Energy Efficiency Delivers:

Turning Policy Into Impact

November 2025

The Coalition for ENERGY SAVINGS

Preface

In legislative terms, 2040 is just around the corner. With the recent publication of the European Commission's 2026 Work Programme, discussions on the future of the energy efficiency policy framework are imminent.

Energy efficiency is an unsung EU success story: energy efficiency legislation, namely the Energy Efficiency Directive, the Energy Performance of Buildings Directive, and the Ecodesign and Energy Labelling Regulations, has driven energy efficiency action on the ground and delivered benefits to citizens and businesses by sending a clear investment signal for companies and investors. It has prompted the emergence of a strong and vibrant home-grown industry that is at the heart of the energy transition in Europe, supporting competitiveness but also the just energy transition.

The European Union must build on this success. First, it must redouble its efforts to ensure that implementation not only follows its course, but that it is strongly prioritised through political commitment and resources. Second, it must build on the existing legislative framework when shaping rules for the next decade, preserving what has worked and has delivered results. Finally, while simplification is a valid concern to optimise and fast-track delivery, **the EU must ensure the predictability that stakeholders need to continue investing in energy efficiency,** so that it can deliver on all fronts - competitiveness, affordability, energy security, and many more.

This report showcases through a variety of success stories how the Energy Efficiency Directive has initiated and continues to drive real and tangible results on the ground, improving the lives of citizens and creating economic growth. It should be used as an inspirational guidebook and an important reminder that **energy efficiency delivers and that an ambitious and stable regulatory framework is the first tool to unlock its many benefits.**

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Legislative articles referenced in this report

Energy Efficiency Directive (EED)

Art. 3	Member States must apply the Energy Efficiency First principle to properly consider the benefits of demand-side options. They must ensure that energy efficiency solutions are assessed in planning, policy and major investment decisions.
Art. 5	Member States must reduce the energy consumption of all public bodies combined by 1.9 % each year as of 2027. This objective is achieved thanks to public authorities' actions across sectors, including, healthcare, transport, public buildings, education and social services.
Art. 6	Member States shall ensure that at least 3% of the total floor area of heated and/or cooled buildings owned by public bodies is renovated every year.
Art. 8.1	Known as the Energy Savings Obligation, it requires Member States to deliver an amount of cumulative energy savings each year, resulting from Energy Efficiency Obligation Schemes or alternative policy measures.
Art. 8.3	A share of the energy savings of the Energy Savings Obligation's yearly objective must be delivered through measures that target people affected by energy poverty, vulnerable customers and low-income households. It also mandates Member States to consider and promote the role of renewable and citizen energy communities.
Art. 11	Companies that use more energy than a certain threshold must put in place energy management systems or carry out an energy audit.
Art. 12	Data centers must monitor and report to the European Commission their energy performance.
Art. 25.6	Regional and local authorities must prepare local heating and cooling plans for municipalities having a population larger than 45,000 inhabitants.

Energy Performance of Buildings Directive (EPBD)

Art. 9.1	Member States shall put in place minimum energy performance standards for non-residential buildings, ensuring that these buildings progressively do not exceed a maximum energy performance threshold, based on Energy Performance Certificates.
Art. 9.2	Member States shall put in place a national trajectory to gradually renovate their residential buildings, ensuring a progressive reduction of the average primary energy use of the entire residential building stock.

For more detailed information on the articles mentioned above, please read our publication with guidance and recommendations on the EED and the European Commission guidance notes on the EED and guidance notes on the EPBD.

Introduction

Over the last 13 years, the European Union has been a global pioneer in energy efficiency progress, leading the way with a robust and comprehensive legal framework.

From the 2012 Energy Efficiency Directive (EED), which introduced an indicative EU energy efficiency target for 2020 in EU legislation alongside energy savings measures, to the 2018 EED with its strengthened provisions, the EU has progressively expanded its policy framework. This continued with the 2023 EED, which put in place a binding EU 2030 energy efficiency target for final energy, new measures for the public sector, as well as an increased energy savings obligation. Through these steps, the EU has been at the forefront of developing a legislative framework that delivers the multiple benefits of energy savings to its citizens.

Indeed, **the EED and energy efficiency action are delivering tangible results:** in the last 15 years, the EU has decreased its final energy consumption by 12.1%[1] while the economy grew by 25%.[2] Data shows that long-term energy efficiency measures put in place in the EU between 2015 and 2024 cumulatively reduced energy demand by 4.8%, significantly easing the pressure on energy prices during the recent energy crisis.[3]

Further, a counterfactual scenario also points to the central role of energy efficiency in Europe's energy transition: without energy efficiency measures over the last two decades, the EU would require 27% more energy to cover its needs, an amount equivalent to the total annual consumption of Austria, Finland, France and the Netherlands combined.[4] **The data speaks for itself: energy efficiency is a powerful tool[5] to decarbonise Europe, cut energy costs and bills, and bolster the EU's resilience and energy security – and it is already delivering.**

The newly agreed EED, for which the transposition period ended on 11 October 2025, will only reinforce this trend and multiply these results by accelerating the energy efficiency measures implemented by Member States and regional and local authorities as they work to achieve their energy efficiency goals. Importantly, the widespread acceleration of energy efficiency measures is essential to achieve the climate neutrality objective[6] but also aligns with the EU's priorities of supporting European competitiveness, strengthening resilience and energy security, and ensuring an affordable and socially just transition.

Through the exploration of numerous success stories from across Europe, this report aims to showcase **how the energy efficiency legal framework, in particular the EED, has driven and continues to drive energy efficiency actions that deliver these benefits on the ground.**

The selected measures and initiatives, which cover different sectors and various types of actors, are the direct or indirect result of recent EU energy efficiency legislation and are divided by their positive impact in three key priority areas: energy cost and competitiveness; a just and affordable transition; and a resilient, secure, and integrated energy system. The report also provides an analysis of lessons learned from the success stories as well as their potential for replicability and scalability, particularly in relation to the Commission's upcoming initiatives, such as the Citizens Energy Package, Affordable Housing Plan, Electrification Action Plan, Heating & Cooling strategy and the Data Centre Package.

[1] Energy Efficiency Statistics - Eurostat
[2] National accounts and GDP - Eurostat (own calculation)
[3] Better data for energy efficiency – European Commission
[4] Recent trends in energy efficiency in the EU
[5] Energy efficiency awareness – European Commission
[6] Impact assessment on a 2040 Climate Target – European Commission

1 Reducing energy costs and boosting competitiveness

1.2 million jobs

Energy efficiency and Europe's competitiveness go hand in hand. Energy efficiency products and services are largely designed and manufactured in Europe[7] and the European energy efficiency sector is a global leader in innovation and patent development that employs over 1.2 million Europeans – more than the renewables and nuclear sectors combined.[8]

Simultaneously, this sector provides proven and readily available net-zero solutions that enable European companies to cut energy costs in their processes and in the buildings they occupy, thereby increasing their competitive edge, productivity and resilience toward fluctuating energy prices. By reducing energy consumption, energy efficiency improvements reduce energy costs, often with a strong and fast return on investment, especially in the industrial sector. Indeed, every one euro spent on energy efficiency in industry translates to four euros of savings on energy costs.[9] More broadly, energy efficiency also reduces the energy needed to produce the same output: **in manufacturing alone, the EU now produces 50% more added value with 25% less energy compared to 2000.**[10]

The success stories in this section show how energy efficiency measures across Europe are already reducing businesses' energy consumption and costs, improving their productivity and competitive edge.

[7] Communication: A competitiveness compass for the EU – European Commission
[8] World Energy Employment 2024 – International Energy Agency
[9] Energy efficiency awareness – European Commission
[10] Multiple benefits of energy efficiency – Competitiveness – IEA

Spain

SUCCESS STORY 1

National measures to promote energy efficiency technologies in industries

Articles 8.1 and 11 EED

The Spanish government indicates in its National Energy and Climate Plan two measures to facilitate the penetration of energy saving technologies in energy intensive and non-energy intensive industries.[11] Those measures are financed through a combination of support for industries through the Energy Saving Certificate Facility,[12] public aid programmes and voluntary agreements, with a budget of EUR €3.622 million for supporting energy intensive industries.

The measures promote the replacement of existing industrial equipment with more energy efficient ones and the installation of Energy Management Systems. The two measures would deliver a cumulative 16.3 Mtoe of savings over the 2021-2030 decade. Since its launch in January 2023, the programme has certified about 1,600 GWh of savings in 2024, generating over €200 million in revenue for companies that have implemented energy efficiency measures.[13]

Lessons learned: With these two measures, Spain provides a clear framework to support energy efficiency technologies deployment in industries. By having two separate, well-targeted, policy measures, Spain can push different types of technologies and support depending on the type and size of the company (SMEs or energy intensive), while the accredited financial support and government oversight can ensure these projects do materialise.

[11] Spanish final NECP update

[12] The Facility aims at supporting businesses and citizens in the delivery of Energy Saving Certificates. These are financial instruments designed to certify and quantify the actions taken by companies and organizations to reduce their energy consumption and deliver energy savings.

[13] Spain Promotes Energy Efficiency in Industry with the Energy Savings Certification System (CAE) - articai

Italy

SUCCESS STORY 2

Regional energy agency supporting SMEs on energy efficiency uptake

Articles 8.1 and 11 EED

The energy agency of the Italian Region of Friuli Venezia Giulia has developed a comprehensive process to accompany companies in their energy transition, combining energy audits, support for reviewing proposals for the supply of goods and services in the field of energy efficiency, data analysis and monitoring of energy flows. With this help, a furniture-manufacturing SME took measures to improve energy efficiency starting from 2016, including by consistently monitoring its energy use with digital systems, replacing its compressor with a new one with inverter technology and switching to LED lighting.

In 2024, the efficiency upgrades have reduced the company's energy consumption by 30% compared to 2016,[14] while the SME has maintained the same level of industrial production. This reduction of energy use in the production process has also allowed the company to benefit from the maximum tax credit under the Italian scheme Transizione 5.0 which support companies with tax credits on investment aiming at reducing energy consumption.

Lessons learned: This measure demonstrates that a structured policy framework, in which local support measures for businesses are aligned with national incentives, helps companies to identify and adopt economically valuable energy efficiency actions, maximising cost savings and increasing competitiveness.

[14] The EUSALP Energy Award goes to a Frulian company – Friuli Venezia Giulia Energy Agency

France

SUCCESS STORY 3

Refurbishment of a railway maintenance facility

Article 8.1 EED

A railway maintenance workshop was renovated in France to improve the efficiency of the lighting systems. Having poor lighting has been found not only to be energy inefficient but to have safety impacts for operators of the facility. The programme improves the efficiency of the light bulbs with the switch to LEDs but also introduces a lighting management system. Following the implementation of the programme, the overall energy balance for the lighting of the workshop has seen a decrease of 46% for the installed capacity needs and over 86% for both annual electricity consumption and CO_2 emissions.

Lessons learned: This example showcases the energy savings and cost cutting potential of renovation programmes focusing on improving lighting system of industrial sites. Such programmes can lead to a substantial decrease in electricity use, and costs for the enterprise, while also addressing safety concerns.

European Union

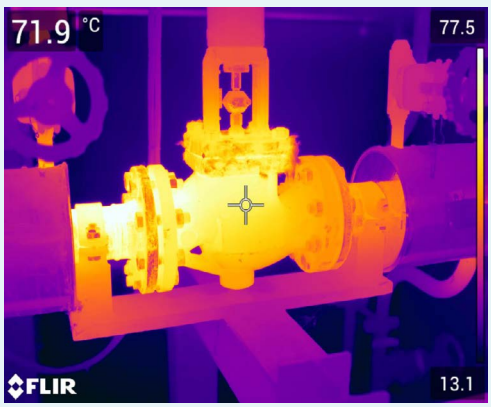
SUCCESS STORY 4

Technical Insulation Performance Check

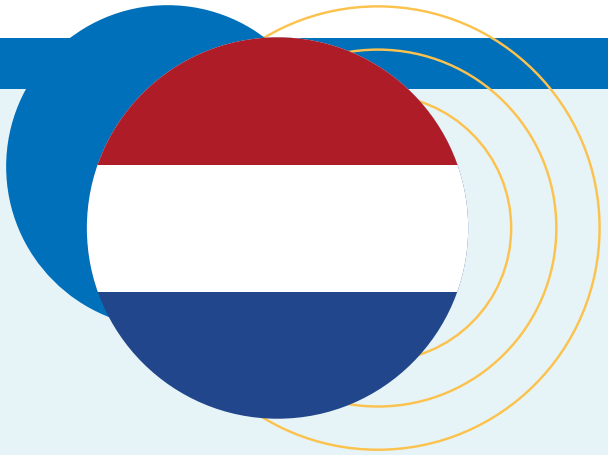
Article 11 EED

TIPCHECK (Technical Insulation Performance Check)[15] is a standardised thermal energy auditing tool to evaluate the performance of industrial insulation systems which acts as an audit and an energy savings potential assessment tool for industrial actors. Since 2010, 3000 TIPCHECKs have been performed, with nearly every audit leading to the identification of uninsulated equipment, such as valves and flanges, in the company. As a result, 3 out of 4 industries audited decided to invest in energy efficiency measures, leading to a cumulative reduction of 4 TWh & 1 Mt CO_2 emissions until today stemming from the projects. Audits are still being performed today to support companies in identifying their thermal losses and reducing their energy consumption, as these technologies have a very short return on investment, often less than two years.

Lessons learned: The TIPCHEK tool shows the importance of providing industries with a simple auditing tool to assess their energy savings potential. Once the potential and the technologies to install have been identified, most industries are willing to introduce energy efficient equipment to reduce their energy demand and therefore operating costs, making them more competitive. This shows the value of the audit requirement of EED Article 11, which will raise awareness in energy intensive companies about their savings potential and the solutions available to tap into it.



[15] EiiF_WhitePaper_09-2024.pdf



The Netherlands

SUCCESS STORY 5

Office building minimum energy labeling

Article 9.1 EPBD

Since 1 January 2023, office buildings in the Netherlands must reach a minimum energy label rating of C and are encouraged to attain level A (even if not mandatory).[16] The measure is enforced by municipalities and relevant environmental agency, with support from the Dutch government via a guide to undergo efficiency improvement, including tailored assessments from an energy advisor and a list of available financing schemes. Two years after coming into force, the results are tangible: 70% of offices have achieved an energy label of C or better, compared to 20% in 2018. The proportion of offices with an energy label of D or worse has dropped from 7% in 2018 to 4% in 2025, and the number of offices without an energy label decreased from 73% in 2018 to 26% in the same period. This measure is closely linked with the implementation of Article 9.1 of the EPBD, which requires Member States to establish progressive minimum energy performance standards for non-residential buildings.

Lessons learned: The measure shows how a regulation with objectives and a clear timeline to achieve them, accompanied by tailored advice, guidance, and accessible resources provided by governments, can drive tangible energy efficiency progress in just a few years. However, criticism of the measure points to a lack of capacity and appropriate instruments within municipalities to carry out effective enforcement, indicating a need for greater support. This obligation is nevertheless a strong example of a measure that delivers results and supports the implementation of both the EED and EPBD.

[16] Energielabel C | RVO.nl

II Ensuring a just and affordable transition

The role of energy efficiency in ensuring that the energy transition benefits all European citizens, particularly the most vulnerable, cannot be understated. Energy efficiency enables citizens and local authorities to reduce their energy bills while improving the comfort and quality of their homes, working spaces and public buildings. It also mitigates energy infrastructure investments, which are ultimately reflected in the price consumers pay, effectively contributing to lower and more stable energy prices.

€290
savings per household

For example, in 2022 alone, **Ecodesign and Energy labelling policies reduced annual consumer spending by €90 billion,** or about €290 savings per household,[17] while in 2023, energy efficiency improvements more broadly saved EU households €540.[18] Given the continued prevalence of energy poverty in Europe[19] and the likely negative effects on the most vulnerable consumers linked to the entry into force of the new emission trading system for buildings and road transport, it is urgent to prioritise energy efficiency measures to structurally solve energy poverty.

From improved indoor comfort and health to reduced energy bills and combating energy poverty, these benefits are being delivered to Europeans today, as shown by the following success stories.

[17] Ecodesign Impact Accounting Overview 2023 – European Commission
[18] Energy efficiency in time of crisis at EU level – Odyssee-Mure
[19] 10.6% of EU population struggled to keep homes warm - Eurostat

Croatia

SUCCESS STORY 6

Slava Raškaj Education Center renovation project

Articles 5 and 6 EED, and 9.1 EPBD

The Slava Raškaj Education Center in Zagreb is an institution providing learning and welfare services for children, young people and adults with communication difficulties. Previously housed in a hundred-year-old building which had fallen into disrepair, the Center sought and secured funding from the EU Solidarity Fund in order to carry out deep renovations. Despite significant challenges, including an earthquake and the COVID-19 pandemic, the renovation project has not only improved the lives of the 600 children, parents and workers using this building, but also delivered 84% energy savings and emissions reductions.[20]

Lessons learned: The Slava Raškaj Education Center in Zagreb renovation project showcases how the availability and accessibility of funding mechanisms, including those not directly reserved for energy efficiency projects, can be a determining factor in communities' access to energy efficiency solutions. It also showcases the multiple benefits of energy efficiency, from energy savings and emissions reduction to the comfort and health of indoor spaces and accessibility.

[20] Zagreb school renovation leads to 84% energy savings for heating and healthier environment for students and teachers < BPIE - Buildings Performance Institute Europe

Ireland

SUCCESS STORY 7

The Warmer Homes Scheme

Article 8.3 EED

The Warmer Homes Scheme[21] is an Irish measure that provides fully funded energy renovations to citizens who receive welfare payments. The programme, which has been in place since 2021, enables vulnerable households to access funding for works such as insulation, efficient lighting or renewable heating systems. As a result, over 135,000 homeowners carried out energy efficiency renovations of their homes. Simultaneously, the project has provided employment opportunities to contractors and delivery staff and contributed to their upskilling and an increase in quality standards.

Lessons learned: The Warmer Homes Initiative shows the importance of targeting the most vulnerable with a dedicated funding scheme that covers the full cost of the renovation. One of the key challenges of the scheme is the delivery timeline of the renovation works, which can go up to 2 years, leaving citizens to face price surges for a long period of time. Other challenges include informing homeowners about the scheme, highlighting the need for a simplified application process and accessibility of information.

[21] Fully Funded Energy Upgrades | Home Energy Grants | SEAI

Estonia

SUCCESS STORY 8

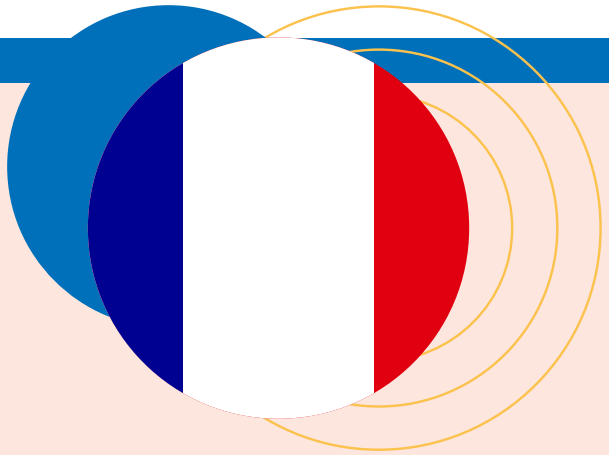
Funding programme for renovation of apartment buildings

Articles 8.1 EED and 9.2 EPBD

The Estonian reconstruction grant[22] allocates €330 million from the European Union Structural Funds for the comprehensive renovation of apartment buildings over the period of 2022-2027. The grant can finance building renovations, including both insulation and more efficient heating systems. It finances these works up to about 50% of the costs. To obtain the financing, energy efficiency improvement must meet established minimum energy performance requirements. As a result of this measure, over 32,000 citizens living in apartment buildings have already enjoyed improved comfort of living and lower energy bills.

Lessons learned: Similarly to success story 6, this measure is an example of how EU funding, beyond the funds explicitly dedicated to energy efficiency investments, can be effectively used to deliver deep, energy efficient building renovations – making it a scalable and adaptable model for other EU Member States to replicate. Additionally, this programme is a component of Estonia's national building renovation plan, in line with EPBD requirements, demonstrating that the energy efficiency legislative framework is driving action on the national level. However, the grant rate up to 50% creates a challenge for many homeowners who struggle with co-financing, while the application process may be too complex and technical for beneficiaries, indicating a need for additional support and streamlining.

[22] Reconstruction grant 2022-2027 | EIS



France

SUCCESS STORY 9

Regional energy service company

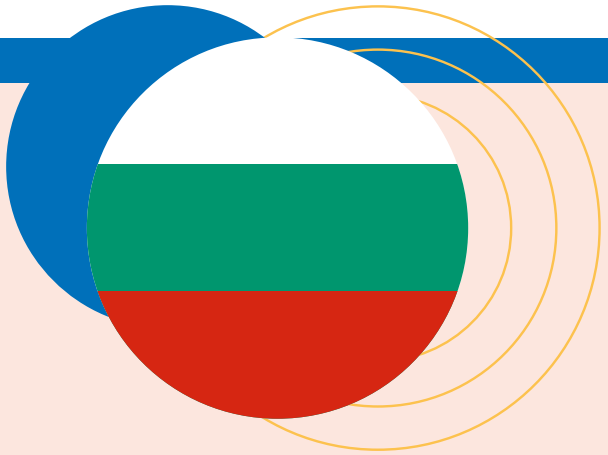
Articles 6 EED and 9.1 EPBD

SPL-OSER[23] is a publicly owned energy service company in Auvergne-Rhône-Alpes in France, that provides holistic design and implementation of deep energy renovation projects for public buildings. SPL OSER has been operating since 2012 with a total intended budget of around €78 million (own budget, but the company also raises funds from other sources). In 2024, it had 27 completed renovation projects, with 10 renovation projects[24] ongoing. For the completed projects, the reduction of primary energy consumption reaches as far as 70%.

Lessons learned: SPL-OSER showcases how a single entity can provide positive collaboration between different local authorities and different levels of policy-making actors (national, regional and local). By combining financial support from its own funding facility with other funding streams at different levels, it can act as a reliable financial partner for public authorities while bringing all actors of the projects together. These types of companies/actors are essential for scaling up deep renovation projects for public buildings to reach the objective of EED Article 5 and 6.

[23] SPL-OSER

[24] See for instance the renovation of the Ecole Louis Pergaud à La-Motte-Servolex (French)



Bulgaria

SUCCESS STORY 10

National Decarbonisation Fund

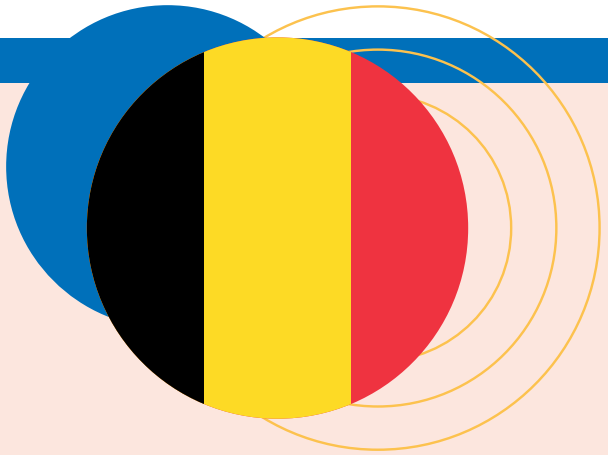
Article 8.1 EED

The Bulgarian National Decarbonisation Fund[25] is one of the main financing schemes in the country to support the renovation of the building stock in Bulgaria, in line with its building renovation plan.[26] It strives to facilitate the access of projects to private finance, from local banks to international financial institutions, to improve the lending process and increase the availability of funds over the period of 2021-2030. The fund targets not only the residential sector, but also industry, transport, infrastructure, and the public sector. As a result, an estimated 2.9 Mtoe of cumulative energy saving is expected to be delivered by this measure.

Lessons learned: This measure showcases a way to create a unique funding instrument for decarbonisation measures with a strong focus on energy efficiency, bringing together multiple financial institutions to maximise access to and the availability of financing.

[25] For more information about the fund, see the EIB's final completion report of the Bulgarian National Decarbonisation Fund

[26] Bulgaria final NECP update



Belgium

SUCCESS STORY 11

Energy efficiency financing programme for low-income groups

Article 8.3 EED

The Belgian region of Flanders has in place a comprehensive programme to financially support the renovation of its building stock, with different instruments and different levels of support tailored to income levels. Some programmes include the "My Renovation Grant" - with 50% financial support for low-income groups, public low-interest loans with interest rates adapted according to income, zero-interest bullet loans,[27] and a grant of €250 for buying energy efficiency appliances. The programmes combined, with a total budget of about €1.5 bn, have high registration numbers, with about 300,000 applications for the renovation grant.

Lessons learned: Flanders' approach demonstrates how a diversified range of instruments can effectively be used to support building renovations for low-income households by addressing different needs and barriers, including lack of upfront capital, low awareness, and insufficient capacity to progressively repay loans.

[27] A loan with a large payment first and the final payment at the end of the loan, with no monthly payments needed.

II Fostering a secure, resilient, and integrated energy system

Energy efficiency contributes to making the EU energy system more independent, secure, and resilient to unpredictable shocks. By reducing overall demand and the need to import fossil fuels, energy efficiency acts as the first line of defence, protecting the EU from import disruptions and price volatility.

In 2023, total energy savings amounted to 428 Mtoe, with 58% from final users and 42% from power sector – almost making energy savings the "first fuel" in the EU, just slightly behind oil; **considering savings from 1990, energy efficiency would be EU first fuel in 2023,[28] significantly contributing to the EU's energy security.** This also translates to significant savings for the EU: thanks to energy efficiency gains, the EU's fossil fuel import bill is projected to drop by €33 bn in 2030 and €70 bn by 2040.[29]

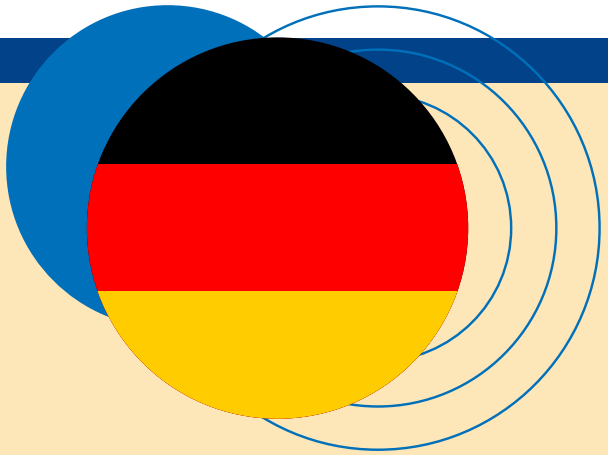
1%
energy efficiency
=
-2.6%
gas imports

Similarly, for every 1% improvement the EU makes in energy efficiency, it cuts its gas imports by 2.6% – contributing to an **expected reduction of €33 bn on the EU's fossil fuel import** bill by 2030. On the contrary, missing the mark on energy efficiency we lead to significantly more imports: according to the European Commission, if no action is taken to bridge the energy efficiency gap between Member States' cumulative contributions and the EU 2030 energy efficiency target, the EU will need to import an additional 60 million barrels of oil and 6 billion cubic meters of natural gas to cover the additional consumption needs.[30]

Energy efficiency can also be a resource for the energy system and has a key role to play in enabling flexible consumption patterns and lowering peak demand, facilitating a more manageable and affordable electrification process, avoiding unnecessary investments in oversized infrastructure. For example, smarter and more flexible energy consumption could reduce future electricity grid investment needs by up to 35%[31] compared to a situation without energy efficiency improvements, saving the EU up to €344 bn in total energy system costs by 2040.[32]

The EED is already driving progress on this front, with measures across Europe leveraging energy efficiency to benefit the wider energy system and driving progress on smarter, flexible consumption.

[28] Energy efficiency in time of crisis at EU level – Odyssee-Mure
[29] Energy Efficiency: A new impetus to reduce energy consumption – European Commission
[30] Energy efficiency awareness – European Commission
[31] Energy Efficiency: A new impetus to reduce energy consumption – European Commission
[32] See the study: Flattening the peak demand curve through energy-efficient buildings: A holistic approach towards net-zero carbon



Germany

SUCCESS STORY 12

A virtual power plant in the Jena-Lobeda neighborhood

Article 3 EED

JenErgieReal[33] is a pilot project that began in 2022 in the Jena-Lobeda neighborhood in Germany, aiming to make the city digitalised and integrated through an intelligent heating control system to deliver energy savings. Funded by the Federal Ministry of Economic Affairs and Climate Action, the project aims to build a virtual power plant that interconnects energy generation, district heat distribution, and consumption through a shared digital infrastructure by 2027, automatically balancing between the capacity utilisation in the electricity grid and the supply and demand of end consumers. Although the project is still underway, the intelligent heating control system alone has already reduced the heat required per square meter of living space by around 30% in participating buildings.[34] These results were achieved without compromising comfort and have prepared the systems for low-temperature district heating and renewable energy integration.

Lessons learned: JenErgieReal offers a blueprint replicable by other Member States and local governments, showcasing that by connecting heating systems to the grid and managing them intelligently, energy and heat demand can be automated, optimised and reduced.

[33] JenErgieReal - Stadtwerke Jena

[34] JenErgieReal: Digitalisierung für die Energie- und Wärmewende

The Netherlands

SUCCESS STORY 13

The Wattnu energy community

Articles 8.1 and 25.6 EED

Wattnu[37] is the local energy community of Gooise Meren, in the Netherlands. It is run by more than 100 volunteers, and it is supported by more than 2000 members. Wattnu is working with partners to transition towards a sustainable alternative to natural gas: in Muiderberg, a village in the municipality of Gooise Meren, it is contributing to create a local collective heat network that uses the thermal energy from the river IJmeer (Muiderbergse Heat Network for the Future). The construction of the heat network started in 2021, thanks to a €1.5 million loan from the municipality of Gooise Meren. The municipality of Gooise Meren is developing a Neighborhood Implementation Plan for the energy transition for each neighborhood and Wattnu helps its members, through energy coaches, to choose the best heating solution depending on whether the house is located in a neighborhood, where there are plans for a collective heat network, and by providing advice on insulation to make the building heat-network ready. Wattnu also organises collective purchasing campaigns covering, among others, insulation solutions, heat pumps and solar panels.

Lessons learned: The Wattnu energy community is an example of how citizen engagement can drive a more secure and independent energy system in which the gas-powered heat network can be replaced by local sustainable renewables solutions coupled with energy savings measures. The presence of local heat and cooling plans, as also required by the EED Art. 25, gives clarity to citizens about the energy transition in their neighborhoods while tailored advice by the energy community enables citizens to act.

[37] Wat kan Wattnu voor je doen?

Poland

SUCCESS STORY 14

The Clean Air Programme

Article 8.1 EED

In 2018, Poland started the Clean Air Programme,[38] a national financial scheme to support building renovations designed for owners of single-family residential buildings, including the replacement of old fossil-fuel based heating devices into modern and decarbonised electric heating technologies, including heat pumps, with €22bn earmarked for the programme. The initiative involved about over 2,000 local communities. In early 2025, the next phase of the programme was presented[39] with new elements, including with subsidies up to 100% for the poorest, mandatory confirmation of the energy performance of the building before and after the investment, via an energy audit, and the end of subsidies for gas boilers.

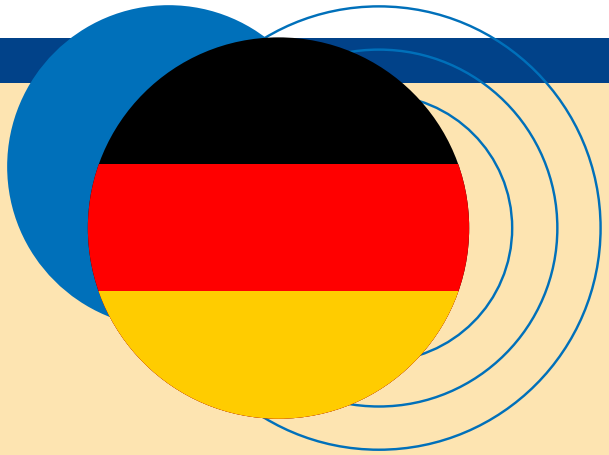
The Clean Air Programme is reported by Poland under the Energy Savings Obligation in the EED. According to estimations from the ENSMOV+ project,[40] the programme could reach cumulative savings of about 11,000–12,000 ktoe over the 2021-2030 period, which would amount of about 25% of the Polish Energy Savings Obligation.

Lessons learned: By taking a holistic approach to building renovation, combining thermal insulation and the replacement of old heating systems, the Polish Clean Air Programme shows how the Energy Savings Obligation under the EED can be used to support electrification and decarbonisation of heating systems, together with building insulation.

[38] Poland's Clean Air Programme – Policies - IEA

[39] Clean air 2025. Conditions and rules in the new program of the program - Polish News

[40] Factsheet (unpublished), ENSOMOV Plus project.



Germany

SUCCESS STORY 15

Setting efficiency standards for data centers

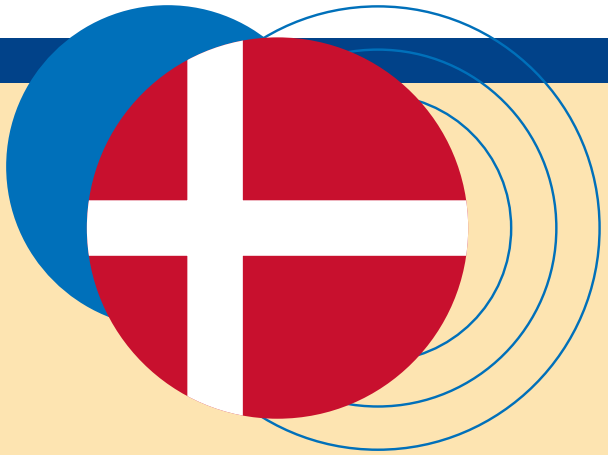
Article 12 EED

In its Energy Efficiency Act,[35] entered into force in November 2023, Germany sets requirements for its data centres, as it holds the second-highest number of data centres worldwide.[36] The Act sets different standards of Power Usage Effectiveness (PUE, which describes how efficiently a computer data center uses energy) based on when the centre started operations: data centres that came into service before 1 July 2026, must have a PUE of 1.5 by July 2027 and of 1.3 by July 2030; data centres that start operations after 1 July 2026, must have a PUE of less than 1.2. The Act also requires data centers to have an energy management system by 1 July 2025 or to report specific data to a national register. The German ministery indicates that this measure will deliver 0.4 Mtoe of cumulative energy savings over the 2020-2030 decade.

Lessons learned: The German efficiency act offers a blueprint for other Member States in setting higher standards for the energy efficiency of data centers. This measure can be seen as a step forward when transposing EED Art.12, going beyond the reporting of consumption data of these data centers. By creating a framework based on minimum energy efficiency standards for data centers, Germany is also granting visibility and predictability for operators, leading to higher investment in research and innovation.

[35] See the Federal Energy Efficiency Center presentation

[36] Countries with the Largest Number of Data Centres – Straits Research



Denmark

SUCCESS STORY 16

The Odense data centre

Articles 3 and 12 EED

A new data centre opened in 2017 in the Danish city of Odense; it was designed to be highly energy-efficient both in terms of internal technologies used (hardware and cooling technologies) and by reusing the heated air it generates. The wind-powered data center has a specific infrastructure set up to share the increased heat, by using a heat pump, to the district heating network. This process enables the recovery of 100,000 MWh of energy per year that warms around 7,000 homes.

Lessons learned: The Odense data center shows the energy savings potential of a better planning process when it comes to data centre and in general tapping into the potential of excess heat recovery to warm nearby homes or industries, namely through a district heating & cooling system, which could be widespread through measures presented in the upcoming Data center package.

From Practice to Progress: Lessons from the Ground for Future Action

Energy efficiency actions are already delivering benefits on the ground. While the uptake of energy efficiency measures across sectors could be faster, the new energy efficiency legislative framework is driving the widespread implementation of actions by countries, local authorities, businesses, and citizens.

The success stories we present in this report are just a few examples of how energy efficiency is progressing across the EU; they offer insights on how policies and measures at different levels can best be designed, providing inspiration to policymakers and other stakeholders alike. In particular, **the following success factors and insights can be highlighted and leveraged to both further support the implementation of the EED and to inform the effective preparation of several upcoming initiatives,** such as the Citizens Energy Package, Affordable Housing Plan, Electrification Action plan, Heating & Cooling Strategy and Data Center package.

Lessons learned and recommendations to accelerate energy efficiency action

SUCCESS STORIES 3 AND 15

Set a clear long-term framework for increasing energy efficiency:
Strong and robust regulation offers clarity to all actors, from businesses to local authorities and citizens, about the expected efficiency improvements and the timeline to achieve them. The positive signal given by clear and forward-looking regulation stimulates demand, unlocks investments in energy efficiency to boost manufacturing capacity and skills development.

How to translate this into upcoming EU initiatives?
At EU level, the EED and EPBD grant a long-term perspective to all actors, leading to the adoption of new energy efficiency measures by Member States. The stability of the energy efficiency legal framework to 2030, as well as its continuation to 2040 including with EU binding targets, is crucial to ensure businesses mobilise investments and skills to deliver energy efficiency solutions. In that context, any simplification agenda should be carefully balanced against the risk of negatively interfering with the implementation of the efficiency legal framework and jeopardising the regulatory certainty that it has created for businesses and investors.

SUCCESS STORIES 12 AND 16

Recognise energy efficiency as a resource for the energy system:
Energy efficiency is a resource for the EU energy system on par with supply side options. Integrating consumers in the energy system through demand side solutions, including digital energy management systems, can reduce the need for additional generation capacity and ease pressure on the grid, especially during moments of high demand. Such measures can reduce both the overall energy demand and help to shave peak loads in the system, reducing strain on the grid and consequently contributing to a more affordable and manageable electrification process and stable energy costs.

How to translate this into upcoming EU initiatives?
The upcoming Electrification Action Plan should highlight the positive synergies between electrification, renewables and energy efficiency and consider the Energy Efficiency First principle as a basis for an efficient, highly electrified and renewables-based EU energy system. Competition for renewable and affordable energy between electrifying industries and households must be reduced by prioritising building energy efficiency, demand flexibility and efficient heating and cooling technologies to lower overall energy demand and optimise grid capacity for electrification. To do so, empowering consumers in controlling and managing their energy consumption is the starting point.

SUCCESS STORIES 2,3 AND 4

Support industries to deploy energy efficiency solutions to improve their competitiveness:
Energy efficiency technologies act as an enabler of EU companies' competitiveness; by introducing energy efficiency solutions, industries can lower their energy use, saving on their operational costs.

How to translate this into upcoming EU initiatives?
Several new instruments are in the pipeline to help companies improve their competitiveness, namely as a follow-up to the Clean Industrial Deal. Those instruments, such as the proposed European Competitiveness Fund, should promote and support the uptake of energy efficiency solutions in industries as a key vehicle to keep energy costs in check and increase competitiveness. A portion of the European Competitiveness Fund should be earmarked for energy efficiency improvement.

SUCCESS STORIES 6 AND 8

Make use of the full range of EU funding opportunities available to finance energy efficiency:

Energy efficiency projects can be supported by financing schemes whose primary aim is not necessarily to achieve energy savings, such as the European Union Structural Funds and the EU Solidarity Fund. Leveraging the wide range of EU financing instruments and the different opportunities they can offer, alongside the development of funds targeted to energy efficiency, is a crucial strategy to close the energy efficiency financing gap.

How to translate this into upcoming EU initiatives?

With the recently presented proposal for the next Multiannual Financial Framework 2028-2035, the tools and financing opportunities for energy efficiency are being rediscussed. Given the multiple benefits of energy efficiency, funding for the uptake of energy efficiency products, technologies and services should be mobilised through the use of different funds, from the new National and Regional Partnership Plans, the European Competitiveness Fund, as well as other funds not directly intended for energy efficiency.

SUCCESS STORIES 1,2 AND 4

Ensure that more and better energy audits are delivered to tap into EU companies' efficiency potential:

Well-informed companies are more likely to act on their energy efficiency potential. This is also one of the key conclusions of a new EIB report. Member States can support companies, both financially and technically, to undergo energy audits and incentivise them to act on their recommendations. Spain, for instance is putting in place ambitious financing measures to support companies to improve their energy efficiency through audits, also as a way to transpose Article 11 EED.

How to translate this into upcoming EU initiatives?

As 99% of European companies are SMEs,[41] the announced new EIB scheme for SMEs is a welcome initiative to grant more financing to small businesses to improve their energy efficiency through, among others, audits. The scheme should support companies throughout their energy efficiency journey, from carrying out energy audits to supporting them in installing energy efficiency solutions. The EIB scheme should also monitor results, in terms of energy savings and cost savings achieved, to track progress and adjust if needed.

[41] SMEs - Internal Market, Industry, Entrepreneurship and SMEs

SUCCESS STORIES 13

Support energy efficiency action at the local level by empowering consumers and communities:

Energy communities play a crucial role in making energy efficient solutions more accessible and acceptable to citizens, especially when the path for the local energy transition is clear. By being engaged in an energy community or being contacted by one of their volunteers, homeowners can receive better advice based on the neighbourhood energy planning, build trust, and access specific support.

How to translate this into upcoming EU initiatives?

The upcoming Citizens Energy Package should enable local actors to drive citizens' action. It should include support for energy communities, for example through additional financing and recognition, such as the possibility to be supported for acting as one-stop-shops. As many energy communities are also facing barriers to accessing banks and receiving loans, raising awareness in the banking sector about the structure and role of energy communities is essential.

To further reinforce local action, the Heating and Cooling Strategy should support municipalities and regional and local authorities to prepare local heating and cooling plans under EED Art. 25 that are fully compliant with the Energy Efficiency First principle.

SUCCESS STORIES 7 AND 11

Define different financial instruments to properly tackle energy poverty:

One of the root causes of energy poverty is that vulnerable consumers are more likely to live in buildings with poor energy performance that are equipped with inefficient heating systems and appliances, leading to high energy bills. As socioeconomic status and housing conditions vary across households, it is essential that financial and other support instruments take these varying realities into consideration. A wide range of complementary and well-targeted policies, including financing and technical instruments, are crucial to best overcome the barriers households face to improving the energy performance of their homes.

How to translate this into upcoming EU initiatives?

The upcoming Citizens Energy Package should give guidance to Member States on the best measures to adopt to tackle energy poverty, depending on their national circumstances. It should also improve the understanding of energy poverty at EU level, for instance via an EU-level monitoring mechanism to harmonise the different national methodologies, statistics and indicators to measure energy poverty to adopt better, and more targeted, policies.

SUCCESS STORIES 8 AND 10

Accelerate the renovation of buildings to provide a structural response to rising energy bills:

With the energy crisis, energy bills for businesses and citizens, including the most vulnerable, were fittingly put at the forefront of EU's priorities. Building renovations provide a structural, long-term solution to lower and make more predictable citizens' energy use, and by extension, their bills. Governments are putting in place important renovation programmes to reduce citizens' energy bills, namely in the framework of the implementation of the EPBD.

How to translate this into upcoming EU initiatives?

We recommend that the upcoming European Affordable Housing Plan adopt a strong focus on improving the energy efficiency of existing buildings, rather than focusing only on new constructions, in particular for social housing. The plan must present new enabling measures to support Member States, local actors, industries and citizens to meet their EPBD goals. Similarly, the plan must base itself on a holistic and long-term definition of affordability that goes beyond housing costs to include resilience against external shocks, energy performance, health standards, and climate adaptation of our homes.

SUCCESS STORIES 8 AND 10

Energy efficiency policy drives electrification and fossil-fuel phase-out

Energy efficiency measures and policies have a strong role in driving electrification and decarbonisation of heating and cooling, particularly in the residential sector, reducing energy use and lowering dependence on imported fossil fuels. The new Energy Savings Obligation, which progressively excludes the energy savings stemming from fossil fuel combustion in all sectors, including buildings, is a driver for Member States to support electrification and decarbonisation of heating within building renovations.

How to translate this into upcoming EU initiatives?

The upcoming Electrification Action Plan and the Heating & Cooling Strategy must build on the existing energy efficiency policies and incentivise an integrated approach to renovations and electrification in the building sector. They must recognise that the correct implementation of existing energy efficiency policies, as the Energy Savings Obligation in the EED, will encourage the switch to electrified and renewables heating and cooling solutions.

SUCCESS STORIES 6 AND 9

Ensure that public buildings play their exemplary role:
Public buildings are the first movers in the transition to a highly energy efficient and decarbonised building stock. Also, given local authorities' limited public budget, it is important they cut their operating costs. Investing in energy efficiency can achieve this, while simultaneously increasing public authorities' resilience to unpredictable shocks and crises and improving the comfort and health of Europeans who work in and use these buildings. With the goals enshrined within EED Art. 5 and 6, and EPBD Art. 9.1, the legal framework contains crucial provisions to tap this potential. Increasing the efficiency of public buildings is already happening on the ground and deep renovations must continue and accelerate.

How to translate this into upcoming EU initiatives?
Future initiatives should help create business models to support regional and local authorities in renovating the buildings they own and occupy. For example, dedicated Energy Performance Contracts could be set, with payment options adapted to the local authority's capacity, and supported by EU and national financing streams. Such measures are necessary to meet the goal of EED Art. 5 & 6 and EPBD Art 9.1 EED and to enable citizens, including the most vulnerable, to have access to energy efficient and modern schools and hospitals.

Conclusion

Energy efficiency delivers – by cutting energy costs and increasing competitiveness, making the energy transition more just and affordable and creating a secure, resilient and integrated energy system. **Now, to extract the full benefits of energy efficiency and cement its role as a leader on the global stage, the EU must set the right course for the next decade of the EU energy efficiency legislative framework.** The success stories described in this report provide a blueprint to do this. Most importantly, they are a testament to the fact that a robust and comprehensive legal energy efficiency framework works.

The European Union must maintain this momentum and accelerate energy efficiency action. First, it must prioritise and ensure the implementation of the existing energy efficiency legislative framework. Second, it must take this framework as the basis for any future initiatives and legislation, ensuring that these are complementary and additional to what is already delivering. Finally, it must ensure the continuity and ambition of this framework as the first prerequisite for stakeholders to continue investing in energy efficiency.

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