

# Solutions for energy efficiency



YEARS OF **EUROPEAN  
LOCAL  
ENERGY  
ASSISTANCE**





# Solutions for energy efficiency

10 years of  
European Local Energy Assistance  
(ELENA)



**European Investment Bank  
Solutions for energy efficiency  
10 years of European Local Energy Assistance (ELENA)**

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# FOREWORD



**Andrew McDowell**  
EIB Vice-President

**T**he European Local Energy Assistance (ELENA) facility is an example of a very successful joint initiative between the European Investment Bank (EIB) and the European Commission. It provides crucial technical assistance for investments in energy efficiency and renewable energy in buildings and innovative urban transport projects.

ELENA is part of the Bank's broader effort to support the EU's climate, energy and transport objectives and the preparation of sound and bankable projects. Since its creation a decade ago, ELENA has supported more than 80 projects with €150 million in grants, mobilising nearly €5.6 billion of related investments leading to more than 30 000 temporary jobs. ELENA helps public authorities and private entities.

ELENA projects are reducing energy consumption and improving the living conditions of citizens around Europe through schemes such as the energy efficiency renovation of hundreds of homes in northern France or the creation of Denmark's first light-rail line.

Under a new joint initiative between the Bank and the European Commission in 2018, Smart Finance for Smart Buildings, we are giving new priority to accelerating energy efficiency projects in existing buildings, with a focus on the residential sector. ELENA is expected to make a significant contribution to such projects over the coming years.

As we celebrate the 10-year anniversary of ELENA, the EIB is very proud of the facility's results on the ground. We remain very committed to cooperating with the European Commission and look forward to ELENA's continued success.

# COMMISSIONERS' STATEMENTS



**Miguel Arias Cañete**

Climate Action  
and Energy Commissioner

**W**ith the new Clean Energy for All Europeans legislative package, the European Union's commitment to energy efficiency is now part of EU law. However, we need to do more. Legislation cannot do it all. To reach our 2030 energy and climate objectives, we need to invest an additional €177 billion a year from 2021 to 2030. Two-thirds of this investment will go to buildings, improving energy efficiency and the comfort of living for residents and contributing to the alleviation of energy poverty.

To unlock these necessary investments, the Commission has three main objectives:

- 1) Better use of public funds.
- 2) Aggregation and assistance to create large-scale projects.
- 3) Lowering the risks of sustainable energy building investments.

The European Local Energy Assistance facility plays an essential role in meeting these objectives. During its first 10 years, ELENA has successfully delivered technical assistance to public and private stakeholders, including municipalities and regions, energy agencies and financial institutions. This assistance has helped them plan and implement large-scale, bankable sustainable energy and transport investments.

ELENA has helped mobilise more than €5.6 billion in sustainable energy and transport investments in schools, social housing, tram systems and rooftop solar systems. Every euro spent on ELENA leads to about €37 in investment, making ELENA a great example of the effective use of public funds. Every year, ELENA has saved 3 600 GWh of energy and 1 300 GWh of renewable energy, avoiding 1.4 million tonnes of greenhouse gas emissions.

The recent allocation of an additional €97 million to ELENA is a clear signal of the high expectations we have for this tool. I am confident that ELENA will continue to play a relevant role in meeting our energy and climate targets, and will provide real benefits to people's lives.



**Violeta Bulc**

Transport Commissioner

**E**nhancing investment in sustainable urban mobility is an essential trigger for the decarbonisation and digitalisation of the transport sector. We should help European cities generate projects that build synergies between the transport and the energy sectors and provide innovative services and solutions for our citizens.

ELENA complements support from other instruments, such as the Connecting Europe Facility for investments in the Trans-European Transport Network, the European Fund for Strategic Investments, and regional and cohesion funds.

To ensure the highest EU added value in sustainable transport, ELENA focuses on the involvement of local or regional authorities, promoting innovative solutions and sharing knowledge. The knowledge created by such cooperation can be replicated in other projects. Building a strong pipeline of sustainable transport projects is essential to pave the way to the next EU budget after 2020.

I am pleased to see ELENA helping all countries, and I am particularly happy to see the interest in technical assistance increasing in the cohesion countries.



**Jyrki Katainen**

European Commission Vice-President  
for Jobs, Growth, Investment and  
Competitiveness

**A**s part of the EU's commitment to the Paris Agreement and the UN 2030 Agenda, boosting investment in energy efficiency and renewable energy is a priority for the European Commission. Before a project can get off the ground and apply for financial support from the private and public sector, it often requires technical assistance. This is where ELENA comes in, providing grants for advisory services and capacity building. This grant can cover costs related to feasibility and market studies, programme structuring, business plans, energy audits, and the preparation of tendering procedures and contractual arrangements.

ELENA has helped create energy-efficient housing in Poland, reduced energy consumption in schools in Romania and retrofitted buses in Spain into hybrids. ELENA has proven to be an effective and flexible programme, tailored to the needs of project promoters.

Through the Action Plan on Sustainable Finance and the future InvestEU Programme, the EU will place even greater focus on supporting sustainable projects, and technical assistance will again be key to attaining the ambitious climate targets. The InvestEU Advisory Hub will provide a central gateway for project development assistance, guiding project promoters to such programmes as ELENA for practical support. Thanks to its success, access to ELENA technical assistance is now also available to private entities, including financial institutions such as banks and funds, which can act as effective aggregators, for instance in residential building investments.

# OBJECTIVES

**The European Local Energy Assistance facility is run by the European Investment Bank on behalf of the European Commission. The facility helps public authorities and private entities implement energy efficiency, renewable energy and sustainable transport projects, thus reducing greenhouse gas emissions.**

European cities and regions have made commitments to significantly reduce their energy consumption and greenhouse gas emissions. However, when they try to start energy efficiency projects, they often face financial constraints and a lack of expertise to oversee the projects, and don't know how to find the right financing.

ELENA staff, with their extensive knowledge and experience, help public and private entities move forward with their projects. The ELENA facility provides expert assistance that helps people implement ambitious energy efficiency and renewable energy projects that can be replicated across the EU.

The ELENA facility helps prepare projects at local, regional and national levels, in order to promote broader use of innovative solutions in energy efficiency technologies, processes, products, policies, organisational models and practices. The objective is to accelerate investments by building experience, facilitating financing and overcoming barriers.

The facility also encourages project aggregation because energy efficiency projects are typically small. Putting several small projects together lowers the transaction costs and makes the projects significantly more attractive to private investors and service providers. To encourage people and support project aggregation, ELENA has a minimum investment level of €30 million. In addition, ELENA can support the efficient use of investment grants from the European Structural and Investment Funds or other national or regional grants

Grants provided by ELENA can be used to improve internal know-how and work capacity (by adding new staff) or to pay external experts for technical assistance. Grants cannot be used to co-finance the investments.

The successful implementation of ELENA projects is assessed on the basis of the leverage factor achieved, i.e. the ratio between the investments implemented and the technical assistance grant provided by ELENA.





# THREE ENVELOPES

ELENA supports energy efficiency in the public and private sectors. As ELENA provides financial support to many sectors, we established eligibility rules for three financial envelopes.

**Sustainable energy:** under this envelope, technical assistance helps prepare energy efficiency and building-integrated renewable energy investments. Eligible projects include energy efficiency in residential and non-residential buildings, building-integrated renewables (such as solar panels), public lighting, district heating (including combined heat and power plants and biomass boilers), and smart grids. A leverage factor of 20 is required for ELENA projects financed by this envelope.

**Sustainable transport:** innovative transport and mobility projects that save energy and reduce emissions are financed by this envelope. Eligible projects include the use of alternative fuels in urban mobility (such as the conversion from diesel to electric buses) and investments in new, large-scale, energy-efficient transport and mobility measures in urban areas (such as tram lines). Projects under this envelope require a leverage factor of 10.

**Sustainable residential:** this envelope focuses on energy efficiency and building-integrated renewable energy projects in existing residential buildings. It covers privately and publicly-owned single-family and multi-family buildings. The minimum leverage factor for this envelope is 10.

## HOW DOES ELENA HELP YOU?

ELENA technical assistance for preparing and implementing investments can involve the following activities:

- technical studies, energy audits;
- business plans and financial advisory;
- legal advice;
- tendering procedure preparation;
- project bundling;
- project management.

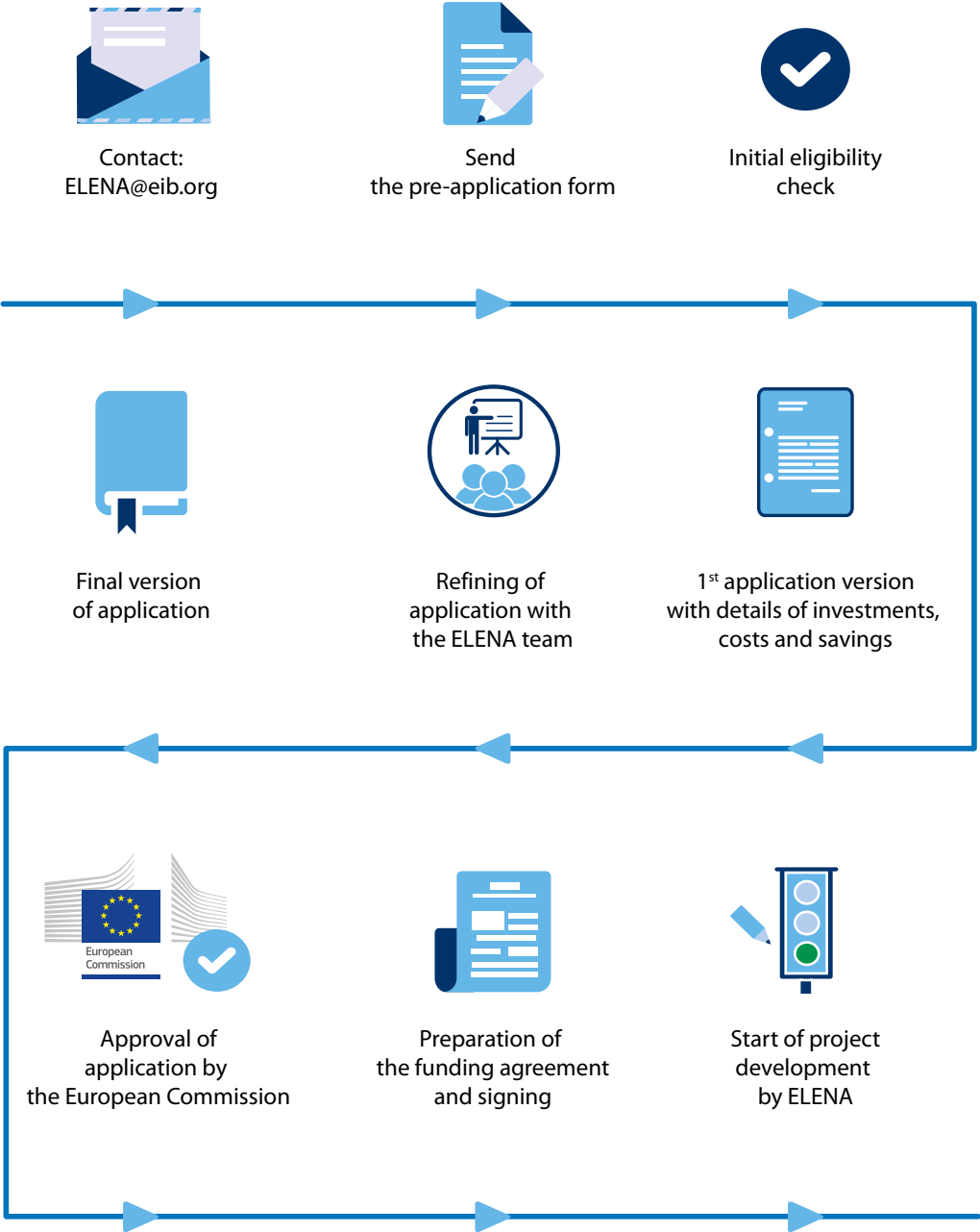
ELENA grants can cover up to 90% of the costs of the external expertise and staff needed.

The time frame for preparation and implementation of the planned investment programme is three years for the sustainable energy and sustainable residential envelopes and four years for the sustainable transport envelope. The time frame is limited, so the proposed investment programmes for ELENA support should have a certain level of maturity.

ELENA grants are allocated on a first-come, first-served basis. Unlike other EU programmes, ELENA has no deadline for the submission of proposals.

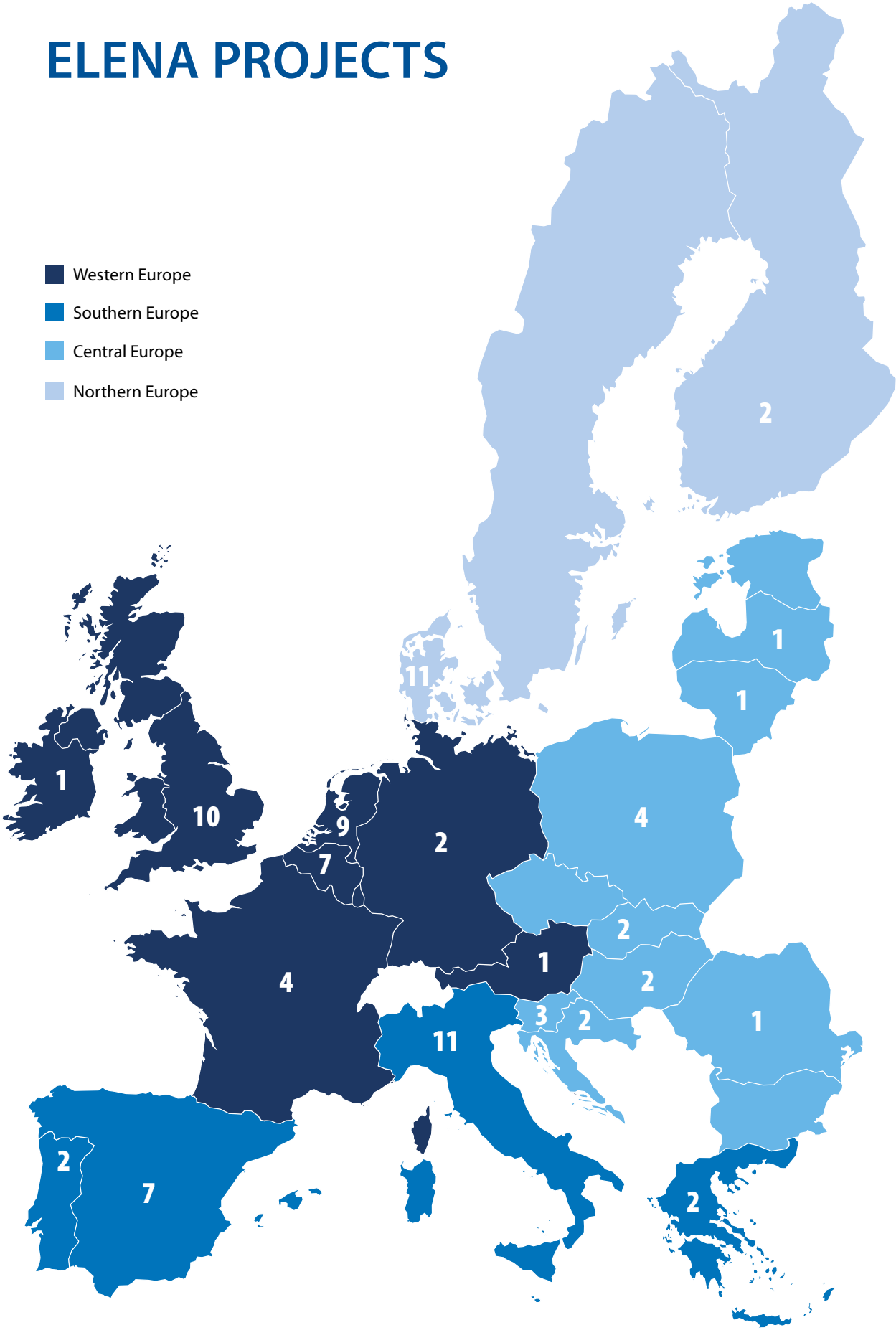
(Further eligibility requirements for ELENA applications can be found on the ELENA web site. <https://www.eib.org/en/products/advising/elena/index.htm>.)

# APPLICATION PROCESS



# ELENA PROJECTS

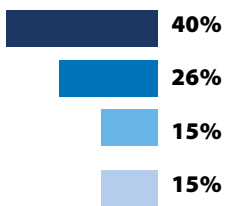
- Western Europe
- Southern Europe
- Central Europe
- Northern Europe



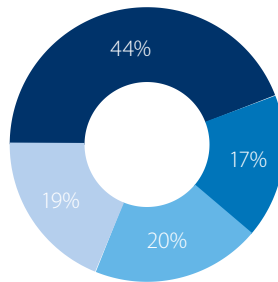
# PROJECT PORTFOLIO

## ELENA IN FIGURES

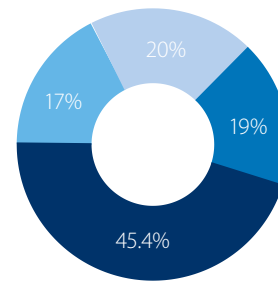
Projects: **85**



ELENA contribution  
**€150 million**



ELENA investment  
**€5.6 billion**



Western Europe

Southern Europe

Central Europe

Northern Europe

## JOB CREATION

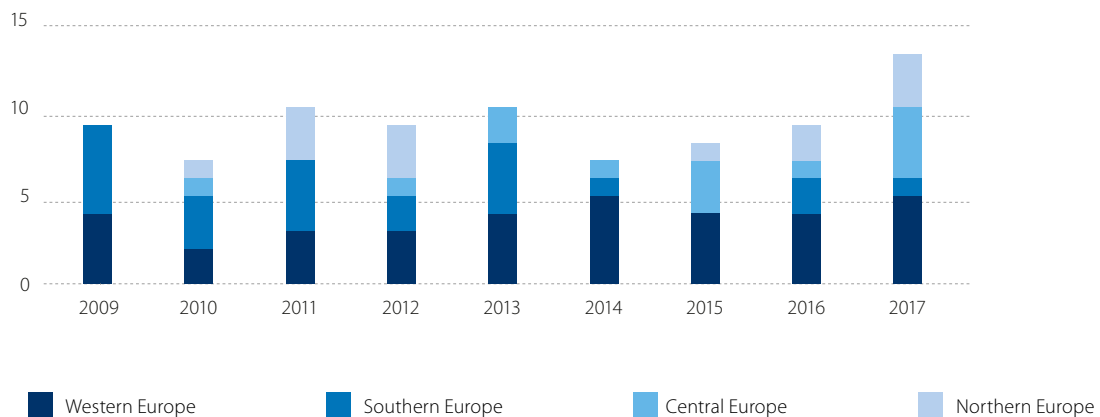


Completed projects  
**10 300 FTE**



Ongoing projects  
**22 900 FTE**

## PROJECTS PER REGION PER YEAR



Western Europe

Southern Europe

Central Europe

Northern Europe

# COMPLETED PROJECTS

## ELENA PROJECTS ARE DIVIDED INTO THREE ENVELOPES

Energy efficiency projects



Transport projects

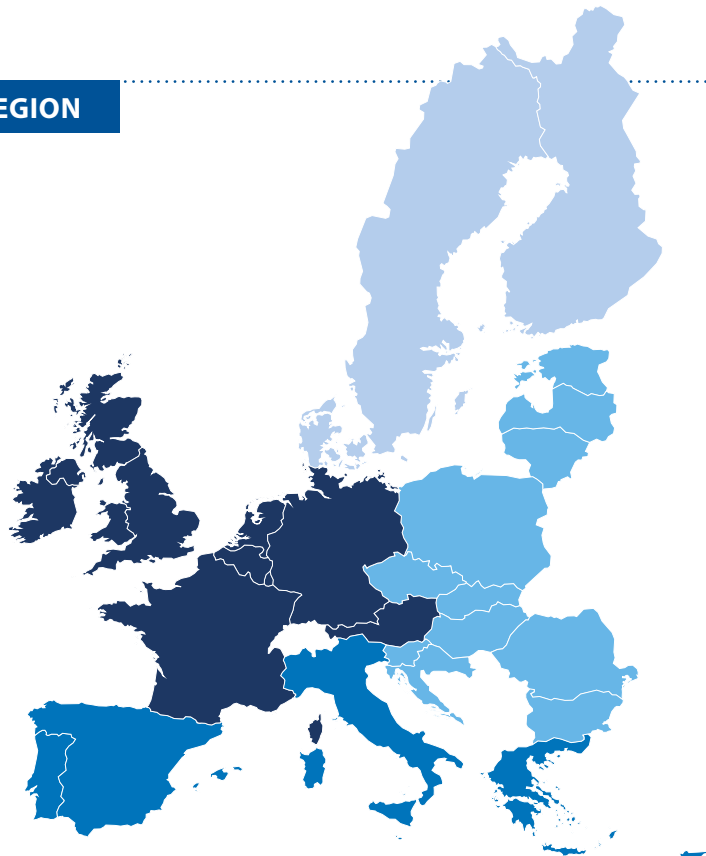


Sustainable residential



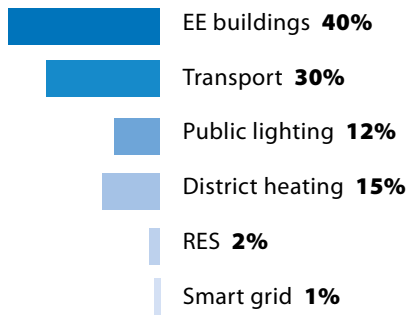
## COMPLETED PROJECTS PER REGION

- Western Europe: **11**
- Southern Europe: **11**
- Central Europe: **2**
- Northern Europe: **6**



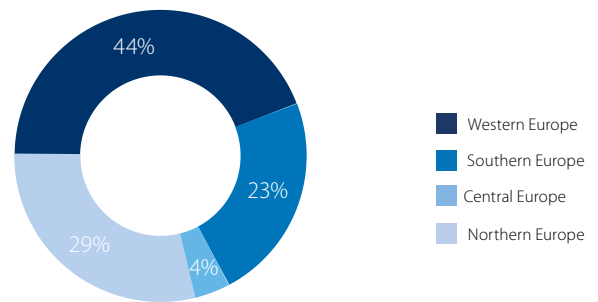
## INVESTMENTS PER SECTOR

Total investment: **€1.9 billion**



## ELENA CONTRIBUTION PER REGION

Total contribution: **€44.5 million**



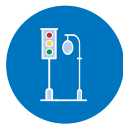
## SECTORS INCLUDED IN THE PROJECT PORTFOLIO



Energy efficiency in buildings  
**66%**



District heating  
**14%**



Public lighting  
**31%**



Transport  
**28%**



RES (Renewable energy sources)  
**38%**



Smart grid  
**3%**

# ONGOING PROJECTS

## ELENA PROJECTS ARE DIVIDED INTO THREE ENVELOPES

Energy efficiency projects



Transport projects

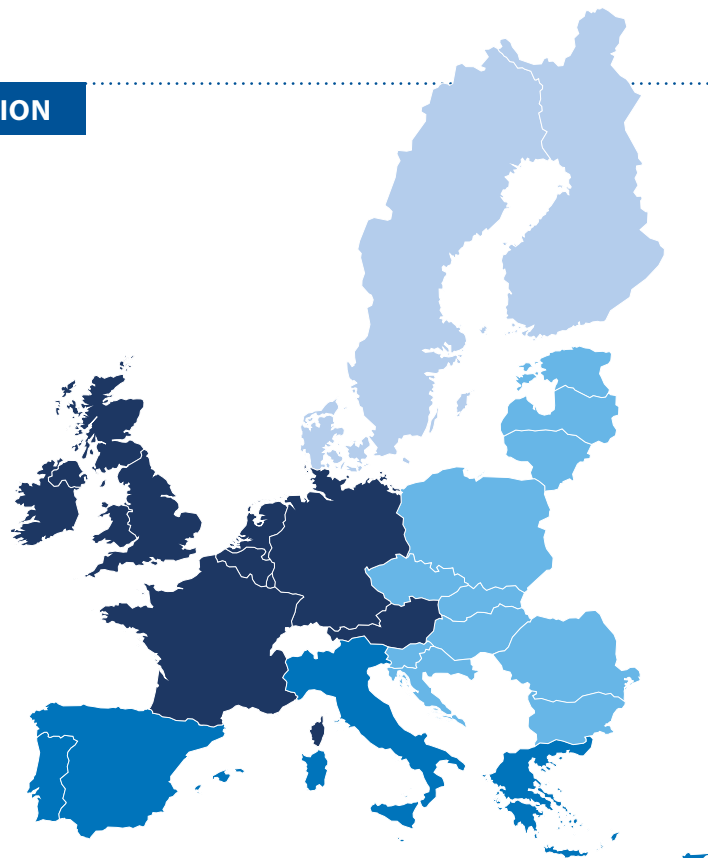


Sustainable residential



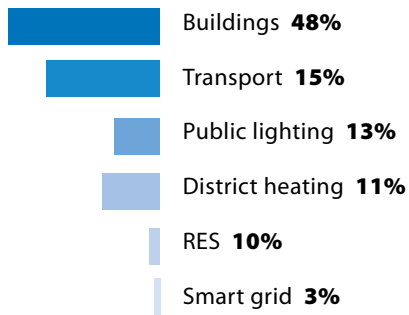
## ONGOING PROJECTS PER REGION

- Western Europe: **23**
- Southern Europe: **11**
- Central Europe: **14**
- Northern Europe: **7**



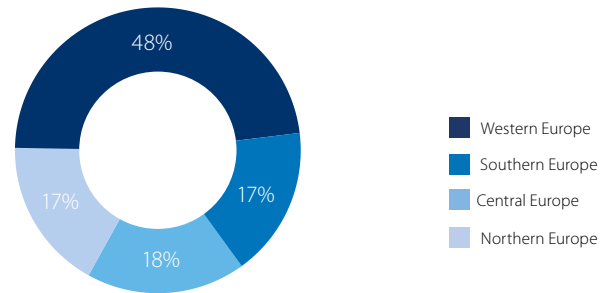
## INVESTMENTS PER SECTOR

Total investment: **€3.7 billion**

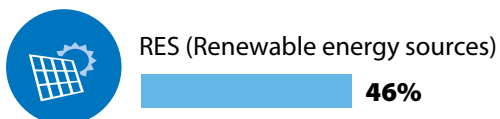
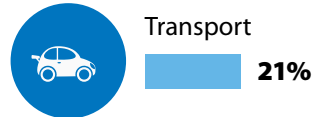
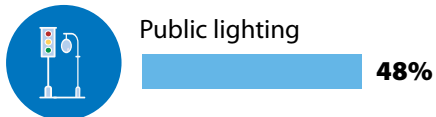
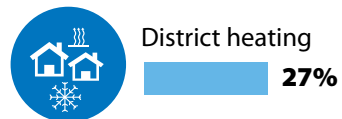
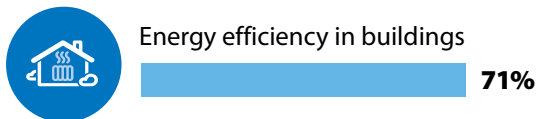


## CONTRIBUTION PER REGION

Total contribution: **€106.2 million**



## SECTORS INCLUDED IN THE PROJECT PORTFOLIO



# FLAGSHIP PROJECTS

## IN PICARDY, ENERGY SAVINGS ARE CLOSE TO HOME

ELENA grant:	€1.7 million
Investment mobilised:	€33.4 million
Energy savings (53%):	18.3 GWh a year
Renewable energy:	1.3 GWh a year
Greenhouse gas reduction:	3 400 tonnes a year
Jobs created:	180 FTE (full-time equivalent)

### ELENA helps French region improve efficiency in hundreds of private homes

The “Picardie Pass Rénovation” programme developed a one-stop shop approach that made energy efficiency affordable for hundreds of homes in France’s Picardy region.

Under the programme, individual and collective homeowners visited a newly-created public service company for energy efficiency to get advice, an energy audit, recommendations for renovation measures and help with long-term financing for the work – all in one office.

The ELENA grant was used to develop the public service company that oversaw the work and assisted residents with each step of their renovation projects. In addition, the EIB provided a loan to help finance the housing renovation measures.

The programme began in 2013. When it was finished in 2018, 1 240 owners of individual homes and collective housing units had completed energy efficiency renovation projects. The work included thermal insulation, installation of new windows, and the upgrading of heating and ventilation systems. Housing units heated by oil or electricity were a priority.

Participants received special loans that allowed the energy cost savings to offset the monthly payments. On average, the monthly energy savings covered 77% of the loan payments. The loan terms could be up to 25 years.

The success of the programme in improving energy efficiency has generated interest in other regions. The Tipperary Energy Agency in County Tipperary, Ireland, based its energy efficiency plan on the Picardy model.





## ENERGY-EFFICIENT “SUPERHOMES” IN IRELAND

ELENA grant:	<b>€1.5 million</b>
Investment mobilised:	<b>€38 million</b>
Energy savings:	<b>20.8 GWh a year</b>
Renewable energy:	<b>15 GWh a year</b>
Greenhouse gas reduction:	<b>10 950 tonnes a year</b>
Jobs created:	<b>80 FTE</b>

### Major renovation of homes in County Tipperary saves energy and cuts emissions

In County Tipperary, an ELENA grant has helped the Tipperary Energy Agency prepare energy audits and feasibility studies for hundreds of residents wishing to retrofit their homes to increase energy efficiency. This project also supports energy-efficient public buildings and street lighting.

The goal for private residential buildings is to convert as many as possible into what is referred to in Ireland as “superhomes.” These homes have good insulation, energy-efficient windows, advanced ventilation, no open fireplaces, and heating and hot water from renewable energy sources such as solar panels or heat pumps. The residential programme tailors financing to the needs of the homeowners, balancing savings on energy bills with long-term payments to make the renovation affordable. Other benefits, such as better indoor air quality, have helped homeowners make the decision to invest. In Tipperary, in southern Ireland, many people still use inefficient and polluting coal fireplaces to heat their homes.

The ELENA grant is being used to set up a project team within the energy agency and hire external experts. In order to prepare the investments, energy audits and technical studies have been carried out as well as work to prepare procurement and designs for the investments. The energy agency team works directly with the individual house or facility owners to encourage the investment through, among other things, a robust written business case for each project.



## EMBRACING EFFICIENCY IN LJUBLJANA

ELENA grant:	<b>€975 000</b>
Investment mobilised:	<b>€49 million</b>
Energy savings:	<b>114 GWh a year</b>
Renewable energy:	<b>0.25 GWh a year</b>
Greenhouse gas reduction:	<b>8 864 tonnes a year</b>
Jobs created:	<b>550 FTE</b>

### Slovenian capital's cold and leaky buildings receive energy makeover

Because of the cold winters and inefficient buildings, Ljubljana had to spend a lot of money to buy fuel and electricity. But the Slovenian capital has now set a target of being sustainable by 2025 by cutting emissions and energy waste, so it needs to make many changes.

The city's use of energy was previously very inefficient. In 2013, the ELENA programme stepped in to help plan the budget for upgrades and schedule renovation measures for 70 public buildings, including schools, libraries and health centres. The project,

completed in December 2016, included new insulation, energy-efficient windows, the replacement of boilers, cooling and heating system retrofits, and the installation of small-scale renewable energy systems. Some energy efficiency measures also targeted the district heating network and street lighting.

According to the project manager, the occupants of the improved buildings are already noticing the savings. The renovated buildings will be better for the environment and more comfortable for the people working in them.

To prepare for the investments, the city set up a Project Implementation Unit, which was in charge of tasks such as selecting groups of public buildings to receive an energy retrofit using energy performance contracting. The ELENA grant enabled the city to get technical expertise for preparing the energy audits, setting the energy baseline and preparing energy monitoring in the buildings. The city also decided to use a public-private partnership to take advantage of the know-how and financing capacity of an energy service company. It was important to have access to legal expertise to draft the public procurement components of the public-private partnership documents. The result at the end of this process was two launched and signed energy performance contracts improving the energy performance of more than 70 buildings.

## REVOLUTION ON RAILS IN DENMARK

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ELENA grant:	€2 million
Investment mobilised:	€246 million
Energy savings:	47 GWh a year
Renewable energy:	1.3 GWh a year
Greenhouse gas reduction:	7 300 tonnes a year
Jobs created:	910 FTE

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### Aarhus, first Danish city with tram system, cuts emissions and increases mobility

Aarhus is the first city in Denmark to construct a modern light-rail system. This was a massive project and ELENA played a pivotal role.

Similar to most cities, Aarhus is struggling with congestion, space and pollution. So it had to improve mobility.

In 2010, ELENA provided a grant to finance technical studies to make sure the tram network would be sustainable and to accelerate the project.

The first phase of the tramway opened in December 2017 with 110 kilometres of track and 51 stops, making a loop that connects the town centre and harbour front with outlying areas. Several additional stops opened in August 2018, and more are being



built. About 39 000 people use the tram every day, easing traffic and cutting emissions.

The tram is powered by the Danish electricity grid, which gets 39% of its power from wind turbines, so the tram contributes significantly to Aarhus's goal to be carbon-neutral by 2030.

*"A major challenge of the project was to create a balance between the light rail, the dense urban infrastructure and other transport modes in the city, and to incorporate a light-rail line in the constricted urban space and narrow streets," says Claus Rehfeld Moshøj, the tramway's managing director.*

Aarhus has become a model for Copenhagen and Odense, the next Danish cities with dreams of adding trams.





## SHINING A LIGHT ON ENERGY EFFICIENCY

ELENA grant:	€2 million
Investment mobilised:	€96 million
Energy savings:	52.2 GWh a year
Renewable energy:	9.8 GWh a year
Greenhouse gas reduction:	16 600 tonnes a year
Jobs created:	680 FTE

### Barcelona region upgrades public lighting and adds renewable energy

An ELENA grant provided critical help for the “Renewable and Efficiency in Diputació de Barcelona (REDIBA)” project. The programme replaced public lighting in towns throughout the region and promoted renewable energy projects such as biomass plants and solar panels.

The ELENA grant provided technical support (including 14 external studies) to implement an energy performance contract (EPC) that improved the energy efficiency of public lighting. Energy service companies (ESCOs) played a crucial role, as they were responsible for financing the public lighting upgrades, making the investments possible.

Two of the main barriers were the lack of public funds for the projects because of budget cuts during the economic crisis and the lack of a Spanish public sector market for energy service companies.



“Fortunately, thanks to the efforts and work of the technical team, REDIBA managed to overcome these barriers, achieving 22 ESCO projects,” the final project report says.

The project helped 74 municipalities around Barcelona and was finished in June 2014. A total of 100 000 public lamps were replaced with efficient lighting, and 24 biomass boilers and 270 kW of solar panels were installed. REDIBA generated at the time the first realistic (and replicable) EPC model in Spain.

## ENERGY EFFICIENCY LESSONS IN PARIS SCHOOLS

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ELENA grant:	<b>€850 000</b>
Investment mobilised:	<b>€65.4 million</b>
Energy savings:	<b>25.7 GWh a year</b>
Greenhouse gas reduction:	<b>5 510 tonnes a year</b>
Jobs created:	<b>350 FTE</b>

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### City renovates 240 schools and cuts energy use

To help meet its climate and energy goals, Paris renovated hundreds of public schools to improve energy efficiency.

The project began in December 2010, with a grant from ELENA, which supported planning costs, helped pay for a project implementation unit of three people in the city's sustainable building department, and paid for the first studies for retrofit-

ting 100 schools, based on the energy performance contract (EPC) model. The schools were built during different periods, starting in 1880, and half of them were built before 1948. Due to the diverse types of construction, a very specific programme for the energy efficiency work was developed.

The first EPC was used as a reference point and showed that energy service companies (ESCOs) can help implement ambitious energy efficiency projects, even when cities face budget constraints.

A second EPC tender procedure was prepared on the basis of the lessons learned from the first EPC, targeting the renovation of 140 schools and raising the total number of school renovation projects to 240. These energy efficiency renovation measures included insulation throughout the buildings, new windows, boilers and thermostats and efficient lighting.

A third renovation programme involving 60 schools is under way, bringing the total to 300 schools, or about 50% of public schools in Paris.



## CHANGING THE WAY A CITY IS HEATED

ELENA grant:	€1.8 million
Investment mobilised:	€52 million
Energy savings:	40 GWh a year
Renewable energy:	260 GWh a year
Greenhouse gas reduction:	39 000 tonnes a year
Jobs created:	220 FTE

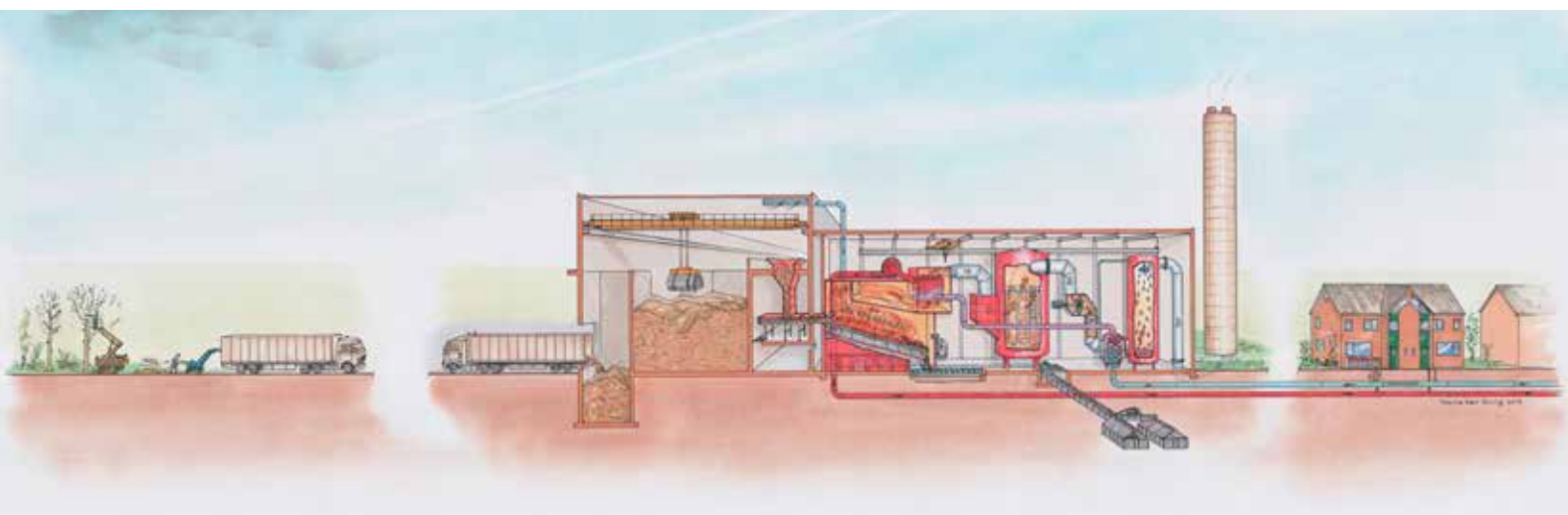
In October 2010, the district heating company began working with ELENA to create a plan and secure financing for the project. ELENA provided a grant to create a business plan, prepare tender documents and work contracts, and secure financing. More than €52 million was invested to build the biomass heating plant, which has a capacity of 44 MW<sub>th</sub>. The investment included the work to connect the plant to the district heating grid and install a backup boiler. The project, including improvements to the district heating network, was completed in July 2014, making a large contribution to Purmerend's climate and energy goals.

### Dutch city builds biomass heating plant and cuts use of fossil fuels

After signing the Dutch Climate Agreement, the city of Purmerend wanted to improve its heating system, which serves almost all of the 78 000 residents. The city decided to switch from a fossil fuel system to a biomass heating plant, while increasing the efficiency of its district heating network.

The policy advisor for the district heating company said the expertise provided by ELENA is still helping the city today, especially with the complicated tendering procedure and the renovation of the district heating network. Based on this experience, Purmerend is building a second, smaller biomass plant.

The benefits of the project have extended beyond Purmerend, according to the policy advisor. "We agreed with ELENA to do this as an open-source project," the advisor said, "so the lessons we've learned are available to others. Now we have a lot of people asking to visit the plant and wanting to know how they can do it themselves."





## ELECTRIC MOBILITY IN COPENHAGEN

ELENA grant:	<b>€1.1 million</b>
Investment mobilised:	<b>€68 million</b>
Energy savings:	<b>25.7 GWh a year</b>
Greenhouse gas reduction:	<b>24 500 tonnes a year</b>
Jobs created:	<b>170 FTE</b>

### Capital region of Denmark replaces fossil fuel with electricity in buses and boats

In the metropolitan area of Copenhagen in Denmark, the public transport authority, Movia, is replacing its petrol-powered buses and boats with an electric fleet to cut emissions and become fossil fuel-free by 2030.

In 2017, ELENA provided a grant to help prepare this transition from conventional fuels to electricity. The grant is helping Movia cover legal expenses, conduct feasibility studies, add technical support, and pay for staff.

The project has already helped add 20 electric buses in Roskilde, 30 kilometres west of Copenhagen. In addition, 55 electric buses will begin operating in Copenhagen in December 2019. In 2020, four electric harbour buses will start operating in Copenhagen's harbour. The buses and harbour buses will be run by private companies and, in an innovative approach, the charging infrastructure is being developed under a separate contract.

About €68 million will be invested in electric buses, electric harbour buses and charging infrastructure during the ELENA project period.

The ELENA grant helped the city address the major task of finding additional legal assistance and completing technical analyses. ELENA also played a large role in gathering and sharing knowledge that will help Movia during future procurement procedures.

The next phase of the project, between 2022 and 2030, will add at least 285 electric buses and charging infrastructure, so that all buses in Copenhagen will be electric.

# EVALUATION STUDY RESULTS

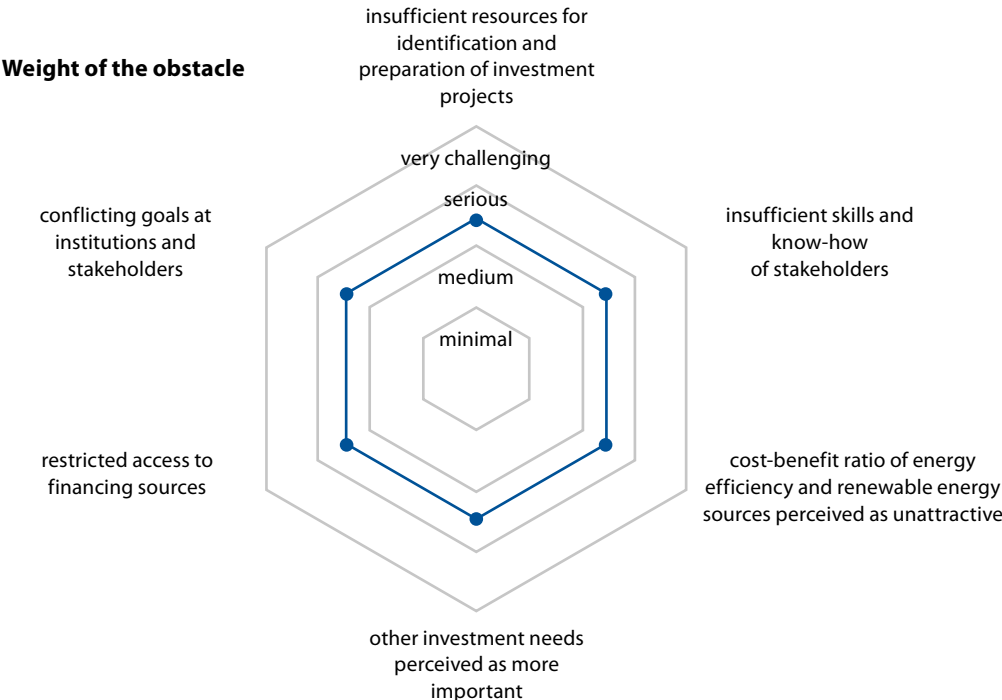
This chapter summarises an external consultant’s evaluation study. The study included a thorough assessment of data and documents from all projects, an online survey of ELENA beneficiaries and 15 in-depth interviews with beneficiaries from the different regions and different investments, including aggregator projects and own-investor projects.

The study found that the ELENA facility works well: with a big variety of “project development activity” approaches implemented, ELENA projects are generally successful in helping the investment process and making potential investors less reluctant to take over upfront costs for project identification and preparation.

The project development activities provided through ELENA work in two ways: on the one hand, the assistance accelerates investment decisions; on the other hand, the assistance influences the technical quality of the investment projects, increases energy savings and reduces more carbon emissions per euro of investment. It appears that both of these functions work at the same time.

ELENA projects address different market segments with different solutions. Over the 10 years since the facility was launched, no standard recipes have emerged, and the diversity has increased. ELENA projects have therefore adapted to the different conditions in the countries and regions around Europe to address the variety of challenges and barriers to energy efficiency and renewable energy investments.

## Obstacles occurring during the implementation of ELENA projects, according to respondents



The clamp that holds the pieces together is the minimum requirement for the grant-investment leverage factor, i.e. the prepared and implemented investment volume divided by the amount of the ELENA grant. We saw that during the project cycles, the focus of a good number of ELENA projects changed remarkably in order to reach the contractually required leverage factor. Almost all beneficiaries see this flexibility as one of ELENA's major advantages.

The completed ELENA projects have an average investment implementation rate of 53%, which means that 53% of the expected investments are made by the projects. The grant-investment leverage factor reaches 43 for completed projects, which is substantially above the contractually binding figure.

The economic results of the ELENA projects are generally very good. For example, completed projects have an average levelised cost of €6 per tonne of greenhouse gas reduction and €1.6 per MWh of energy savings. This cost-effectiveness remains at a good level even considering the fact that more than half of the ELENA projects received subsidies for the implementation of the investment programmes.

There is a tendency to support aggregator projects over own-investor projects. The main driving factor for this is the minimum amount of investments triggered for each ELENA project, which forces beneficiaries to bundle small projects into larger, implementable packages. As a result, the share of aggregator projects among ongoing investments is considerably higher than for completed projects.

ELENA projects play an important role in fostering energy performance contracting. In southern Europe, in particular, many projects apply for energy performance contracting or use an energy service company model to implement their investment programmes.

Even though an ELENA grant is meant to be a one-off stimulus to get projects moving, and not a perpetual means of support, the evaluation study found that many ELENA projects stimulate other investments after the project is completed, and this is not counted in the normal ELENA statistics. At the level of the beneficiaries, and using the beneficiaries' estimates, additional investments worth about €780 million were generated. Third parties that have already been involved in ELENA projects implemented about €1.2 billion, according to beneficiaries' estimates.

The qualitative interviews indicated that replication and follow-up activities depend mostly on the "sustainability" of the institutional set-up – the continuation of the work of the project implementation unit, either by setting up an independent, self-sustaining organisation or by securing further support from the sponsoring organisation (such as the region or municipality). 61% of the completed projects have been successful in keeping the project implementation unit working after project completion.

It is difficult to "measure" free-ridership, which refers to the situation where projects would have moved forward without an ELENA grant. It is generally accepted that free-ridership cannot be avoided when public support is involved. The evaluation study found clear indications that for the ELENA facility, free-ridership is at a very satisfactory level – less than one third of the project development activities as well as the investments triggered by the ELENA projects. In other words, ELENA helps implement investments that would not otherwise have been made.

The study also found that ELENA closes a gap in project development activity left by national and regional support programmes.

There are some good examples of ELENA projects where knowledge and experience have been shared with other stakeholders, leading to other activities in similar fields. On the whole, however, knowledge exchange and dissemination of results are not the focus of ELENA projects.

The overall level of satisfaction with the management of the ELENA facility is very high, with 82% of respondents indicating that they are very satisfied or positively satisfied. There are very few cases of general dissatisfaction.

Using the main outcomes described above, the consultant made a list of recommendations for the ELENA facility, mainly related to managing and sharing the field of knowledge, the transition to the follow-up and replication phase, and adapting selected programme elements that may make the ELENA facility more attractive for aggregators and private promoters.

The consultant's most important recommendation is to adhere to the main features of the facility and not to change the general approach, since the study's overall result shows clearly that the ELENA facility works well. ELENA grants successfully help the public and private sector overcome well-known investment barriers to energy efficiency and renewable energy projects.





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