



PROSPECT

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Peer-Powered Cities and Regions: Success Stories from PROSPECT



Photo by Abejane Alvarez

Photo by Martin Katler

Introduction

In urban areas, significant opportunities are available for facilitating energy transition. Many local and regional governments are implementing initiatives in sectors, such as buildings, lighting, and transport. Although there are political and economic incentives for undertaking such actions, many cities and regions face financial and technical barriers, such as insufficient financial resources and lack of skills and experience. Public authorities can tap into innovative financing mechanisms and funding sources – aside from available national, regional, or local budgets - to complement their own financial resources. Public authorities can also learn with and from their peers from other cities and regions who have successfully implemented sustainable energy and climate action projects and are recognized for their ‘best practices’ in innovative financing schemes.

PROSPECT Project

Within the framework of PROSPECT: Peer Powered Cities and Regions, a European Commission – Horizon 2020 funded project, we facilitated a peer-to-peer learning programme to support the energy transition in cities and regions in Europe. We define peer-to-peer learning as sharing of knowledge, skills, competencies, and experience among matched peers from local and regional authorities; who learn with and from each other on the topic of financing and implementing sustainable energy and climate action projects through innovative schemes. By innovative financing schemes, we refer to non-traditional ways of raising funds and facilitating sustainable energy and climate investments for cities and regions.

This can be by mixing different sources (e.g. own fund, public and private funds), and/or engaging different partners (e.g. citizens, private sector) aside from established financial institutions (e.g. banks). These innovative financing schemes include energy performance contracting (EPC), third party financing, revolving funds, soft loans, climate / green bonds, guarantee funds, and citizen finance, such as cooperatives and crowdfunding.

Success Stories

For PROSPECT, we have selected cities and regions that planned to develop and launch sustainable energy and climate action projects using innovative schemes in their own local contexts. Specifically, we have focused on participants who, after engaging in peer to peer learning, have transformed these experiences to specific learning outcomes, namely cognitive change, relational change, skill development, action orientation, and wider capacities (See Table 1: Learning outcomes¹ and manifestations, including their indicators). This booklet is written for cities and regions interested in the learning journey of peer-powered cities and regions on the topic of innovative financing schemes for sustainable energy and climate action projects.

¹ Considering that time is needed before learning processes are fully evaluated, PROSPECT focused on learning outcomes in the short-to-medium term and did not include learning manifestations which are for the long-term.

Table 1: Learning outcomes and manifestations, including their indicators (as adapted from various authors in Suškevičs, et al, 2018 and as used by Enseñado and Heemann, 2020)

Learning Outcomes	Indicators
Cognitive Change	Acquisition and/or co-creation of knowledge, enhanced problem comprehension
Relational Change	Attitudinal change towards stakeholders/actors e.g. gaining a better understanding of others' interests and viewpoints and acquiring a more critical understanding of one's own role; actual changes in relationships e.g. trust building, facilitated conflict resolution, and changes in power relations
Skill Development	Relational (or social) e.g. communicative or leading participatory processes or task-oriented skills e.g. problem solving, technical expertise
Action-Orientation	Changes in actor networks e.g. new connections among stakeholder networks, informal shadow network developed, direct focus on action. This can include staff time required, time needed for implementation, legislative / regulatory framework / governance related efforts and communication factors
Wider Capacities	Enhanced capacities beyond the scope of the intervention; capacities spanning across different levels of scales governance and/or social organizations and time frame implementation
Learning Manifestations	
Management Change	Changes in management practices e.g. operational decisions, Direct physical interventions, innovative sustainability practices
Policy and Institutional Change	Changes in the general policy discourse e.g. revising or implementing new policies or reaching new agreements, changes in existing institutions, creating new institutions or organizations
Environmental Effects	Improvements in the environment e.g. increased energy savings, reduction in greenhouse gas emissions

Success Story #1: ESV, S. ENERGIA and Trnava

Mentor organization	OÖ Energiesparverband (ESV), Upper Austria
Mentee organizations	S. ENERGIA - Regional Energy Agency for Barreiro, Moita, Montijo, and Alcochete, City of Trnava, Slovakia
Learning methodology	Study visit
Learning objective	To increase knowledge on energy performance contracting (EPC) for public lighting and public buildings
More information	www.h2020prospect.eu/about/news-events/18-pilot-meeting-in-linz-to-test-the-prospect-learning-programme



Introduction

In this success story, the mentor ESV, from Upper Austria, is an expert in implementing EPC for public buildings and public lighting along with other innovative schemes, such as third-party financing and soft loans for homeowners of residential buildings. The first mentee organisation, S. ENERGIA, is the regional agency representing the municipalities of Barreiro, Moita, Montijo, and Alcochete in Portugal.

S. ENERGIA aimed to improve energy efficiency in public lighting and was interested to learn about EPC as a financing scheme. The second mentee the City of Trnava, in Slovakia, aimed to reduce the energy consumption in its public buildings- mainly schools and kindergartens, as well as decreasing the annual costs of streetlighting by 50%. Trnava was working on two projects in the sectors of public buildings and public lighting and was interested to learn about EPC. The learning objectives were to increase internal know-how on EPC as an innovative financing and operating scheme for the public lighting and public buildings sectors.

EPC (Energy Performance Contracting) is a contractual arrangement between a client (e.g. a municipality) and a provider of an energy efficiency improvement measure, a so-called “Energy Service Company” (ESCO). What makes EPC innovative is that:

- the ESCO finances and implements energy efficiency investments,
- the ESCO guarantees energy savings and there are financial consequences for the ESCO if the savings are not achieved
- the annual energy savings are used to re-finance the investment.



Participants visiting one of the projects in Linz, Austria

Cognitive Change

S. ENERGIA learned that the implementation of EPC as a contractual arrangement between the municipalities/company (client) and a service provider (ESCO company) can be manifold. It is, for example, also possible to have mixed financing, such as subsidies and direct investments. With this flexible model, S. ENERGIA realized that different kinds of projects dealing with energy efficiency measures and renewable systems can be implemented. Learning from practical examples given, details on project implementation from calculation of baseline, to contract management were discussed.

As for Trnava, the participants very much valued learning about the different possibilities to finance EPC projects and the manifold opportunities given especially for smaller projects. Moreover, Trnava highly valued that they now had a better idea of how to set up an EPC contract, including criteria and conditions for street lighting projects to be considered and how to bundle different projects with different levels of financial profitability. The participants from Trnava were also inspired by the mission and work of local and regional energy agencies which is not very common so far in Slovakia.

Participants discussing about EPC as an innovative financing scheme



Participants from ESV, S. ENERGIA and Trnava



Relational change

Evidence for attitudinal change towards stakeholders/actors has been manifested by the participants of both S. ENERGIA and Trnava. The S. ENERGIA participants have been inspired by the mentor ESV which is recognised by municipalities and the private sector in Austria as a regional 'EPC facilitator', increasing the trust in EPC. Moving forward they planned to think about how best to support social organisations and citizens' initiatives in their projects dealing with building retrofits via EPC contracts. A take-away message for S. ENERGIA was that small EPC projects are feasible and several funding sources can be blended with ESCO financing. Likewise, Trnava recognized the importance of increasing awareness and knowledge on the EPC model and in ESCO companies.

Skill development

S. ENERGIA analysed the technical and economic feasibilities of investments for street lighting refurbishment being carried out via EPC schemes. Since then, two municipalities, namely Barreiro and Moita, in Portugal, have requested S. ENERGIA to analyze the technical and economic feasibility of these investments. S. ENERGIA used technical information from the learning programme to initiate discussions with a Portuguese ESCO company.

Action orientation

Both S. ENERGIA and Trnava wanted to focus on the following four conditions for improvement: staff time required, time needed for implementation, legislative/regulatory framework, and communication factors.

(1) Staff time required

S. ENERGIA specified that they wanted to have a municipal technician dedicated to implementing EPC, sharing knowledge of the EPC model, and receiving support from other staff members in the process of EPC facilitation for a period of six months commencing March 2018. Specifically, these actions would be the focus of one or more allocated persons from the municipality for the development of the project and facilitate engagement with S. ENERGIA staff. A year after the learning programme, the participants from S. ENERGIA have created a dedicated staff roll on the topic of EPC. After the learning programme, both participants had meetings with the four municipalities.

There they explained the advantages and disadvantages of the EPC model. As a result, two of the four municipalities (Barreiro and Moita) have adopted EPC as a financing scheme for their public lighting projects. As such, EPC has been repli-cated in other contexts. Trnava planned to request an increase in staff resources in the city budget.

(2) Time needed for implementation

As for the time needed for implementation, S. ENERGIA wanted to follow the key steps of EPC 18-24 months from March 2018. They aimed to accomplish each key step for the EPC implementation. After cooperating with the municipalities, S. ENERGIA have supported the launch of EPC in two municipalities. Barreiro municipality launched the tender for EPC con-tract for the refurbishment of municipal street lighting in August 2018. The municipality selected the ESCO company that will carry out the implementation. In July 2019, the public lighting was planned to be replaced by LED. Moita municipality, on the other hand, prepared the process for the EPC contract for the refurbishment of municipal street lighting. The municipality launched the tender in April 2019. They will then select the company that will implement the project. Even with some administrative delays to the process both municipalities after the EPC contract established, were able to have their public lighting system refurbished to LED light (around 10.000 light points) between June and July 2020.

(3) Legislative/regulatory framework

S. ENERGIA provided the municipalities with more support in procurement, technical, contractual, and financing issues regarding the EPC model in the 6 months following March 2018. Specifically, this covered a detailed analysis of the legisla-tive/regulatory framework related with EPC model in Portugal. After the learning programme, S. ENERGIA worked closely with technicians from these municipalities (with the support of deputy mayors and department heads) in preparing the tender specifications for EPC in relation to the legislative or regulatory framework of Portugal.

(4) Communication factors

Finally, under communication factors, a practical step to take is the improvement of trust in EPC model and ESCO companies through facilitation process – which the participants wanted to undertake 6 months from March 2018. According to S. ENERGIA, it is necessary that the existing cases in Portugal are better known, so that they can learn from the experience of other cities under the same conditions. S. ENERGIA has reached out to the municipalities under this energy agency and disseminated information about EPC to a wider audience including other municipalities through public events. Similar projects are also being developed by other actors i.e. social institutes for lighting industrial parks and other non-municipal infrastructure. According to S. ENERGIA, the municipalities have now a better understanding of EPC. The performance of these public lighting schemes will also be communicated to the public. This can be verified, for example, through technical equipment that would measure the level of illumination and energy consumption.

Wider capacities

Learning outcomes in terms of wider capacities and if these have higher manifestations, such as management change, policy and institutional change, and environmental effects remain to be analysed further.

Success Story #2: AGENEAL and Heerlen

Mentor organization	AGENEAL – Local Energy Management Agency of Almada, Portugal
Mentee organizations	Municipality of Heerlen, Netherlands
Learning methodology	Peer mentoring
Learning objective	To increase knowledge on and understanding of the innovative financing mechanisms for energy efficiency and renewable energy
More information	www.h2020prospect.eu/about/news-events/82-c1-pub-allsteps



Introduction

In this success story, the mentor AGENEAL- the Local Energy Management Agency of Almada from Portugal presented the ‘Almada Less Carbon Climate Fund’, a programme aimed at developing an internal/municipal financing scheme to support investment on energy efficiency and renewable energy. More specifically, Almada’s Local Strategy for Climate Change contains a number of measures targeted at reducing the energy consumption of buildings and the transport sector. To support these measures, the Almada Less Carbon Climate fund was created in 2009. After seven years of successful operation, the fund became a revolving fund.

As a revolving fund, the cost savings resulting from implemented energy efficiency measures are returned directly to the fund, therefore ensuring leverage of the fund and boosting further investments in a clean energy transition.

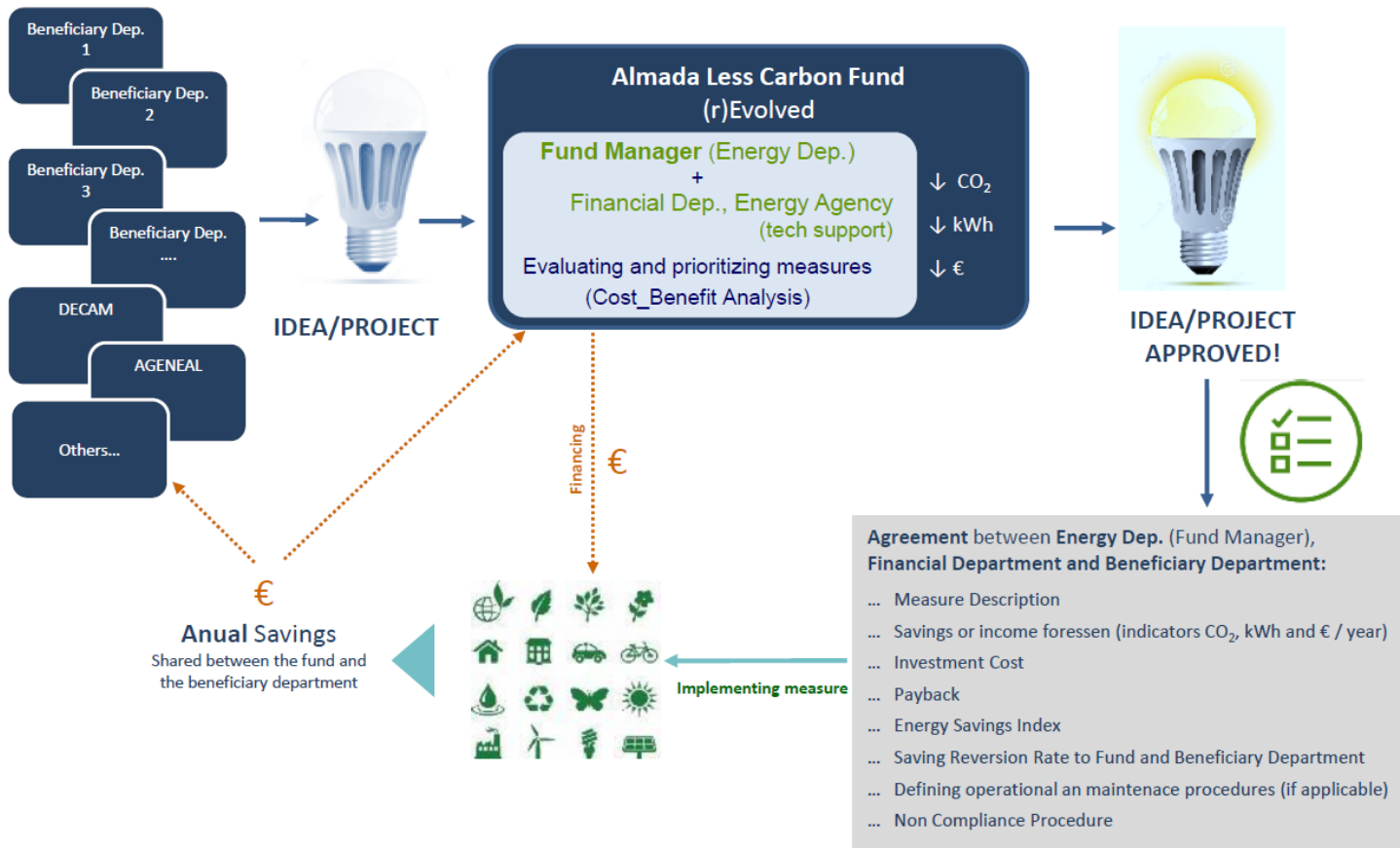


Image: Almada Less Carbon Climate Fund (AGENEAL)

The most important innovation of the revolving fund is the shared benefits approach which assumes different sharing schemes between the fund and the client department based on the characteristics of the project. The Almada Less Carbon Climate Fund is a totally internal and voluntary scheme which can make it easy to replicate in every public or private institution. Joining AGENEAL as a mentee, is the Municipality of Heerlen from the Netherlands. The representative from the Heerlen municipality aimed to gain knowledge about the Climate Fund and present this idea to the mayor of Heerlen and other stakeholders to support the development of an energy fund for municipal energy measures. Specific information needed include (a) the minimum budget needed to start the fund, (b) the way that the refund is proscribed, and (c) action plans describing the synergy with the municipality and others as well.

Cognitive Change

Heerlen recognised that a strong finance scheme was needed to be in place for energy transition schemes in buildings to work. To make this work for their context, a guarantee pay-back would be required, followed by a soft loan to fund initial investment. There is also evidence of cognitive change at various governmental levels as after the idea of revolving funds was disseminated back to colleagues in the municipality, this spread throughout the organisation and to higher levels of government [“there is more and more awareness that a revolving fund could help start projects but if the savings will be shared and how should still be discussed”].

Relational Change

Heerlen identified that departments need to work more closely together on financing projects. They have done this through inter-departmental work and collaboration to identify projects which could use revolving funds. This is relational change as the municipality of Heerlen recognised that there is an attitudinal change towards project funding and a willingness to explore alternative options.

Skill Development

After the peer mentoring, Heerlen identified that they have sufficient technical knowledge and experience to set up an energy finance scheme, i.e. the skill development was high as a result of this process. However, there were still barriers to implementation such as lack of capacity and access to funds.

Almada, Portugal



Action-Orientation

Heerlen wanted to focus on the following three conditions for improvement: staff time required, time needed for implementation, and legislative/regulatory framework.

(1) Staff time required

Heerlen recognised that although staff were motivated to develop a finance scheme and had sufficient knowledge to do so, there was a strain on staff time and resources due to several other commitments which had higher prioritisation.

(2) Time needed for implementation

Heerlen identified that high ambitions, short implementation, budget cuts, and prioritisation were all restricting factors to project implementation. By involving different government actors (deputy mayor, environmental department), Heerlen is working on addressing these issues of implementation. It was identified that a specific programme manager will work on the task of collected revolving fund project ideas on a yearly basis. An additional point here is that participatory campaigns on energy transition are desired but again, lack of capacity to implement these is a limiting factor, not knowledge or experience.

(3) Legislative / regulatory framework

Heerlen identified that they will make use of existing legislative frameworks to apply for a soft loan from the Dutch Municipal Bank (BNG). These funds will be available providing that they have a sound scheme in place. However, for this they need additional staff time capacity as identified above. This fund will provide the initial capital required. Budgetary requirements and procedures have already been identified.

Wider Capacities

After participating in PROSPECT, Heerlen showed that their planned follow-up actions include reaching different governance levels. According to the representative of Heerlen, PROSPECT started the discussion within the organization for the entire energy renovation of the building stock.

Success Story #3: Podravje, Koekelberg and Debrecen

Mentor organization	Energy Agency of Podravje (EnergaP) in Maribor, Slovenia
Mentee organizations	LENERG Energy Agency, Debrecen, Hungary City of Koekelberg, Brussels, Belgium
Learning methodology	Peer mentoring
Learning objective	To increase knowledge on accessing innovative sources of funding, specifically EPC
More information	www.h2020prospect.eu/about/news-events/102-lc3-pul-4



Introduction

In this success story, the mentor EnergaP, the Energy Agency of Podravje from Slovenia, is an expert in refurbishment of public (street) lighting and public buildings along with the use of innovative schemes, such as public private partnerships (PPP) and EPC. Their work aims to lower the energy use and cost of electricity for public street lighting and public buildings, as well as reduce CO2 emissions to improve working and living conditions.

The first mentee organization, LENERG Energy Agency is based in Debrecen, Hungary and hereafter referred to as Debrecen. They aim to develop low energy consumption or passive (energy) buildings for kindergartens.

Several technical actions have been identified to support this transition: thermal insulation, replacing old windows and doors, installation of solar panels (PVs), solar collectors, heat pumps and biomass stoves.

The second mentee organization is the Municipality of Koekelberg from Belgium. The municipality initially wanted to replace all the public lighting along the town roads. However, the regional electricity provider (SIBELGA) announced it would replace all the old public lighting with LEDs. They were able to find a new focus, which is to replace the lighting systems in buildings and apartments which are being rented out to private persons.

The overall learning objective for both mentees was to increase internal know-how on accessing innovative sources of funding, such as EPC for public lighting and buildings. Another learning objective for both Debrecen and Koekelberg was to better understand procedural practices of procurement and implementation.

Cognitive change

Both organizations recognised that there is a need to hire an expert. In Debrecen, the expert will work for the LENERG Energy Agency to establish an energy scheme/project implementation plan as well as support the development of the financial scheme. This also addresses Debrecen's challenge of not having sufficient staff availability, enhanced governance related efforts, and required technical conditions for the energy scheme. Additionally, Debrecen identified that knowledge of each individual building's energy data was important to build a successful project.

Koekelberg also found that that an expert is required to help set up an energy supply scheme and accompanying financial scheme. This would help address several challenges such as the lack of staff availability and need for enhanced governance related efforts. Additionally, this expert will be a shared resource amongst Koekelberg and other towns in the area. This has the additional benefit of supporting regional growth as well as sharing the cost of hiring an expert. The mentor, EnergaP, also identified cognitive change.

They found that their own knowledge and understanding of barriers and benefits of implementing and financing energy schemes was broadened.

Relational change

A main learning point identified for Debrecen was the importance of building relationships and the need for political will. Implicitly, Debrecen needs to engage and address all concerns from the municipality and local/regional governments. To enable this relational change among actor/stakeholders they established that they would need to meet with politicians several times to help others in inducing (political) attitudinal changes. A main learning point which Koekelberg identified was to give attention to each step of the process. To enable this change in behaviour, they suggested that each of the process is monitored and evaluated.

Skill development

The mentees have developed some skills to understand better the energy expert and discuss a project in deep what is essential for successful implementation. In EPC projects, planning is as important as implementing and running long term agreements. Although hiring an expert relates to skill development, this action relates stronger to action oriented learning and therefore shall be discussed below.

Action-orientated

Both Debrecen and Koekelberg wanted to focus on the following three conditions for improvement: staff time required, time needed for implementation, and governance related efforts.

(1) Staff time required

Both mentee organizations recognised that there was little in-house staff capacity to meet the time required for new energy projects. Particularly both organizations identified that they needed staff members who would have expert knowledge about financing energy schemes.

To meet this challenge, Debrecen identified that LENERG Energy Agency could hire an expert to develop and implement an energy management system as well as support in develop a strong financial basis for this plan. Koekelberg planned to meet this challenge by first reviewing their own internal capacity. Staff members would be asked if they had time, on a regular basis, to contribute to this new focus particularly regarding coordination and administrative aspects. Secondly, Koekelberg would collaborate with other towns in the region to hire an expert on energy matters and financial schemes, similarly to Debrecen.

(2) Time needed for implementation

Furthermore, both organizations also recognised that more time was required for establishing such projects. Specifically, Debrecen identified that they needed to spend time on developing the energy initiative, particularly in relation to continuing the development of their knowledge on financing energy schemes like EPC and ESCO. To achieve this, they will monitor calls for proposals which financially support energy plans. They will also monitor which municipalities could join energy management schemes and participate in ELENA (European Local Energy Assistance) Facility which is implemented by the European Investment Bank (EIB) in the framework of an agreement with the European Commission (EC).

Koekelberg identified a two-fold solution. On the one hand, they would make a cost benefit analysis and quality comparison amongst various energy providers. On the other hand, they will also connect with other towns in the region to develop collaboration on the energy saving topic, using EPC and ESCO. They purposefully will use and share the knowledge gained in PROSPECT to establish this collaboration. This includes clear task division and role setting. As part of this, they would like to collaborate to hire a common agent manager (expert). Koekelberg learned that peer-to-peer collaboration is one way to both share resources and reduce costs.

(3) Governance related efforts

The organizations identified different learning outcomes when it came to governance related efforts. On one hand, Debrecen identified that their project will be able to address governance-related efforts as they have already identified a partner who will be responsible for technical and financial set up the energy saving scheme, using EPC and ESCO. On the other hand, Koekelberg found that they did not have the internal capacity required for the governance of the energy saving schemes, using EPC and ESCO. Therefore, they planned actions which aim to alter actor or stakeholder networks to enable the governance of the project. This is implemented in a three-fold action plan.

One of these actions involve working with other towns and the hiring of an expert as already mentioned. Another of these actions entail organising meetings with key political decision makers. These meetings would be an opportunity to present the benefits of the energy saving scheme to key political decision makers and convince them of the long-term benefits of using such models as EPC and ESCO. Their final action is to organise a citizen information campaign which will run before, during and after project implementation. The use of several communication channels to disseminate information to the public has already been identified. Both organizations will make use of existing communication networks they already engage with. Debrecen already has established communication channels and networks. Koekelberg also has established communication service with various channels and networks aimed at engaging different stakeholders. The town already has experience in communicating with its citizens through numerous domains.

As a note, both organizations choose to make use of existing legislative frameworks and communication systems which are already in place. These structures were identified to be supportive of energy projects and schemes.

Debrecen could not foresee any hindrance or challenge when considering their legislative and regional framework. Similarly, Koekelberg identified that the legislative framework would be supportive of this project, and “legislative framework allows towns to collaborate and the regional government promotes and helps (financially) collaboration between towns”.

Wider capacities

Koekelberg enhanced their wider capacities by using the existing framework which can link local governments together. They recognised the value of this relationship particularly when collectively engaged in finding financial support for energy saving schemes.



One of the 24 renovated public buildings in the municipality Maribor (primary school)



Center Radlje

Energy refurbishment of a building with the energy contracting system and using cohesion fund (Municipality of Radlje ob Dravi)

Summary

With these selected success stories, we have observed different learning outcomes, ranging from cognitive and relational results to skill development and action orientation and wider capacities. We have examined whether there were learning outcomes in terms of action orientation and took a specific look at five areas for direct action: staff time, implementation time, governance-related efforts, legislative/regulatory framework, and communication factors. The participants specified what actions they undertook when, which served as the basis for analysing these areas for direct action and the results as of now. In this booklet, we have presented the short-term and medium-term outcomes so far. In the future, we will examine the long-term outcomes of these learning interventions, including wider capacities, management, policy and institutional change, and environmental effects.

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