POLICY BRIEF

WHAT BUSINESSES NEED TO IMPLEMENT MORE SUSTAINABLE ENERGY MEASURES

EUREM next
European EnergyManager

The EUREMnext project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 785032.

EUREM and EUREMnext CONTEXT

This policy brief is one of the results from the EUREMnext project.

The EUREM European EnergyManager course is a standardized training of further education that enhances the skills of technical experts in the field of energy efficiency improvement. This qualification programme is offered in about 30 countries world-wide and covers nearly all energy-relevant issues which can arise in companies.

The courses combine theory and practice: Face to face teaching by experienced trainers and professionals gives participants the opportunity to gain the relevant theoretical background or update their knowledge. In addition, the preparation of a so called “energy concept” is a compulsory and very important element. Participants examine in detail a solution to one energy challenge of their company or, in the case of consultants, of one of their clients, including the technical concept and the analysis of financial viability. They receive mentoring and coaching by the EUREM trainers and present their concept to a jury as part of their course examination.

Many of the proposed measures are implemented afterwards, providing a direct environmental and business benefit from the training.

The EUREMnext project introduced the training in six new countries, added online modules with additional relevant topics, and strengthened the EUREM network worldwide, for example by allowing the organisation of two international conferences on Energy Management topics.

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To find out more, please visit
https://www.energymanager.eu/en/ and
https://www.energymanager.eu/en/euremnext-project/

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1 EXECUTIVE SUMMARY

This policy brief provides a glimpse on what factors constitute obstacles to sustainable energy measures in businesses, and what measures help overcome them. It summarizes the perspective of persons that have successfully completed the EUREM European EnergyManager course. This means, they are respondents with in-depth knowledge about energy issues, practical experience, and insight in energy matters in their organisation.

This document draws on an online survey conducted in summer 2018 among the international EUREM alumni network, which is deeply rooted in the European Union, but spans over 20 countries from Argentina to Ukraine. It also includes information from telephone interviews with recent course graduates in 12 European countries. In both cases, the question to the alumni was, whether the sustainable energy measures they elaborated during their training had already been implemented, and if not, what were the reasons, and what support they and their organisations (or their clients, in the case of alumni working as energy consultants) would need to achieve more.

Many of these follow-up calls took place in the year 2020, which was characterized by the outbreak of the COVID-19 pandemic This health and economic crisis severely exacerbated factors that also hinder the implementation of projects in “normal” times, such as economic uncertainty, budget constraints or lack of time of key personnel.

The results from the surveys were consistent with those of earlier studies, that the economic viability of the individual investment projects and the availability of funding (or lack thereof) are major factors when it comes to the investment decisions. They highlighted again, that support programmes, especially grants, play a very important role in enabling investments in energy efficiency or integration of renewable energies, to receive the “green light”.

Given that, in many cases, staff have limited time to dedicate to planning sustainable energy measures in addition to their other daily workload, a reduction of administrative burden (both company-internally and externally) and funding for specialist support, such as with technical preparation of the project and with identifying and applying to suitable funding programmes, is also very valuable.

The following page summarizes the recommendations derived from these inputs.

The pandemic also brought about new types of obstacles to project implementation, such as restrictions of access to buildings impeding on-site visits by planners, external experts or installation teams. Another example are closures of premises for extended periods of time, or offices being operated for months with significantly fewer people than normal, making it impossible to take representative energy consumption measurements as a reliable basis for the calculation of savings measures.

Towards the end of 2020 and in 2021, however, project partners could perceive optimism returning, as some project implementations previously put on “hold” were on the way, or were considered realistic for the time after the most severe impacts of the crises would have subsided.

MAIN RECOMMENDATIONS

Recommendations for policy makers

- Provide a **stable legal framework** to give businesses a reliable basis for their investments. **Avoid abrupt changes in legislation or support schemes.** Announce changes with sufficient lead-time, so that businesses can adjust and plan ahead.
- **Offer incentive schemes and financial support** for sustainable energy measures (for investments in energy efficiency, renewables and flexibility, but also for external energy consultancy/energy audits and for implementing energy management system), and ensure that these programmes are designed to offer support **reliably**, with **clear criteria** and **avoiding highly complex application and administration procedures**.
- **Ensure** that the legal framework enables and **facilitates energy services** and **business models** for energy investments. Their financing and risk-sharing options can enable private and public organisations to realize projects they could not afford otherwise.
- **Reduce bureaucratic burdens related to sustainable energy investments,** and more generally. This frees up company-internal resources to make improvements in productivity as well as tackle the transition to sustainable energy solutions.
- Continue to **raise awareness on sustainable energy matters** in the general public as well as in the business target group.
- Ensure that **high-quality education and training programmes** − both for energy managers in businesses and for energy consultants and auditors − are available in your country.

Recommendations for businesses

- Ensure that **any purchasing decisions or planning steps** with regards to buildings, production and energy infrastructure, equipment, or vehicles **consider the energy efficiency and emissions reduction perspective** and involve relevant staff members.
- When evaluating investments in energy efficiency or renewable energy sources, **avoid focusing too strongly on an extremely short payback time**, and use several complementary financial indicators to evaluate also the long-term benefits.
- **Support your energy manager(s)** - whether they are formally nominated as such or “only” staff especially committed to this topic - with **recognition** for their role from management as well as **possibilities for related training and experience exchange**.

Recommendations for business support organisations

- **Provide information** on the most recent developments, in sustainable energy technologies, the related legal framework, and support and financing schemes.
- Initiate and/or participate in the **communication and dissemination of good practices**.
- Ensure that **high-quality education and training programmes** on sustainable energy practices and decarbonisation in businesses are available in your country.
- Facilitate the **exchange of experience for energy staff** of businesses**.**

2 AIM AND SOURCES OF THE POLICY BRIEF

Alumni of the EUREM European EnergyManager course have in-depth knowledge about energy issues and practical experience and insight in energy matters in their own organisation or in the organisations, which they support as consultants.

The first element that feeds into this document is an online survey conducted among the international EUREM Alumni network in summer 2018. Chapter 3 summarizes its outcomes.

The second element are the outcomes of telephone interviews with alumni, who finished their Energy Manager course recently. As part of the EUREMnext project, partners from all twelve countries involved contacted the training participants several months after the end of the courses. Chapter 4 summarizes the gist of these interviews, many of which took place during the COVID-19 pandemic in 2020 or the beginning of 2021, together with the insights that project partners gain in their everyday contacts with businesses, energy managers and energy auditors from different organisations.

In both cases, the energy managers were asked whether the sustainable energy project (energy efficiency or integration of renewable energy generation) they had prepared as part of their course assignment had already been implemented, and/or whether any other such projects were carried out. Overall, the EUREM energy concepts have relatively high implementation rates, as the present and earlier surveys have shown. If projects were not yet realized, both the online survey and the telephone interviews asked for the reasons.

The aim of this policy brief is to collect these insights about which obstacles hinder the implementation of sustainable energy measures in these businesses and organisations, and about what framework conditions and support are needed in their opinion in order to enable them to contribute to reaching the Paris Climate goals, and at the same time maintain their competitiveness, and make them available.

3 RESULTS FROM THE ALUMNI SURVEY

3.1 Survey settings

This chapter draws on the results of a survey among the international alumni network of the EUREM European Energy manager course. Answers were collected in an online questionnaire from July to September 2018.[1]

Participants were asked to provide information about the energy projects they implemented (project concepts developed during their EUREM trainings as well as additional energy projects), about barriers hindering project implementation and support they would need in order to realise these and possible additional projects.

[1] The countries with the most answers to this survey were Germany, Slovenia, Czech Republic, Austria, and Spain. The other respondents came from, Argentina, Belarus, Brazil, Chile, Cyprus, Egypt, Greece, Hungary, Mexico, Moldova, Poland, Slovakia, South Africa, Ukraine, and Uruguay.

Of the 204 responses from 20 different countries, about one fifth came from non-European countries, the rest from European countries. Approximately one third of the answers came from small or medium sized enterprises (SME[2]).

In EU countries the implementation rate of EUREM course projects, i.e. the share reported by respondents as completely or partially implemented or as planned to be implemented was 81%. In non-EU countries this figure was 85%. The degree of implementation of projects increases with time. **78%** of all projects were either **partially or completely implemented** of EUREM course participants who completed their course **before 2015**. This value sinks to **73%** of EUREM course participants from **2015/2016**, and to **44%** for participants from **2017/2018**. This fact is probably due to long(er) term energy projects and that projects must be budgeted for the following year(s) before they can be implemented.

The share of projects that were still planned to be implemented from course years 2015 or earlier was very low. This indicates that if projects are not implemented within 2 to 3 years after completion of the EUREM course, the probability that implementation will still take place is low.

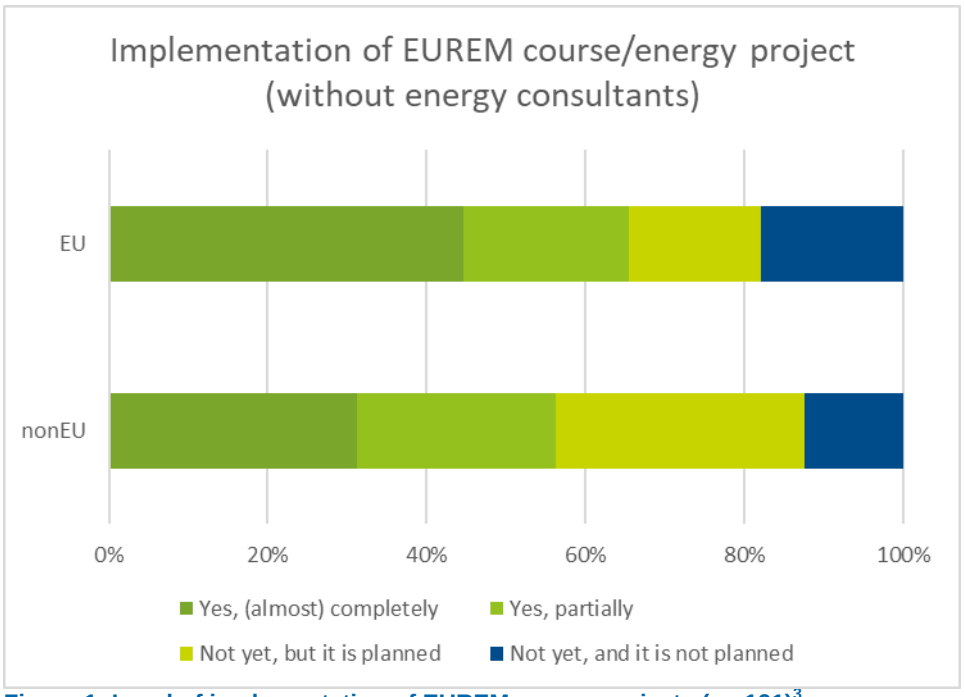

Figure 1: Level of implementation of EUREM course projects (n= 191)[3]

[2] In this text, the term “small and medium sized enterprise” (SME) is used shorthand for organisations with up to 250 employees. This does not exactly reflect the EU SME-Definition, which excludes the public sector (included in the sample here) and considers factors such as balance sheet total and turnover.

[3] As most questions were of the "optional" type, some respondents skipped individual questions, others only completed the questionnaire up to a certain point. Therefore, percentages or numbers given in this chapter always refer to the number of respondents who answered that specific question.

3.2 Barriers to the implementation of sustainable energy measures

In many organisations, there is potential for energy efficiency improvements, but these savings remain unrealized for various reasons. This part of the survey aimed at getting a perspective on the reasons.

Participants were asked the question "When energy efficiency or renewable energy projects are not implemented, how important are the following reasons in your company?" Participants were given the possibility to evaluate the importance of a given set of factors by assigning the values "very relevant" (4), "relevant" (3), "less relevant" (2) or "not relevant" (1) to each of them. Figure 2 shows the ranking for the whole set of factors.

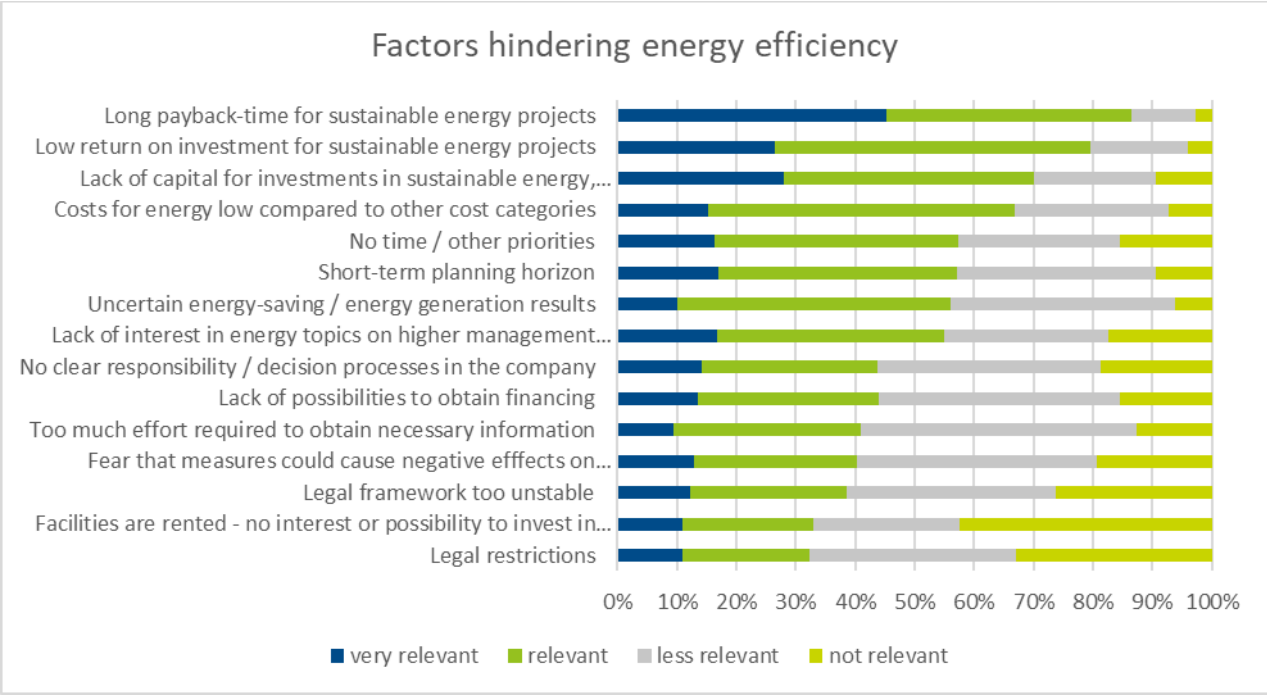

Figure 2: Barriers to energy efficiency (n = 149 on average)
In some lines in this figure, the text is not fully visible. The full text is as follows:

- Lack of capital for investments in sustainable energy, other investments take priority;
- Lack of interest in energy topics on higher management level;
- Fear that measures could cause negative effects on operating procedures / product quality;
- Facilities are rented – no interest or possibility to invest in them

The factor attributed the highest importance was "Long pay-back time for sustainable energy projects" (average 3.29), closely followed by "Low return on investment for sustainable energy projects" (3.02) and "Lack of capital for investments in sustainable energy, other investments take priority" (2.88).
"Legal restrictions" (average value 2.1), and "Facilities are rented – no interest or possibility to invest in them" (average value 2.01) were considered the least important factors.

Figure 3 depicts the results from respondents in EU and in non-EU countries separately. It plots the averages of the values attributed to the individual factors, ranging from 4 (very relevant) to 1 (not relevant).

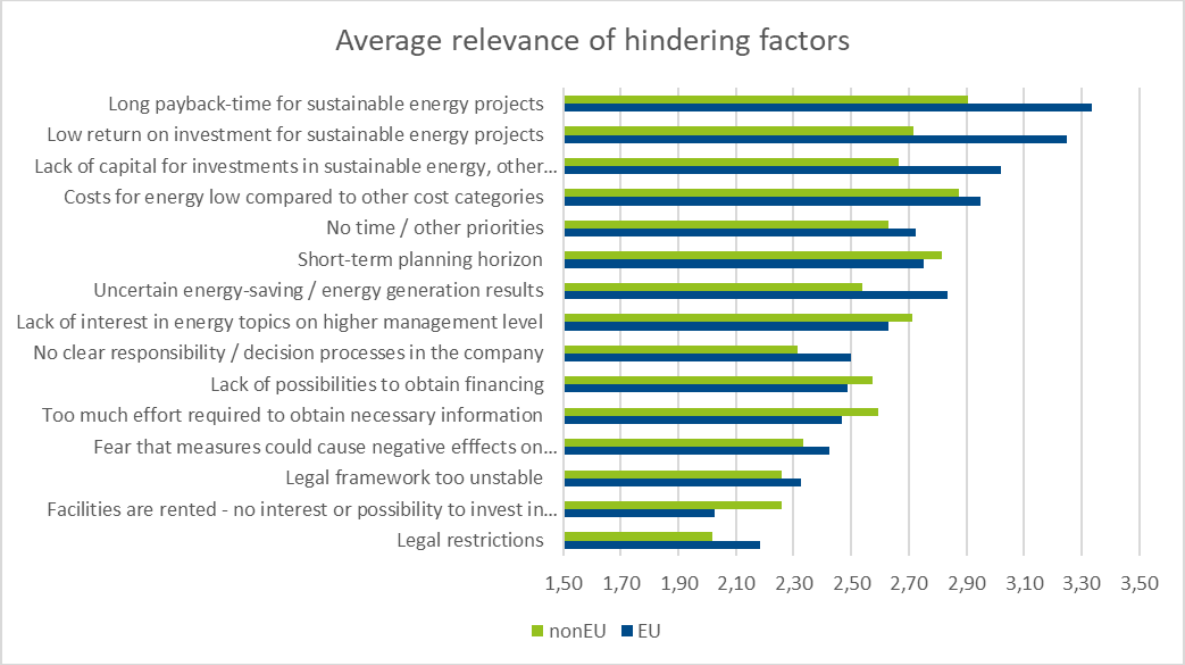

Figure 3: Average relevance of hindering factors clustered by EU / non-EU countries (n= 146 on average)

A few slight **differences between EU and non-EU countries** can be observed:
For EU countries the first three hindering factors: “Long payback-time for sustainable energy project” (3.3), “Low return on investment for sustainable energy projects” (3.2) and “Lack of capital for investments in sustainable energy, other investments take priority” (3) are considered the most relevant ones. The values in brackets always indicate the average relevance of the particular factor.
For non-EU countries, however the most relevant factors are: “Long payback-time for sustainable energy project” (2.9), “Short-term planning horizon” (2.9) and “Costs for energy low compared to other cost categories” (2.8).

The answers to the question „What is the **maximum payback time** on energy efficiency investments your company accepts“ indicate that the majority of companies require that the investment should be repaid within 2 to 5 years, both in EU and non-EU countries. However, there are also those, who indicate considerably longer pa-back times. Some of these respondents were from public sector institutions or the energy and water supply sector, where longer payback times e.g. of infrastructure investments, are not unusual, but several also were production companies.

A similar survey among EUREM alumni was carried out in 2014/2015 with fewer and slightly different questions. The rating scale ranged from “very relevant” (6) to “not relevant” (1).

Figure 3 shows the reasons listed in descending order of the average importance value in the **survey carried out in 2014/2015 within the EUREMplus project[4].** Overall, the findings are very similar to the ones of the 2018 study.

[4] EU Project EUREMplus – “Boost Energy Efficiency in Manufacturing SME" (2013-2015)

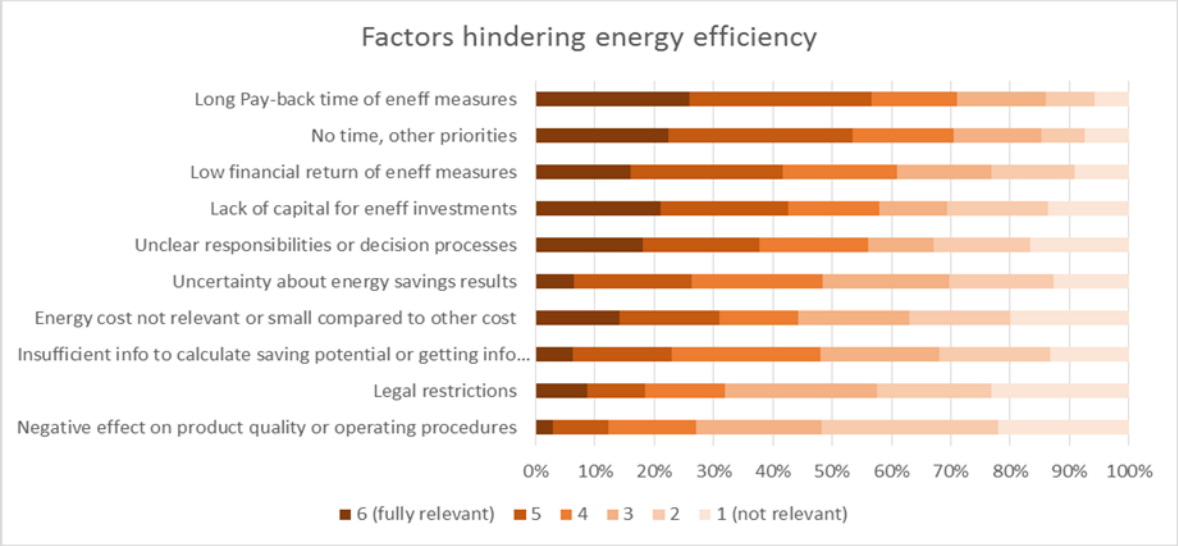

Figure 3: Barriers to energy efficiency (EUREMplus survey 2014/2015) (n = 303 on average)

Both results show that sustainable energy measures must be economically viable in order to be implemented, and that the ability to procure the necessary financing is a major aspect. In addition, there are some factors within the organisation, which can constrain implementation, among which staff not having sufficient time at their disposal to work on the implementation, absence of interest for energy topics at higher management level or unclear responsibilities and/or decision processes.

3.3 Changes in framework conditions, needs for support.

When asked, **„What should be done in your country in general to enable businesses like your company or your client companies to become more energy efficient or use more renewable energies?“,** about 50% of survey participants, both from EU and non-EU countries, gave answers related to the **legislative** framework. Making the legislative framework more stable and rules more transparent, tax issues (e.g. removing taxes on renewable energies or installing a CO_2 tax), and removing/decreasing bureaucratic burdens that slow down projects were common issues.

Public relations and communication are also very relevant and important topics. Improving these, dialogues and networking, providing better and more information about energy efficiency to the public are the most commonly named ideas.

The third most common type of answers consider **more and better subsidies and/or government support** for energy efficiency projects. In many countries where support programs (e.g. via grants) already exist, participants wish to have more information, transparency, predictability, and less complexity within these programs.

Some survey participants mentioned the issue of **energy prices**. If they increase, the implementation of investments in energy efficiency or renewable generation assets becomes relatively more attractive.

Answers to this question did not show any major difference between EU and non-EU countries.

4 RESULTS FROM TELEPHONE INTERVIEWS AND PARTNER'S EXPERIENCE

During the EUREMnext project, all project partners contacted the alumni of the EUREM energy manager training several months after they finished their course, asking them, whether their project had already been implemented, and/or whether the participants carried out any other sustainable energy projects. If that was not the case, they also asked about the reasons and what support the alumni and their organisations would need to implement (more) measures related to energy efficiency and renewables, such as the ones discovered in the course, or recommended as result of an energy audit. This chapter summarizes the responses from the follow-up calls, as well as project partners' experience from their everyday contact with businesses, in their role as chambers of commerce or training providers.

Many of these follow-up calls took place in the year 2020, which was characterized by the outbreak of the **COVID-19 pandemic**. Thus, there **were new types of obstacles** that delayed project implementation. For example: general restrictions of access to buildings impeded detailed measurements or on-site visits by planners, external experts or construction/installation teams; production closures or offices being operated with significantly fewer people present for extended periods of time made it impossible to collect representative energy consumption data as a reliable basis for the calculation of savings measures.
In addition, this health and economic crisis **severely exacerbated factors that already hinder the implementation of projects in "normal" times**, such as economic uncertainty, financial constraints, or lack of time of key personnel, as the answers of our respondents showed. However, in many cases, there was optimism that implementation would be possible once the pandemic subsided.

Overall, the findings are quite consistent with the outcomes of the 2018 survey:

Factors associated with the economical and financial viability of a project were very often mentioned as a reason for delays in project implementation or cases where the realisation probability is considered low.
This concerns, on the one hand, energy-related projects with **relatively long pay-back periods or low return on investment**, and on the other hand the **access to the necessary sources of finance**.
In many companies and also public sector organisations, the budget available for investments is limited, so energy measures compete with other investment projects, like production lines for new products, automation etc. Also, access to bank finance or high interest rates for loans are an issue in some countries.

The need for financial support for investments, especially in the form of grants, but also tax incentives or soft loans, was therefore one of the most prominent factors of necessary support mentioned. It addresses both problematic aspects by making the individual project more attractive and by reducing the demand on the budget of the organisation and enabling to leverage external sources of finance.
In some countries, respondents said that such support programmes were lacking in general, or for specific groups, such as (bigger) businesses, or should be **allocated higher volumes**, especially with a view to stimulating a green post COVID recovery.
Many participants acknowledged the existence of such forms of support in their country and confirmed how important they are, but criticized a **lack of longer-term predictability in their availability,** which makes planning very difficult. Also, the **complexity of finding an appropriate support scheme, the application processes** and **bureaucratic subsidy administration**, and the duration of the

processing by funding bodies were issues. Thus, several alumni mentioned that **more information about the availability of programmes** at EU and national/regional level and the help of consultants to identify suitable programmes and prepare the application would be helpful for them. In very large organisations, there tends to be specialized staff to screen the funding landscape, but in medium and smaller ones this can be a constraint.
Similarly, external specialists for the technical planning of projects are often needed, both for the knowledge they bring in, but also because in-house engineers have very limited time to dedicate to special projects in addition to their everyday workload.
Thus, **financial support to help cover the cost of external experts** is a valuable enabling factor.

In addition, it is considered valuable when there is a variety of **high-quality training programmes** to enable experts to continuously **develop their knowledge** and stay abreast of the fast development in energy-related technologies and the more integrated approaches required for the transformation of the energy system. Many energy managers also mentioned that it is helpful for them to **receive information about new developments**, e.g. on innovative technologies, examples of successful projects, providers of new services, changes in energy related legislation, and about support programmes.

Some causes for delay stem from **internal processes in businesses**, such as lengthy procedures to get budget approval from group headquarters located in other countries, management changes, or **pending decisions about future uses of a specific location or building** (e.g. major reconstruction, relocations, etc.). In the latter case, it is clear that until those decisions are taken, investment proposals related to these facilities are on hold. Another aspect is that most operators try to limit **interruption of production or use of buildings** to a minimum and there are tight schedules for them, e.g. interventions can only be performed during annual factory closure. Some even prefer to wait until other work needs to be made on that part of the process, and then do the energy-related modifications or equipment replacements together in one go, to save costs on the one hand, but also **to avoid disturbing a well-functioning system**.

The **legal framework** with regards to support programmes was already mentioned as a decisive factor that can hamper or foster implementation of sustainable energy projects. Other elements of the legal framework are very important as well. For example, some alumni and project partners expected that recent developments in their countries would trigger implementation of additional projects, such as a **reduction of bureaucracy** (the number of permits needed for installing rooftop PV, in this case), or introduction of **rules that provide clarity about and facilitate new business models,** for example those involving own consumption of renewable electricity ("prosumers"), or ESCO contracts. Rising energy and CO_2-prices were also mentioned as factors that bring energy efficiency projects more strongly in focus.

Whereas the general **level of awareness** of climate change, energy and sustainability matters has greatly increased in the last years, in some countries project partners observed that still, decision-makers don't always fully recognize the benefits of energy efficiency, or the long-term benefits of such projects, which justify evaluating them differently from other investment projects. This seems to be especially true for the not energy intensive sectors.

Awareness raising campaigns including the **sharing of good practice examples** and success stories should thus be continued, targeted both at company management, as well as the consumer side and the general public.

What enables enterprises to implement sustainable energy measures in their facilities and operations? What prevents them from doing so? The answers to these questions are important, given that an improvement in energy efficiency, and the ability to integrate more renewable energy sources are relevant − both from the perspective of the individual company's competitiveness − and as a contribution to the transition towards a more sustainable energy system in Europe.

This policy brief is based on an online survey of more than 200 Energy Managers from 20 countries as well as telephone interviews with recent graduates of the EUREM Energy Manager Trainings in Europe. It sheds light on how they perceive these crucial issues. It also distils recommendations for policy makers how to create an enabling environment for the realisation of energy measures – including those recommended in energy audits – and help trigger its beneficial effects.

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Surveys and interviews conducted by the EUREMnext project partners:
Nuremberg Chamber of Commerce and Industry, Germany; Austrian Federal Economic Chamber, Austria; AHK Services s.r.o., Czech Republic; AEL-Amiedu Oy (Taitotalo), Finland; German-Hellenic Chamber of Industry and Commerce, Greece; ESCAN s.l., Spain; Austrian Institute of Excellence, Albania; DEinternational Poslovne Usluge d.o.o, Bosnia & Herzegovina; Estonian Chamber of Commerce and Industry; Latvian Chamber of Commerce and Industry, Latvia; Chamber of Commerce and Industry of Serbia, Serbia; DEinternational Servis Hizmetleri A. Ş (AHK Turkey & DEAS), Turkey
as well as the following other EUREM providers:
German-Argentine CCI, Argentina; Belarusian CCI, Belarus; German-Brazil CCI, Brazil; German-Chilean CCI, Chile; Cyprus Energy Agency, Cyprus; German-Arab CCI, Egypt; German-Hungarian CCI, Hungary; German-Mexican CCI, Mexico; CCI of the Republic of Moldova, Moldova; Polish Chamber of Commerce, Poland; German-Slovak CCI, Slovakia; Jožef Stefan Institute, Slovenia; Southern African-German CCI, South Africa; Ukrainian CCI, Ukraine; Uruguayan-German CCI, Uruguay

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