: Energy efficiency through law enforcement

In the Netherlands, the national Environment Law, requires that SMEs must implement energy efficiency measures that have a payback time of less than five years and develop an energy savings plan. Enforcement of this requirement is passed to municipalities and provinces, who can take different approaches to ensure enforcement. The province of Groningen set up a new project to assist its municipalities, working with the Groningen Environmental Service. The Service hired specially law enforcement officers to visit SMEs and inform them of their obligations. SMEs were then required to send their energy savings plan to the Environmental Service to be reviewed, with a later visit implemented to ensure that measures had been implemented.

Such enforcement is unusual, with most schemes across Europe being voluntary, and is highly dependent on cultural and societal factors – what may work in the Netherlands may not work elsewhere – but the personalised approach, giving information on obligations and following-up on implementation is replicable. Depending on available budget and expertise, it would also be beneficial to assist SMEs in producing their plans.

The costs were 300,000 EUR per year and the project ran from 2016-2019, with costs split 60-40 between the region and the municipalities. More than 700 SMEs were visited, with most expressing a positive opinion of the programme for increasing their awareness of savings potentials.

[Click here to find out more about this good practice](#)

National governments can also make use of mandates in intermediaries, such as energy companies and network operators, to improve efficiency. For example, in the UK, energy supply companies are obliged to install smart metres in all non-residential buildings by June 2021, whilst in France, a similar obligation is placed on the national network operator, RTE, by end of 2022, to enable SMEs to better understand their energy use.¹¹ Authorities can also remove barriers to uptake of new technologies, particularly renewable energy technologies, with streamlined permitting processes and legal frameworks for self-consumption of generated energy.

For more on this, including good practices, see the Policy Learning Platform's [Policy Brief on Renewable energy self-consumption](#)

¹¹ Hampton & Fawcett – Challenges of designing and delivering effective SME energy policy (2017)



Additionally, public authorities and public bodies can set the framework for voluntary schemes, though these are often targeted at medium and large companies. One such examples is the [voluntary scheme managed by the Finnish Motiva Oy agency](#), in which agreements have been signed between the State, the Confederation of Finnish Industry (and many of its member organisations), with each industrial association being responsible for ensuring its members adhere to the agreement.¹²



Good Practice 2: Madeira's ESCO-promoted Biomass Energy

Madeira Biomass Energy (MBE) is a project which aimed to support SMEs to take up use of bioenergy, MBE was established as an Energy Savings Company (ESCO), which invested in the installation of woodchip and pellet boilers in three hotels using Energy Performance Contracting. The ultimate aim of the ESCO was to create a biomass market in Madeira, so after identifying the three hotels, MBE applied for ERDF funds under the EMPREENDER 2020 (ENTREPRENEUR 2020) Operational Programme under the Priority Axis, 'Enhancing the competitiveness of SMEs,' to construct a biomass plant to provide fuel for the boilers.

The total cost of investment was around 1.5 million EUR, with 360,000 EUR from the ERDF. Energy Performance Contracting enabled three SMEs to benefit from renewable energy with no up-front costs, paying back the investment based on energy savings. The return on investment is expected to be 4-5 years, and as well as enabling his low-carbon energy use in the private sector, the approach created new jobs in the biomass plant and stimulated to economic diversification for the island, bringing new income for farmers and forestry owners, as well as creating a domestic biomass supply.

[Click here to find out more about this good practice](#)

Informational interventions

Informational interventions aim to better inform SMEs about the benefits of sustainable energy, initially through awareness raising campaigns and direct outreach, but also via the provision of materials such as case studies, demonstrations, guidebooks and general information on sustainable energy technologies and regional renewable resource availability. They can be targeted at getting SMEs to reach low-hanging fruit through behaviour change or encourage them to take greater action. Energy labelling, as under the EU's [Energy Labelling and Ecodesign](#) schemes, can help SMEs to make quick and easy decisions on technologies to invest in. On a deeper level, personnel information provision can be given via energy audits, site visits and advice services, and information sharing between enterprises via SME networks, in co-operation with existing SME structures (Chambers of Commerce, etc.), can secure greater buy-in to proposed actions (see Good Practices, 4, 5, 6 and 7).

¹² Norden, Energy Efficiency in Small and Medium Sized Enterprises (2014)



For more on behaviour change, see the Policy Learning Platform [Policy Brief on Behaviour Change for Energy Efficiency](#)

Mapping biogas and groundwater heating potential in Päijät-Häme

Within the RESINDUSTRY project, LAB University of Applied Sciences performed a [mapping of agricultural biogas potential](#) in the region of Päijät-Häme (Finland), as well as a [study of groundwater heat availability](#). The studies revealed that the region has significant potential in both renewable sources, resulting in both being included in the region's Climate Action Roadmap, '[Carbon Neutral Päijät-Häme 2030](#)'. The region will promote the potential to regional stakeholders, including farmers and businesses, to encourage their low-carbon transition, and aims to support actions in future funding programmes. You can find out more in [this RESINDUSTRY video](#).



Good Practice 3: Renewable energy grants through structural funds

In setting up its Operational Programme for the European Regional Development Fund (2014-2020), the Estonian Ministry of Environment established a support measure for '[Resource efficiency of enterprises](#)' (site in Estonian) due to low resource productivity in the country. The measure combined 100 million EUR of national funds and 100 million EUR from European funds, to offer up to 2 million EUR per successful applicant, covering a maximum of 50% of costs, depending on the type of activity and relevant state aid rules.

Grants could support activities related to developing and initiating resource savings, purchasing and replacing equipment, acquiring equipment to make use of own wastes and residues, introducing ICT solutions for resource savings, and implementing energy and environmental management and audit systems. Three successful cases of using industrial residues for renewable generation, funded under the programme, were identified by RESINDUSTRY:

- Integration of a new wet wood waste boiler house at a sawn timber company, to make use of high-humidity wood wastes for renewable heating, increasing heat production efficiency by 20%;
- Installation of a biogas plant at a dairy producer to make use of wastewater and production waste whey via anaerobic fermentation. The gas produced is used for steam production in the manufacturing process, replacing 80% of shale oil use and reducing carbon emissions by 1,900 tonnes per year.
- A new biogas plant based on brewery wastewater, with all produced biogas used for onsite heating, replacing imported natural gas and reducing emissions by 4,300 tonnes per year.

Click here to find out more about the funded installations: [wet wood waste boiler house](#), [Biogas production through anaerobic fermentation](#) and [biogas based on brewery waste water](#).



Good Practice 4: ENERGIG and ENERLEAN Energy Efficiency Networks

ENERGIG, and its follow-up programme, ENERLEAN, established in Gävleborg, Sweden, are energy efficiency networks which assist SMEs to implement sustainable energy measures.

ENERGIG established six networks of SMEs, each with 5-15 participants with similar profiles, (44 SMEs total) to provide training and support on energy management issues, including energy audits and how to implement energy savings measures. Each network had a co-ordinator and energy expert, and organised regular meetings at company sites (3-4 per year) for lectures and training on different energy aspects, given by a relevant expert.

The programme was 50% co-funded by the European Regional Development Fund, with other funds sourced from the Swedish Agency for Economic and Regional Growth, Region Gävleborg and the University of Gävle. Participation was free for the SMEs.

Each participating SME was also eligible to receive a free energy audit, by an experienced auditor, and could access energy auditing software and a database on energy efficiency measures. Following an audit, ENERGIG would assist in establishing an energy policy, energy goals and an action plan, and help out in identifying and applying for financial support.

Overall, for the 44 participating SMEs, energy audits revealed a potential for 17% energy efficiency improvements, and 14% was achieved, with 75% of all recommended interventions implemented. Interventions mainly related to space heating (53%), lighting (20%) and ventilation (12%) – such measures were recognised as being easiest to implement compared to production processes (4%).

The follow-up programme, ENERLEAN, takes a similar approach, but now including the Lean approach, focusing on continuously improving work processes and avoiding waste. In this way, ENERLEAN is explicitly supporting SME competitiveness and looking more holistically at performance, including resource use, and fostering a broader sustainable culture.

Particularly strong aspects of the ENERGIG and ENERLEAN networks are the social aspects, which can bring long-term commitment, the ease of participation, with little upfront paperwork, and the provision of custom, free support throughout the whole project lifespan.

[Click here to find out more about this good practice](#)



Good Practice 5: Business Energy Efficiency Project

The Business Energy Efficiency Project 2 (BEEP2) provides energy efficiency advice and financial support to SMEs. Following an independent assessment, the programme builds upon the successes of its predecessor, BEEP1 (2016-2019), to give SMEs a free energy assessment and energy efficiency plan accompanied by a grant to cover up to 40% of capital costs.

The first step in the process for an SME is very easy, filling in a simple online form, after which one of the BEEP team at Durham County Council will visit to the SME to share more details, find out SME expectations, establish a personal contact and check eligibility for the programme. SMEs must sign a declaration that they have not exceeded 200,000 EUR public support in the last three years, or be within 20,000 EUR of that limit, as BEEP support would exceed the upper amount. SMEs must also have been in business for at least a year, be based in County Durham, and not be in financial difficulty.

Once eligibility is confirmed, a second visit is organised for an energy audit, resulting in a report of findings and recommendations, listing low- medium- and high-cost interventions. The SME can then decide which interventions to proceed with, gathering three quotes from qualified contractors. BEEP then assists in selecting the contractor and funds up to 40% of the investment, with a maximum grant of 24,999 GBP. Once installation is complete, the BEEP2 team visit to confirm it meets requirements, and the intervention is completed.

BEEP includes a number of excellent aspects: a high-level of personal contact, recognising that every SME is different; bundling of advice, energy audit and grant through a single entry point; the process is kept as simple as possible, with little paper work until after the audit; and provision of case studies to clearly illustrate the benefits of BEEP to other SMEs.

The project is supported by a partnership of Durham County Council, which employs the energy advisors, the SME federation Business Durham, the regional chamber of commerce, and the Northern Powergrid electricity distribution company. 60% of funding (1.04 million GBP) came from ESIFs, with 610,000 GBP to be leveraged from SMEs, and a contribution from Durham County Council of 82,000 GBP.

Between October 2019 and February 2021, BEEP engaged 206 SMEs, with 96% having an audit. Due to COVID-19, not all site visits could be carried out, but still 121 companies received reports, and 379,000 GBP of energy efficiency improvements were achieved through 90,000GBP of grants, saving 574 tonnes of CO₂.

[Click here to find out more about this good practice](#)



Capacity-building interventions

Capacity building interventions aim to develop skills in SME staff, as well as in SME support services and public administrations. For SMEs, it seeks to ensure that individuals are able to monitor and assess energy performance themselves and develop energy management systems for long-term energy improvement. For support services and public administration, it can involve trainings on energy audits and key energy challenges for SMEs, to enable the creation and implementation of support schemes. Capacity building takes place with direct trainings, peer-to-peer exchange for experience sharing, and the organisations of workshops and seminars (see Good Practice 4). The Horizon 2020 INNOVEAS project has set up a [training platform](#) (in Spanish, German, Italian, Polish and Slovenian) for SMEs to better understand energy audits, whilst SMEmPower has created a [training handbook](#) which can provide some first guidance and content for establishing a training scheme.



Good Practice 6: Green Business Energy in Leicester and Leicestershire (Green BELLE)

Green BELLE is a business support programme in Leicester (and wider Leicestershire, UK), part funded by the European Regional Development Fund (guaranteed by the British Government post-Brexit) and Leicester City Council, to offer both capital grants and energy advice to SMEs. SMEs can receive between 1,000 to 10,000 GBP (at maximum 50% of project cost) to install low-carbon technologies and improve their energy efficiency.

In particular Green BELLE focuses on energy efficiency heating systems and controls, low energy lighting, renewable energy systems, innovative circular approaches, insulation and Building Energy Management Systems, though other interventions are supported. The first stage is simple, with an expression of interest and eligibility check (SME status and state aid declaration), followed by a site visit, performed by a project officer, to discuss energy efficiency options. As with BEEP, three offers are needed, and the business can select themselves which measures are applied for, based on guidance offered.

Green BELLE has supported 92 SMEs to implement 130 measures, for grants of 500,000 GBP so far.

[Click here to find out more about this good practice](#)

Financial interventions and incentives

Financial interventions aim to both overcome market-barriers to commercial lending as well as stimulate SMEs to act. They can offer SMEs access to capital for direct investments into new technologies and materials, but also fund acquisition of services, including energy audits, trainings and project



development assistance (PDA), to create projects that can attract private investment or public grants (see Good Practices 3, 4, 5, 6 and 7). Public grants can be used to co-fund investments (above the minimum energy efficiency standards) to leverage private funds, targeting different sectors and technologies as determined necessary by a regional analysis. Grants should avoid funding installations and projects where bank funding is already available and look to overcome market failures. Financial incentives can include reduced tax rates on consumption of sustainable energy, or tax deductions directly on the purchase of new equipment.

Regions and states can set-up programmes that offer grants to SMEs, but can also establish more complex instruments, including subsidised, low-interest loans, and guarantee funds to stimulate private-sector investment. Energy Savings Companies are also a well proven solution and can implement Energy Performance Contracting (EPC) to remove the risk from SMEs (see Good Practice 2). EPC involves a third party (typically an ESCO, but not always) assessing energy performance, making a guarantee of energy savings, investing in energy improvements, and then recuperating costs from energy savings made by the SME.

For more on subsidised loans, guarantees, Energy Savings Companies (ESCOs) and Energy Performance Contracting, see the Policy Learning Platform [Policy Brief on Funding Energy Efficiency through Financial Instruments](#).

Bringing it all together: Integrated SME Programmes

Whilst these various policy options can be used to support SMEs, the strongest schemes bring them all together into a single action, implemented by a dedicated actor (see Good Practices 5, 6 and 7). Typically, this involves establishing either a specific legal entity in collaboration with several public and private actors – public authorities, chamber of commerce, development agencies, energy companies – or creating a dedicated administration within a public authority with the required skills and expertise to implement the programme and co-ordinate with stakeholders.

Integrated programmes should identify the target group and map SMEs in the region, identifying their profiles and needs, as well as the stakeholders required to reach them. Partnerships are essential between government, industry associations, financial institutions and service providers, to provide a holistic offer that raises awareness, offers advice and enables access to project implementers and finance. The process should be as simple as possible for SMEs, via a one-stop-shop, with a single contact point.

As well as energy, programmes should focus on maximising impact and attractiveness by taking active consideration of productivity, quality, competitiveness and safety – all key concerns to SMEs. By tackling this together, and considering resource use, as well as energy, programmes can have great impact and attract SME interest where they may otherwise not be considering their energy performance



Good Practice 7: PIUS Programme

The Produktionsintegrierter Umweltschutz (Production-Integrated Environmental-Protection) , or PIUS, is a programme in Hessen to support resource efficiency, energy efficiency, and reduced CO₂ emissions, comprised of two strands, PIUS-Consult and PIUS-Invest .

PIUS Consult was developed and piloted in 2008 to offer SMEs advice on potential energy efficiency measures. An evaluation in 2011 revealed that the individual consultations had identified extremely promising measures, but that SMEs could not implement them as they required significant investment and they lacked investment support. As a result, PIUS-Consult started to offer subordinated loans in 2012, making use of the ERDF. By 2014, as a result of a decline in interest rates, PIUS switched to offering non-refundable grants, and in 2017, PIUS-Invest was established. The two are mutually supporting but can be applied for separately.

PIUS-Consult will provide 50% of funding for an advisor (up to 650 EUR per day, max. 13,000 EUR over three years) who will work with the SME to develop solutions that optimise energy and material cycles. PIUS-Invest can be used to implement the identified measures, particularly major investments that can have the largest impact. Funding is available for process and organisational innovations, covering up to 30% of costs for projects, up to 500,000 EUR per application, as enabled by Article 29 of the General Block Exemption Regulation (GBER).

PIUS is operated by the Hessen Ministry of Economics, the regional development agency HTAI, RKW Hessen, a business support agency, and WIBank, the state business and infrastructure bank, making use of ERDF funds.

PIUS has stimulated more than 55 investment projects, leveraging 49Million EUR investment from 12 million EUR grants – averaging 219,000 EUR average subsidy, and CO₂ emission savings of 1.6kg CO₂ for every EUR granted.

[Click here to find out more about this good practice](#)



International Energy Agency Policy Pathway ¹³

The International Energy Agency (IEA) has done significant work on the performance of SMEs and has developed a Policy Pathway for comprehensive SME energy programmes. Primarily focused on energy efficiency, the pathway can also be adapted to also include renewable energy use.

PHASES	STEPS
PLAN	1 Develop programme rationale
	2 Consult with stakeholders
	3 Design the programme
	4 Engage partners and secure funding, staffing and other resources
IMPLEMENT	5 Pilot the programme
	6 Launch the programme
	7 Manage the implementation process
MONITOR	8 Collect, review and disseminate data
EVALUATE	9 Evaluate programme impacts
	10 Adapt the programme and plan next steps

Source: [IEA 2015](#)

The pathway has four phases and ten steps:

PLAN: Tailor the programme to meet the specific needs and circumstances of each SME sector. Consider barriers between SMEs and improved efficiency. Proactively engage with stakeholders and coordinate with existing programmes.

1. Develop the programme rationale including defining target markets, efficiency barriers, and potential energy and non-energy benefits.
2. Consult, and seek support from, a broad range of stakeholders, particularly sector bodies, SME associations, and peer groups.
3. Design the programme incorporating communication, financing, and expertise building components.
4. Secure funding, staffing and other resources. Extend programme reach by working with stakeholders already trusted by SMEs.

IMPLEMENT: Incrementally roll out the programme, paying particular attention to the communication channels that have maximum credibility for SMEs, and to delivering messages through the programme partners with existing channels effectively accessing target sectors.

5. Pilot the programme in SME subsectors and/or by rolling out individual programme components.

¹³ IEA – Accelerating Energy Efficiency in SMEs (2015)



6. Launch the programme. Employ a systematic approach to identifying all candidates that may benefit from programme support.
7. Manage the implementation process and maintain contact with target participants. Take care not to overwhelm SME resources.

MONITOR: Regularly collect, review and share data on the ongoing planning and performance of the programme. Discuss successes and failures with stakeholders to identify areas of weakness and the appropriate programme modifications to maximise impacts.

8. Gather and discuss programme performance information. Revise programme elements or delivery routes as required.

EVALUATE: Determine the programme results, impacts and success factors. Measure the effectiveness of individual programme elements and overall programme cost-effectiveness to assist in directing future activities.

9. Collect and analyse data to measure programme effectiveness. Do not overburden SMEs during data collection process.
10. Adapt the programme to build on successes and plan next steps including programme expansion when appropriate.

Summary text sourced from the IEA Policy Pathways Brief, '[Energy Efficiency in SMEs](#)'. Full report at, '[Accelerating Energy Efficiency in Small and Medium-sized Enterprises: Powering SMEs to catalyse economic growth](#)' (2015)

Recommendations & key learnings

- SMEs make a significant contribution to carbon emissions, but their fragmented nature – millions of entities in Europe, each with its own specific challenges and barriers – make it difficult for them to act alone. Public support is essential to get them to take their first steps in the low-carbon transition;
- The EU has made significant resources available to support SMEs, so states and regions should be sure to make use of them in establishing support policies and instruments;
- State aid rules can be daunting, but there is significant scope for funding SME action, and indeed, it is actively encouraged to help the EU meet its energy targets. The *de minimis* and general block exemption regulations both create space for authorities to act;
- **Look to the IEA policy pathway** on how to create strong support tools – the methodology is well established and covers all essential steps. **Learn from existing schemes** on what has, and has not, been successful to avoid re-inventing the wheel! The good practices provided in this brief are a good place to start;
- The Policy Learning Platform is here for you. If you are a public authority looking to develop or improve instruments to support SMEs, **consider applying for a matchmaking or peer review!**
- Awareness raising with SMEs is a major challenge – **be sure to focus not only on low-carbon development and reduction of CO₂, but also competitiveness**. Reassure them that changes will not have a negative impact on service quality and make use of multipliers and networks with existing outreach;



- As in Päijät-Häme, **regional assessment of renewable resource availability** can be used to boost confidence in renewables, demonstrating the high potential from their use and provide information for awareness raising campaigns and energy auditors;
- Energy auditing is the pre-requisite for impactful changes. **Identify energy auditors, or train new ones, and find ways to get SMEs to use their services** – grants and vouchers are good tools. Audits can also take account of material use, not only energy, to make comprehensive recommendations including process and material efficiency;
- **Networks are powerful tools for changing behaviour and increasing awareness.** It is easier to act when you know that others are acting, for fear of missing out. Networks can also enable sharing of good practices and experience – be sure to exchange successful case studies to demonstrate the power on energy interventions;
- Ensure that advice and support can be accessed through a single contact point – **advice alone can be ignored, but when coupled with technical support and access to finance, uptake of audit recommendations increases significantly;**
- There is no one-size-fits-all approach to support SMEs – each has different processes and different concerns. **Ensure tailored support is given by allocating real experts** to aid the SME – it is more costly than online tools or programmes, but the impacts are higher and SMEs are more likely to act if they know the individual behind the recommendations;
- Your region can go further than the EU minimum – as in the Netherlands, additional expectations can be put on SMEs. **Consider making energy audits mandatory for a start** – but ensure that financial resources and expertise are available to support the process;
- **Provide the full range of support to remove perceived risk** – information, training, audits, technical support and finance;
- At every step of the support programme, **minimise bureaucracy** – time is scarce a resource as finance for many SMEs!

Sources and further information

Policy Learning Platform information

- [Policy Brief on Behaviour Change for Energy Efficiency](#)
- [Policy Brief on Renewable energy self-consumption](#)
- [Policy Brief on Funding Energy Efficiency through Financial Instruments.](#)

European Documents

- Commission Staff Working Document [Guidance note on Article 8: Energy audits and energy management \(SWD/2013/0447\)](#)
- European Commission – [User guide to the SME Definition](#) (2020)
- European Commission – [Guidelines on State Aid for Environmental Protection and Energy](#) (2013)
- European Commission – [A Study on Energy Efficiency in Enterprises: Energy Audits and Energy Management Systems](#) (2016)
- [Energy Efficiency Directive](#) (EED)
- [Renewable Energy Directive](#) (RED II)
- [De Minimis Regulation \(1407/2013\)](#)
- General Block Exemption Regulation ([Regulation 651/2014](#))



Other Sources

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- Czogalla, INNOVEAS: Analysis of existing framework conditions (2020)
- Gouvernement de la République Française – Plan National de Relance et de Résilience (2021)
- International Energy Agency – Accelerating Energy Efficiency in Small and Medium-sized Enterprises: Powering SMEs to catalyse economic growth (2015)
- IRENA – Renewable Energy in Manufacturing: A technology roadmap for Remap 2020 (2014)
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*#LowCarbon #SMEs
#Industry #EnergyTransition*



Interreg Europe Policy Learning Platform on
Low-carbon economy

Thematic experts:

Simon Hunkin, Katharina Krell

s.hunkin@policylearning.eu k.krell@policylearning.eu

<https://interregeurope.eu>

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